

**BRINGING THE RAMSAR CONVENTION HOME: A CRITICAL EXAMINATION OF THE
LEGAL REGULATION OF THE ECOSYSTEM OF LAKE URMIA**

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ABSTRACT

The present study investigated the effectiveness of the legal regulations of the ecosystem of the Lake Urmia. Lake Urmia located in northwestern part of Iran between the two provinces of East- Azerbaijan and West- Azerbaijan was declared a wetland of international importance by the Ramsar Convention on Wetlands of International Importance in 1971 and designated a United Nations Educational, Scientific and Cultural Organization (UNESCO) Biosphere Reserve in 1976. It is also designated as a 'National Park' in Iran. The Lake is drying out and it is in its worst condition ever. Using Socio-legal research methodology the present study considered both Ramsar Convention as an international law and Iran's national laws to investigate their effectiveness to save Lake Urmia. To reach this aim, this study first scrutinised the provisions of the Ramsar Convention and derived a framework from the provisions of the Convention to examine the implementation of the Convention in the context of Iran. The success and failures of the Ramsar Convention implementation were analysed. Having used the same framework derived from the Ramsar Convention provisions, the national laws of Iran were explored and evaluated. Furthermore, how Iran complies with and enforcing the laws for preserving wetlands using the Penal Code as an enforcement power was studied. Finally, potential legal solutions for rescuing the Lake Urmia were analysed and how they might be useful within the context of Iran were discussed. This study suggested that a successful plan for conservation and sustainable use of Lake Urmia and their resources, for the benefit of present and future generations needs a rigorous study of the current condition of the Lake in combination with an in-depth analysis of their feasibility with respect to existing legal, political, administrative constraints. Hence, it is always crucial to regularly review the national laws on/related to wetlands management, share information between involved legal bodies; designate a competent body to wetland management and ensure the political support for effective laws on wetlands.

Keywords; Ramsar Convention, Iran's national laws, wise use, Lake Urmia, ecosystem services,

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List of abbreviations

Administration and Planning Organisation (APO)

Civil Society Organizations (CSO)

Clearing House Mechanism (CHM)

Communication, Education, Participation and Awareness (CEPA)

Conference of the Parties (COP)

Conservation of Migratory Species (CMS)

Contracting Parties (CP)

Convention on Biological Diversity (CBD)

Environment Protection Council (EPC)

Environmental Protection Agency (EPA)

European Union (EU)

Global Rivers Environmental Education Network (GREEN)

Gross Domestic Product (GDP)

Integrated Management Plan for Lake Urmia Basin (IMPLUB)

International Biological Program (IBP),

International Council for Bird Preservation (ICBP),

International Council for Game and Wildlife Conservation (formerly CIC),

International Institute for Sustainable Development (IISD)

International Organization Partners (IOPs)

International Union for Conservation of Nature (IUCN)

International Union for the Conservation of Nature and Natural Resources (IUCN),

International Water Management Institute (IWMI)

International Waterfowl and Wetlands Research Bureau (IWRB)

Iranian Community Consulting Engineers (CCE)

Islamic Republic News Agency (IRNA)

Management Action Plans (MAPs)

Memorandum of Understanding (MOU)

Millennium Ecosystem Assessment (MA)

National Wetland Conservation Programme (NWCP)

National Wetland Conservation Strategy and Action Plan (NWCSAP)

Planning and Resource Mobilization Unit (PRMU)

Principle of common but differentiated responsibilities (CBDR)

Ramsar Information Sheet (RIS)

Royal Society for the Protection of Birds (RSPB)

Scientific and Technical Review Panel (STRP)

Site of Special Scientific Interest (SSSIs)

Small Grants Fund (SGF)

Sustainable Development Goal (SDG)

Transboundary Ramsar Sites (TRS)

United Nations (UN)

United Nations Convention to Combat Desertification (UNCCD)

United Nations Development Programme (UNDP)

United Nations Environment Assembly (UNEA)

United Nations Environment Programme (UNEP)

United Nations Food and Agriculture Organization (FAO)

Urmia Lake Restoration Program (ULRP)

Urmia Lake Restoration Program National Committee (ULRPNC)

Wetland Link International (WLI)

Wildfowl and Wetlands Trust (WWT)

World Wetland Network (WWN)

World Wildlife Fund(WWF)



Chapter One

Introduction

1. Aim of the study and hypothesis

This study aims at analysing the effectiveness of the legal regulation of the ecosystem of the Lake Urmia.¹

Lake Urmia (also called Orumiyeh and Lake Rezaiyeh) is located in the northwestern corner of Iran between the two provinces of East- Azerbaijan and West- Azerbaijan, near the border of Iran and Turkey.² It is the third largest salt water lake in the world and the largest lake in the Middle East.³ The lake was declared a wetland of international importance by the Ramsar Convention on Wetlands of International Importance⁴ especially as Waterfowl Habitat in 1971 and designated a United Nations Educational, Scientific and Cultural Organization (UNESCO) Biosphere Reserve in 1976.⁵ Locally, it is designated as a "National Park".⁶ As a wetland, it is home to a number species of flora and fauna and is also a 'resource' for a substantial population in Iran. Lake Urmia is, indeed, a unique lake both nationally and internationally. However, the lake is shrinking and it is in the worst condition ever recorded.⁷ Over the years, the water level has been declining continuously and there are different reasons causing the problem.⁸

To study the effectiveness of the legal regulation around the Lake Urmia, this thesis considers a complex array of international and national legal provisions, which to a large extent

¹ Ecosystem and ecosystem approach will be discussed in chapter 2 section 4.

² Sanaeepour S and Ramazani GhavaamAbbaadi M.H, ' Legal Evaluation of Iran's' adherence to wise use of Lake Urmia with emphasis on Ramsar Convention' [2014] journal of Legal studies of Shiraz University 109, 140

³ Kelts K, Shahrabi M, 'Holocenesedimentology of hypersaline Lake Urmia, northwestern Iran'(1986) Pale geography, Pale climatology and Paleecology, 54:105-130

⁴ Hereafter will be called the Ramsar Convention

⁵ UNESCO, 'The MAB Program' (2001) <<http://www.unesco.org/mabdb/br/brdir/directory/biores.asp?mode=gen&code=IRA+07>> Accessed on 20 Apr 2015

⁶ Asem A, Eimanifar A, Djamali M, De los Rios P and Wink M, 'Biodiversity of the Hypersaline Urmia Lake National Park (NW Iran)' [2014]*Diversity*, 6, p102-132, doi:10.3390/d6020102

⁷ UNDP, ' Towards a solution for Iran's drying wetlands' (UNDP, Mar 2014) < <https://www.ir.undp.org/content/iran/en/home/presscenter/articles/2014/03/02/towards-a-solution-for-iran-s-drying-wetlands.html>> accessed 22 Apr 2015

⁸ The direct and indirect causes of the crises will be studied in chapter 2, section 5.

converges around the Ramsar Convention.⁹ This convention was signed in 1971, in Ramsar City, Iran.¹⁰ The convention focuses on ‘wetlands’ and how States should ensure their management, conservation and stewardship. Lake Urmia, the case of the present study, is 722 Km (448 mi) from Ramsar City,¹¹ and it potentially provides an illuminating case study of the problems and prospects for lake conservation within a legal framework. It is, as the title of the thesis implies, an opportunity to evaluate the convention’s strengths and weaknesses in case of Iran. As a matter of fact, the application of the Ramsar Convention in the host signatory state will be analysed in this study. This study will use a national environmental catastrophe i.e., the drying up of Lake Urmia as an example to study the weaknesses of the international and furthermore national rules and regulations aiming at protecting environment in general and wetlands in particular. In highlighting the local effects of such crisis, it will draw up on the more global need for action to preserve such essential environmental assets across the world. We all depend on the natural world for our survival, so every environmental issue becomes an issue for all.

To meet the aim of this study, this thesis is designed around the hypothesis that there is no effective legal regulation for the ecosystem of the Lake Urmia. To test the hypothesis, this thesis will set up four research questions which will be dealt with later in this chapter.¹²

2. Background of the study

Very little has been published from a legal perspective on the significance of the Ramsar Convention for Lake Urmia. This, to the knowledge of the researcher, is one of the first case studies of its kind. However, there is a fairly extension literature concerning the Ramsar Convention, from which it is possible to gain a broad insight into the strengths and weaknesses it is considered in the literature to have (e.g., Bowman, 1995; Bowman, 2003; Farrier and Tucker, 2000; Beyerlin and Marauhn, 2011; Peck, 2013).¹³

⁹G. V. T. Matthews, *The Ramsar Convention on Wetlands: its History and Development* (2nd, Ramsar Convention Bureau, Gland, Switzerland 2013)

¹⁰ Sunil Kumar Verma, *Environmental Crisis And Conservation* (1st, Laxmi Book Publication, Maharashtra, India 2015) 198

¹¹Behrah , ' Ramsar route to Urmia' (Behrah) < <http://behrah.com/direction.php?sid=473&did=28>> accessed 15 Jun 2015

¹² Chapter 1 section 5

¹³ Peck D, ‘*The Ramsar Convention Manual: a guide to the Convention on Wetlands*’ (Sixth edn, Ramsar Convention Secretariat 2013)

Ulrich Beyerlin, ThiloMarauhn, *International Environmental Law* (1st, Hart Publishing Ltd, United Kingdom 2011)

On the one hand, reviewing the literature can give a broad insight into the importance of Ramsar Convention. Indeed, the Ramsar Convention has frequently cited in well-known resources and mostly referred to articles in the field of environmental law¹⁴ and this could justify the importance of the Ramsar Convention (e.g., Sands and Peel,¹⁵ 2012; Fisher, 2013;¹⁶ Farrier and Tucker, 2000¹⁷).

The Ramsar Convention is considered as the first global agreement to address the conservation and enhancement of wetlands as a particular part of ecosystem.¹⁸ The Ramsar Convention is the intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources.¹⁹ After being signed in 1971, the Convention came into force in 1975. Since 1975, almost 90% of UN member states, from all the world's geographic regions, have acceded to become 'Contracting Parties'.²⁰ UNESCO is responsible for the adoption of, and performs secretariat functions for the 1971 Ramsar Convention.²¹ Moreover, wetlands under the Ramsar Convention are designated as the Site of Special Scientific Interest (SSSIs) since the key criterion for a SSSI is relatively broad- 'special interest by reason of any of its flora, fauna or geological or physiographical features'. Hence, a SSSI protects not only animals and plants but also areas of geological interest. Consequently, Ramsar sites could easily be designated SSSIs.²² Ramsar sites are of that importance that under the UK Department of Communities and Local Government National Planning Policy Framework, they were given the same protection as European sites.²³

Michael Bowman, 'The Ramsar Convention on Wetlands: Has it Made a Difference?' in Olav Schram Stokke, Oystein B. Thommessen (eds), *Yearbook of International Cooperation on Environment and Development 2002/03* (1st, Earthscan, London, UK 2013).

M. J. Bowman, 'The Ramsar Convention Comes of Age' [1995] Cambridge University Press, p 1-52

David Farrier, L Tucker, 'Wise use of wetlands under the Ramsar Convention: a challenge for meaningful implementation of international law' [2000] *Journal of Environmental Law* Pages 21–42

¹⁴ Sands P and Peel J, '*Principles of International Environmental Law*' (3rd ed, Cambridge University Press 2018) P 29,492-493

¹⁵ *ibid*

¹⁶ Elizabeth Fisher, Bettina Lange and Eloise Scotford, '*Environmental Law: Text, Cases & Materials*' (1st, Oxford University Press, UK 2013)

¹⁷ D Farrier, L Tucker, 'Wise use of wetlands under the Ramsar Convention: a challenge for meaningful implementation of international law' [2000] *Journal of Environmental Law*, Pages 21–42

¹⁸ Sands P and Peel J, '*Principles of International Environmental Law*' (3rd ed, Cambridge University Press 2018) P 29,492-493

¹⁹ *ibid*

²⁰ Ramsar Secretariat, 'About the Ramsar Convention' (Ramsar.org 2014) < <https://www.ramsar.org/about-the-ramsar-convention> > accessed 18 Jun 2015

²¹ Sands P and Peel j, '*Principles of International Environmental Law*' (3rd ed, Cambridge University Press 2012) P 72

²² Elizabeth Fisher, Bettina Lange and Eloise Scotford, '*Environmental Law: Text, Cases & Materials*' (1st, Oxford University Press, UK 2013) P 936

²³ *ibid*, 933

In many supportive plans on the preservation of the natural assets throughout the world, the implementation of the Ramsar convention has been emphasized, too. For instance, in the Johannesburg Plan of Implementation, which was set to support the implementation of Chapter 17 of Agenda 21, specific objectives concerning the conservation of the oceans were established. One of those objectives was to implement the Ramsar Convention including its joint work program with the Convention on Biological Diversity (CBD), and the program of action called for by the International Coral Reef Initiative to strengthen joint management plans and international networking for wetland ecosystems in coastal zones, including coral reefs, mangroves, seaweed beds and tidal mud flats.²⁴

Besides, the Ramsar Convention is of great consideration in the literature regarding the protection of different species. For example, although the international legal protection of birds is the express objectives of two specific agreements of the 1950 Birds Convention and the 1970 Benelux Convention, certain species of birds are also subject to protection under the 1971 Ramsar Convention.²⁵

On the other hand, reviewing the literature can give a broad insight into the weaknesses of Ramsar Convention. For example, in line with the major aim of the Convention to provides the framework for the conservation and wise use of wetlands,²⁶ the Ramsar Convention parties, through its institutions, have clearly developed the ‘wise use’ concept but the pragmatic listing concept is not conclusive to the holistic approach upon which the Biodiversity Convention goals are premised, and it is restricted by its focus on ‘wetlands’ divorced from their wider catchment areas. This perspective has been challenged by scientists and it is not adopted in the CBD since ‘wise use’ requires regulation of and management of biological resources important to its aims whether inside or outside protected areas.²⁷ The Ramsar Convention may have ‘come of age’ and become fully established, as Bowman concluded, but it still needs to mature.²⁸ A comprehensive discussion of the legal literature on the Ramsar Convention will be reviewed in chapter 3.

²⁴ Sands P and Peel j, *Principles of International Environmental Law* (3rd end, Cambridge University Press 2012) P 436

²⁵ Ibid., 505

²⁶ Linda Nowlan, *Arctic Legal Regime for Environmental Protection* (1st, IUCN Publications Services Unit, Cambridge, UK 2001) P 34

²⁷ Patricia Birnie, Alan Boyle and Catherine Redgwell, *International Law and the Environment* (3rd, Oxford University Press, United Kingdom 2009) 677

²⁸ M. J. Bowman, 'The Ramsar Convention Comes of Age' [1995] *Netherlands International Law Review*, Page 1-52

In terms of *the background on the Lake Urmia*, there is a fairly extensive scientific literature relating to the Lake (see some literature in the footnote).²⁹ Almost all of the scientific studies about the Lake Urmia have dealt with the reasons of the crisis of the shrinking of the lake, the consequences that the shrinking of the lake have had or might have in different aspects, the ways to confront with the crisis and to remedy the crisis from different points of view and finally the challenges with respect to the confrontation with the crises.³⁰ Reviewing the literature, the major causes for the shrinking of Lake Urmia are thought to be the increase in the amount of surface water use in the upper-stream areas, over-exploitation of groundwater, and climate change such as decrease in rainfall and global warming.³¹ Indeed, it is proposed that the expansion of farm lands, population growth, dam construction and extraction of groundwater through over tens of thousands of illegal wells are among main anthropogenic causes.³² Importantly, it has been said that irrigation water accounts for approximately 90 % of all extracted water from the Lake Urmia Basin.³³

This is a matter of great irreparable consequence. The phenomenon of the dramatically shrinking lake has diminished tourism, water transportation and fisheries industries, and destroyed a wide range of wildlife habitats in the region.³⁴ According to the West Azerbaijan Province Environmental Agency, the salt is blown from the dried lake bed in ‘salt wind’ or ‘salt storm’ shape and it negatively affects agricultural crops and menaces human health in adjacent areas. Sadly, some villages in East Azerbaijan Province have already been abandoned by people due to salinization of groundwater.³⁵

²⁹ Ministry of Industry and Mines, ‘Environmental Impact Assessment of Industrial exploitation Projects of Urmia Lake’ <http://ulrp.sharif.ir/sites/default/files/field/files/final_0.pdf> Accessed 4 Jan 2018
Omid Salimi Bani, '19 approaches to Revive the Lake Urmia and the Consequences of Their Failure' (Khabar Online News Agency 2014) < <https://www.khabaronline.ir/detail/335139/society/environment>> accessed 1 Jan 2018

Urmia Lake Restoration Programme, ‘Does sewage flow into the Lake Urmia?, Organisations' actions and outcomes; official reports’ (ULRP, Apr 2018) <<http://ulrp.sharif.ir/en/node/3976>> Accessed 29 May 2018
TEHRAN, ' Water transfer won't revive Lake Urmia: official' (Tehran Times, 2018) < <https://www.tehrantimes.com/news/423519/Water-transfer-won-t-revive-Lake-Urmia-official>> accessed 14 May 2018

³⁰ Chapter 2 explores the causes of the drying of the Lake and the consequences of the crisis.

³¹ JICA, ' Lake Urmia in Peril of Drying-up and JICA's Assistance for Saving the Lake ' (Japan International Cooperation Agency, Jun 2014) < <https://www.jica.go.jp/iran/english/office/topics/140610.html>> accessed 19 Jun 2015

³² *ibid*

³³ *ibid*

³⁴ *ibid*

³⁵ *ibid*

3. Methodology and Method

This thesis aims at investigating the effectiveness of the international (i.e., Ramsar Convention) and national rules (I.e.' Iranian rules) to preserve the Lake Urmia on the one hand and the implementation of the national and international rules in the context of Iran, on the other hand. This research study will apply Socio-legal Methodology. Socio-legal methodology is driven by an underlying jurisprudential commitment to study law in its context.³⁶ As Thomas notes, this reflects the common position that:

“Empirically, law is a component part of the wider social and political structure, is inextricably related to it in an infinite variety of ways and can therefore only be properly understood if studied in that context”.³⁷

Thus, in the Socio-Legal methodology perspective, law is not viewed as an autonomous force to which society is subjected, but rather shapes and is shaped by broader social, political and economic logics, contexts and relations. Socio-Legal studies embraces disciplines and subjects concerned with law as a social institution, with the social effects of law, legal processes, institutions and services and with the influence of social, political and economic factors on the law and legal institutions.³⁸ The Socio-Legal Studies Association provided the following useful description of the work of its members for the Research Assessment Exercise (RAE) in 2001:

Our members undertake library based theoretical work, empirical work which leads to the development of grounded theory, as well as more policy orientated studies which feeds directly into the policy making process.³⁹

Indeed, law shapes and being shaped by social, political and economical factors. This is indeed the case for laws set up and implemented for Lake Urmia. Lake Urmia has social,

³⁶Darren O'Donovan, ' Socio-Legal Methodology: Conceptual Underpinnings, Justifications and Practical Pitfalls' in Laura Cahillane and Jennifer Schweppe (eds), *Legal Research Methods: Principles and Practicalities* (1st, Clarus Press, Ireland 2016).

³⁷ Philip Thomas, 'Curriculum Development in Legal Studies' *Law Teacher* 1986, 20, P 110- 112

³⁸Darren O'Donovan, ' Socio-Legal Methodology: Conceptual Underpinnings, Justifications and Practical Pitfalls' in Laura Cahillane and Jennifer Schweppe (eds), *Legal Research Methods: Principles and Practicalities* (1st, Clarus Press, Ireland 2016).

³⁹ Michael Salter and Julie Mason, *Writing Law Dissertations: An Introduction and Guide to the Conduct of Legal Research* (1st, Pearson Education, England 2007) P 123

political and economical factors which influence the law. Below are the Lake Urmia main influences in terms of social, economical and political contexts.⁴⁰

From the social perspective, a large population in Iran live in Urmia region; the drying of the Lake Urmia has got social impacts on that population. As a result of degradation of the Lake Urmia the climate is changing. The lake drying is causing decrease in humidity and consequently changing the annual rainfall regime in neighboring regions, in fact various cycle of environmental degradation is happening as a result of drying of the Lake Urmia.

Secondly, drying of the lake could be a threat to people's health in this region. The lake is a terminal lake which means water leave the lake only by evaporation as the lake dries the salt spreads and could cause serious threat to people's lives such as people's vision and lung.

From the economical perspective, drying the lake caused agricultural degradation. It means decrease in water level of the lake resulted in decrease in the amount of ground water and consequently led to agricultural degradation. Besides the decrease of the amount of the ground water excessive drying of the lake cause the salt particles to spread in the air and this increase soil salinity and in general it causes soil, crop and orchards destruction. This all would affect local people's economy undoubtedly. Tourism is another vital industry which would be affected and consequently affect people's economy in this region.⁴¹

From the political perspective, drying of the lake would have political impacts as well. Because of the drying of the lake and the threats to people's health and economy, many people would lose their jobs, houses, gardens, farms and consequently will be forced to migrate. Undoubtedly migration would be very costly for the people and the government and it would have further risks to people's lives. People could migrate to other provinces in Iran plus, neighbouring countries which amplify economical, political and ethnical tension. Having discussed social, economical and political influences on law, sociolegal methodology is the best way which gives us a good perspective of how effective the national and international laws are with respect to Lake Urmia crisis.

The Socio-Legal theoretical perspectives and methodologies are informed by research undertaken in many disciplines.⁴² As a part of the Socio-legal methodology, this study will be

⁴⁰ Nasser Katouzian, *Introduction to Science of law and Study in the Iranian Legal System* (1st, GanjeDanesh, Tehran 2019) 14

⁴¹ Chapter 2, section 6.5

⁴² *ibid*

taking a doctrinal approach to analyse the content of law. The doctrinal (or black letter) approach to research will focus on case-law, statutes and other legal sources. It looks at the law within itself.⁴³ Hutchinson and Duncan defined doctrinal as an approach which provides a systematic of the rules governing a particular legal category, analyses the relationship between rules, explains areas of difficulty and, perhaps, predicts future developments.⁴⁴ Along the same research lines, this study will be using doctrinal approach to scrutinize the letter of international and national laws to determine what the law is and what major uncertainties there might be in the content of the law. The primary aim to apply doctrinal approach in this study was to collate, organise and describe legal rules and to offer commentary on the emergence and significance of the authoritative legal sources in which such rules are considered with the aim of analysing the underlying system.⁴⁵ Also, the present study in broader theoretical issues will be concerning how the law's implementation can be evaluated. There is a fundamental debate in environmental law broadly between anthropocentric and ecocentric ideas. Applied to Urmia, this means that attention needs to be given to the perspective from which the study is conducted. This study will be defending a partly ecocentric approach, in which the laws set on lakes are evaluated from the standpoint of the natural flora and fauna, and processes, characterizing and constituting the lake.⁴⁶ In a word, through a Socio-Legal practice, it is aimed at systemizing and clarifying the law by a distinctive mode of analysis to authoritative texts.⁴⁷

The reason for which this study will be applying the socio-legal methodology is that this study will be looking at 'law in action'. This study considers the socio-legal methodology so as to analyse the social impacts of the crisis in the region. A socio-legal study as an interdisciplinary approach to analyse the law, legal phenomenon, and relationships between these and wider society could provide us with a good perspective of how effective the

Traditionally socio-legal scholars have bridged the divide between law and sociology, social policy, and economics. But there is increasing interest in law and disciplines within the field of humanities.

⁴³ Coralieneavecoleshaw, ' Research Methods: Doctrinal Methodology' (ASC LLM Support – UWE, 2017) < <https://uweascllmsupport.wordpress.com/2017/01/18/research-methods-doctrinal-methodology/>> accessed 20 Jul 2018

⁴⁴ Hutchinson T and Duncan N, ' Defining and Describing What We Do: Doctrinal Legal Research' [2012] Deakin Law Review, P 83-119

⁴⁵ Slapper G and Kelly D, '*The English Legal System*' (Routledge, 17th edn, 2016) P 20-23

⁴⁶ The eco-centric and anthropocentric approach will be discussed in detail in terms of the Iranian national law in preserving the environment and wetlands in particular in chapter 4 section 3.

⁴⁷ Mike McConville and Wing Hong Chui , *Research Methods for Law* (1st, Edinburgh University Press, Edinburgh 2007) 3-4

international and national laws were in preserving the Lake Urmia.⁴⁸ In fact, the need for a new law, a change in existing law and the difficulties that surround its implementation cannot be studied in a better manner without the sociological enquiry.⁴⁹ Socio-legal studies embraces disciplines and subjects concerned with law as a social institution, with the social effects of law, legal processes, institutions and services and with the influence of social, political and economic factors on the law and legal institutions.⁵⁰

This research study will be using desktop research method that is to review previous research findings to gain a broad understanding of the field.⁵¹ Desktop research is used to gather facts and existing research data.⁵² The ultimate aim is to lay the groundwork for answering the research questions (questions on the effectiveness of the international and national rules in case of Lake Urmia and their implementation in the context of Iran).⁵³ Numerous sources including both primary and secondary sources⁵⁴ will be used to conduct the present desktop study.

Primary resources were scrutinized to obtain a first-hand account to the actual event of drying of the Lake and identify original research done in the field.⁵⁵ Examples of primary resources in the present research are scholarly research articles, books, manuscripts, letters, records, interviews and speeches of formal representatives of the government (e.g., people in charge of ministries and organisations directly and indirectly in relation with the Lake).

The secondary sources were also used in this research study to describe, summarize, or discuss information or details originally presented in another source.⁵⁶ The secondary sources

⁴⁸ Ranbir Singh and G.S. Bajpai, 'Research Methodology' (e-PgPathshala 2015) < https://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/law/09._research_methodology/04._socio-legal_research/et/8151_et_et.pdf> accessed 29 Jan 2016

⁴⁹ Pandurang S, 'Male Prisoners of Karnataka : An Outline with Social Work Perspectives' (Lulu Publication, 2018) P 12

⁵⁰ Darren O'Donovan, ' Socio-Legal Methodology: Conceptual Underpinnings, Justifications and Practical Pitfalls' in Laura Cahillane, Jennifer Schweppe (eds), *Legal Research Methods: Principles and Practicalities* (1st, Clarus Press, Ireland 2016)

⁵¹ It is important to note that desktop research is different from literature review. Literature research is focused on acquiring theoretical knowledge about a concept or topic, whereas desk research is used to gather facts and existing research data that help to answer your research question.

David Travis, ' Desk research: the what, why and how' (userfocus 2016) < <https://www.userfocus.co.uk/articles/desk-research-the-what-why-and-how.html>> accessed 1 May 2016

⁵² Kirsten Dingemane, ' How to perform desk research' (scribbr, September 2014) < <https://www.scribbr.com/dissertation/perform-desk-research/>> accessed 21 Aug 2015

⁵³ the research questions of the present study will be set in the following section under over view of the chapters.

⁵⁴ Mike McConville and Wing Hong Chui , *Research Methods for Law* (1st, Edinburgh University Press, Edinburgh 2007) 3-4

⁵⁵ Northcentral University, ' Research Process' (ncu.libguides 2019) < <https://ncu.libguides.com/researchprocess/primaryandsecondary>> accessed 1 Oct 2019

⁵⁶ ibid

in this study will include definitions of discipline specific terms, history relating to the topic, significant theories and principles, and summaries of major studies as related to the topic.⁵⁷

Examples of the secondary sources in this study are publications such as academic papers, magazine articles, book reviews, commentaries, encyclopedias, government documents and statistical databases almanacs.⁵⁸

4. Originality of the thesis

The present research study could be a significant addition to the accumulated knowledge within the discipline. Originality of the study lies:

First, the present study tries to investigate how ecosystem approach is being developed under the Ramsar convention and in Iranian law to protect wetlands.

Second, the present study will analyse the status of implementation of Ramsar Convention in Iranian law. Hence, laws and regulations directly and indirectly protecting wetlands in Iran will be analysed.

Third, the scarcity of research in this area constitutes the significance of the scope of this study. Different studies have addressed the crisis of disappearing of the Lake from different perspectives to find potential solutions.⁵⁹ In fact, technical, educational- and scientific- pieces of research have been conducted and relevant solutions were proposed. However, such attempts were not efficient enough to stop and reverse the Lake's decline.⁶⁰ The present research study nonetheless tries to address the crisis from the legal perspective and see how effective the legal regulation of Lake Urmia is. It is the first study which investigates the effectiveness of the national and international regulations with the aim of preserving the Lake Urmia in particular. Such an environmental crisis is a matter of significance. Historically, the lake attracted migratory birds including flamingos, pelicans, ducks and egrets. Its drying up, or desiccation, is undermining the local food web, especially by destroying one of the world's largest natural habitats of the brine shrimp *Artemia*.⁶¹ Effects on humans are perhaps even

⁵⁷ *ibid*

⁵⁸ *ibid*

⁵⁹ See Chapter 6, Section 3.

⁶⁰ A comprehensive review of non legal solutions will be accompanied by legal solutions for saving the Lake Urmia in chapter 6

⁶¹ Ali Mirchi, Kaveh Madani and Amir AghaKouchak, ' Lake Urmia: how Iran's most famous lake is disappearing ' (The Guardian Jan 2015) < <https://www.theguardian.com/world/iran-blog/2015/jan/23/iran-lake-urmia-drying-up-new-research-scientists-urge-action>> accessed 10 May 2015

more complicated. The tourism sector has clearly lost out. While the lake once attracted visitors from near and far, some believing in its therapeutic properties, Urmia has turned into a vast salt-white barren land with beached boats serving as a striking image of what the future may hold.

Fourth, the present study will have an array of favourable features extending beyond its local implications. It could have wider implications as it deals with (i) challenges to implement Ramsar convention in a developing country and (ii) recommendations that could be useful to other countries struggling to protect Wetlands.

5. Overview of the chapters

This PhD research will study the crisis of Lake Urmia which is a UNESCO Biosphere Reserve and a Ramsar internationally registered site to specify how the national laws in Iran and international Ramsar Convention would apply to Lake Urmia. The present study will attempt to suggest possible legal solutions to save the lake. In doing so, a critical examination of the existing rules and regulations both in national and international levels is necessary to stop silently watching this global natural asset drying out and turning to desert. The following research questions are to be answered in this study:

1. What are the purposes, provisions, and legal status of the 1971 Ramsar Convention? (chap 3)
 2. How international and national legal frameworks are implemented in Iran for the purposes of preserving the Lake Urmia? (chap 4)
 3. What legal enforcements are in place for the Lake Urmia independent of the Ramsar Convention? (chap 5)
 4. What are the potential legal solutions to the Lake Urmia crisis? (chap 6)
- The introductory chapter dealt with the basic and fundamental characteristics of the Lake Urmia, the aim of the study, background of the study, methodology and novelty of the research.
 - Chapter 2 explores the context of the Lake Urmia as the case of the present study. The aim is to give a comprehensive look into the Lake Urmia and the crisis it is facing. It

Artemia is a hardy species that can tolerate salinity levels of 340 grams per litre, more than eight times saltier than ocean water.

first gives an introduction to the history and the biological overview of the Lake Urmia. Then, the causes of the drying of the lake including both direct and indirect drivers influencing the Lake Urmia ecosystem will be dealt with. This chapter will also study the consequences of the crisis raising the necessity of actions from the environmental law perspective to stop or reverse the Lake's decline.

- Chapter 3 is devoted to the first research question of the study investigating the purposes, provisions, and legal status of the 1971 Ramsar Convention. Indeed, a partial aim of this study is to investigate the effectiveness of the relevant international environmental law particularly Ramsar Convention in preserving the Lake Urmia in Iran. But, before investigating the effectiveness of the Convention in the context of Iran, it is worthwhile to review the context of the Convention and raise any debate, challenges with regards to the content as any shortcomings with the context of the Convention could be a primary reason for its failure in preserving the Lake Urmia. Along the same lines, Chapter 3 will be looking at the purposes, provisions, and legal status of the 1971 Ramsar Convention.
- Chapter 4 investigates the second research question of the study. It attempts to see how the international law in particular Ramsar Convention and national laws are implemented in Iran, for purposes of Lake Urmia preservation. Chapter 4 will conceptually investigate how the Ramsar Convention works and how it is applied in practice in Iran. Furthermore, other national rules independent of the Ramsar Convention with the aim of preserving environment will be scrutinized. The strengths and weaknesses of national laws will be assessed in chapter four as they directly and/or indirectly affect wetlands. Finally, the Ramsar guideline will be depicted as a pattern for helping Iran to improve its national laws and meet the challenges Iran faces in implementing the Convention effectively.
- Chapter 5 deals with the legal enforcements in relation to Lake Urmia independent of the Ramsar Convention. The penal code of the country as enforcement to the implementation of the Convention is reviewed to see how it supports the implementation of the Convention and if it is strong enough in reaching its goal.
- Chapter 6 critically discusses how the challenges in the implementation of the national and international legal framework for preserving the Lake Urmia could be addressed. The chapter will present legal and non-legal solutions to saving the Lake Urmia. In particular, potential legal solutions will be identified; how they would work within the

context of Iran will be studied and any challenges that the recommended solution might face when applied in Iran will be discussed.

- Finally Chapter 7 concludes the thesis briefly reviewing the findings of this study

Chapter Two

Lake Urmia in Context

1. Introduction

Chapter 2 provides a comprehensive outlook on Lake Urmia and the crisis happening to the wetland. To this end, an introduction to the Lake, its history and the ecosystem services that the Lake provides are reviewed. Furthermore, the crisis it is experiencing and the causes of the problem including both direct and indirect causes affecting the Lake ecosystem plus consequences of the shrinking of the Lake now and in the future are discussed. Finally, a conclusion about the necessity of actions from the environmental law perspective to stop or reverse the Lake's decline is highlighted.

2. History of the Lake Urmia

Lake Urmia was historically named Chichast which originally came from the Avesta language (i.e., Ancient Persian).⁶² However, calling the lake 'Urmia' was first found in the Assyrian record from 9th century BC.⁶³ Urmia was the name given to the city of Urmia which is located near the lake. The word Urmia consists of two separate words of 'Ur' and 'Mia'. In Assyrian language, 'Ur' means city and 'Mia' means water. Hence, Urmia means the city of water.⁶⁴ The lake was then named Lake Urmia, after city. In the 20th century, the name of the lake was changed to Rezaieh Lake after the name of the king of Iran, Reza Pahlavi but after the Revolution of Iran the name was changed back to Lake Urmia. In the last five hundred years, the area around the Lake Urmia has been home to various ethnic groups –Iranians, Kurds, Assyrians, Armenians, and Azeris.⁶⁵ In the late 16th and early 17th centuries, Ottomans (the former Turkish Empire) occupied the region. However, Shah Abbas the Great, the 5th Safavi king (Shah) of Iran (27 January 1571 – 19 January 1629)⁶⁶ defeated and consequently drove

⁶²Reza Moradi Ghiasabadi, *IraniaEncyclopedia* (1st, Agah Publication Institute, Iran 2013)

⁶³Lakepedia, 'Lake Urmia: A Drying Hypersaline Lake' (Lake Pedia) <
<https://www.lakepedia.com/lake/urmia.html>> accessed 8 Feb 2016

⁶⁴MaliheDargahi, 'Online File of the Urmia City' (anthropology and culture Jan 2017) <
<https://anthropologyandculture.com/fa/شهر-و-معماری/1551-پرونده-اینترنتی-شهر-ارومیه>> accessed 6 May 2015
like Urshalim (Jerusalem) means the city of peace,

⁶⁵ ibid

⁶⁶Uwe Bläsing, Victoria Arakelova, Matthias Weinreich, *Studies on Iran and The Caucasus: In Honour of GarnikAsatrian* (1st, Brill, Boston Jun 2015) 84-85

out the Othman Empire army from this region. Subsequently, he decided to assign strong tribes in this region (west part of the country) to protect the borders. For this purpose, Shah Abbas chose the Afshar tribe. He promptly summoned SoltanImanloo Afshar and appointed him as the chief of Afshar tribe and consequently ordered him to gather all Afshar tribes from different parts of the country together and move to the Urmia plain. Afshar tribe during this period was one of the strongest and largest tribes in Iran. Approximately 8000 households moved to the Urmia plain at the time. Since then, the Urmia region has become an outstanding historical, touristy, political, economic, and agriculture base in Iran.⁶⁷

Currently, Urmia city is the capital of the West Azerbaijan Province with an altitude of 1,332 above the sea level and over 700,000 populations. 12.4 miles (20 Km) away, it is the most important city near the Lake Urmia.⁶⁸ The spoken language in this region is Azeri (Turkish),⁶⁹ the second official language of the Urmia region after Farsi. It is believed that the city was built sometimes around 2nd millennium BC.⁷⁰ Lake Urmia plays important roles in the history and economic of the Azerbaijan region. Large populations were attracted to settle around the Lake because the agricultural, commercial and living requirements are fulfilled.⁷¹

3. Biological significance of the Lake Urmia

This section presents an overview of the biological context of the Lake Urmia in order to highlight the importance of the Lake and why it needs to be saved.

- Lake Urmia helps moderate the extreme climates in the region

The climate in the Lake Urmia area is quite harsh and continental since it is affected significantly by the mountains surrounding the Lake.⁷² Considerable seasonal fluctuations in air temperature occur in this semiarid climate with an annual average precipitation of between 200 and 400mm.⁷³ The air temperature normally ranges between 0°C and -20°C in winter and

⁶⁷Urmia University of Technology, ' An Introduction to Urmia City ' (UUT) <

http://www.uut.ac.ir/page.php?slct_pg_id=706&sid=1&slc_lang=fa> accessed 6 Feb 2016

⁶⁸ShimaPajakh, ' Urmia City ' (eligasht Aug 2019) < <https://www.eligasht.com/Blog/travelguide/شهر-ارومیه> > accessed 1 Sep 2019

⁶⁹Kavianpour A, *TarikheRezaiyeh* (Asia Publication and jalili Printing 1965) 5-6

⁷⁰Tore Kjeilen, ' Orumiyeh ' (looklex) < <http://looklex.com/e.o/orumiyeh.htm> > accessed 7 May 2105

⁷¹Mirnajaf Mousavi, Hossein Nazm far and Ahmad Aftab, ' A study on the role of environmental factors in the geographical distribution of population and urban settlements by using GIS and Geoda (Case Study: Province West Azerbaijan)' [Spring 2013] Journal of Geography and Environmental Studies 80, 98

⁷²M. GhaheriM. H. Baghal-VayjooeeJ. Naziri, ' Lake Urmia, Iran: A summary review' [March 1999] International Journal of Salt Lake Research 19, 22

⁷³Touloie, J, *Hydro geochemistry of Lake Urmia. The 1st Oceanology Conference of Iran*, Tehran, 20-23, 1998

up to 40°C in summer. From this point of view, Lake Urmia is a critical asset for the region, because it helps to moderate these extremes.⁷⁴

- Lake Urmia is a source of salt

Because water in the Lake Urmia has no outlet, the lake is highly saline. In fact, it contains 8 billion different types of sea salts.⁷⁵ The lake is one-fourth as salty as the Dead Sea, with a salt content ranging from 8 to 11 percent in the spring to 26 or 28 percent in the late autumn. The main salts are chlorine, sodium, and sulfates.⁷⁶ Sea salt has many benefits including strengthening the immune system, helping to alkalize the body, protecting cardiovascular health, relieving muscle aches, fighting depression and promoting digestion among others.⁷⁷

- Lake Urmia is a habitat for different species of flora and fauna

During winter, the Lake Urmia is a habitat for large groups of lentic birds such as waders, shelducks, and laruses.⁷⁸ The largest colonies of flamingos and white pelicans live in this region as well. The southern islands of the lake are the habitat of Persian fallow deer and Armenian mouflon.⁷⁹ Also, about 1500 plant species have been recorded in this area.⁸⁰ This lake is also a suitable habitat for blue-green and green algae. High production of these algae plays an important role in the food chain in this lake.⁸¹ Lake Urmia is counted as one of the largest natural *Artemia*⁸² habitats in the world. The life of *Artemia* as a rare kind of shrimp necessitates special conditions which can be found in the Lake Urmia.⁸³ The existence of *Artemia* in Lake Urmia was first reported by a zoologist (Robert Günther) in 1899. This

⁷⁴F. Alayne Street-PerrottN. Roberts, 'Fluctuations in Closed-Basin Lakes as An Indicator of Past Atmospheric Circulation Patterns' in F.A. Street-Perrott, Max Beran, R. Ratcliff (eds), *Variations in the Global Water Budget* (1st, Springer and Dordrecht, Holland 1983).

⁷⁵ ibid

⁷⁶ ibid

⁷⁷ Mohammad Ali Haqshenas, 'Salt mining in Lake Urmia: Opportunity vs. threat' (tehrantimes.com, May 2018) < <https://www.tehrantimes.com/news/423393/Salt-mining-in-Lake-Urmia-Opportunity-vs-threat>> accessed 23 Aug 2018

⁷⁸Saeed Sanaipour and Mohammad Hossein Ramazani Qavam Abadi, 'Legal Evaluation of Iran's adherence to wise use of Lake Urmia with emphasis on Ramsar Convention' [2013] journal of Legal studies of Shiraz University 110, 138

⁷⁹ ibid

⁸⁰Fatemeh Mohsen Nejad and Karim Esazadeh, 'Studying Flora in The Lake Urmia National Park' [2010] National Conference on Biodiversity and its impact on agriculture and the environment 1, 5

⁸¹ Mohammad Ali Ahmadian and Samira Asghari, 'Environmental consequences of reduction on Lake Urmia water surface and solutions to save it' [2014] Sarzamin Quarterly Journal 81, 96

⁸² Genetic Science Learning Center, 'Brine Shrimp, *Artemia franciscana*' (learn.genetics Oct 2014) < https://learn.genetics.utah.edu/content/gsl/foodweb/brine_shrimp/> accessed 03 Sep 2019

⁸³Theodore J. Abatzopoulos, Athanasios D. Baxevanis, George V. Triantaphyllidis, Godelieve Criel, Erwin L. Pador, Gilbert Van Stappen and Patrick Sorgeloos, 'Quality evaluation of *Artemia urmiana* Günther (Urmia Lake, Iran) with special emphasis on its particular cyst characteristics (International Study on *Artemia* LXIX)' [2006] *Aquaculture* 442, 454

species then was named as *Artemia Urmiana*.⁸⁴ Despite their small size, they are an important part of the lake's ecosystem.⁸⁵ *Artemia* is a hardy species that can tolerate salinity levels of 340 grams per litre which is more than eight times saltier than ocean water.⁸⁶ *Artemia Urmiana* is the only single-celled organism that is consistent with Urmia's salty water condition and is a crucial source of food for migratory and native birds to this wetland. In this regard, *Artemia* is of high value for export.⁸⁷ These little creatures are important for the local economy. They are sold around the world as food for fish and shellfish that are raised for human consumption.⁸⁸

- The Lake Urmia is an internationally important wetland⁸⁹

Wetlands are areas where water is the primary factor controlling the environment and the associated plant and animal life.⁹⁰ Wetlands usually occur where the water table is at or near the surface of the land, or where the land is covered by shallow water. A more comprehensive definition of wetlands is given in the Ramsar Convention.⁹¹ Under Article 1 of the Ramsar Convention, wetlands are defined as: 'areas of marsh, fen, peat land or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters'.⁹² Wetlands provide wildlife sanctuaries, and form the basis of important local social, economic, and cultural traditions. One third of the world's population lives in the wetlands' borders including rivers, lakes, and coasts.⁹³ Because wetlands are important in supporting

⁸⁴ ibid

⁸⁵ Genetic Science Learning Center, 'Brine Shrimp, *Artemia franciscana*' (learn.genetics Oct 2014) <https://learn.genetics.utah.edu/content/gsl/foodweb/brine_shrimp/> accessed 03 Sep 2019

⁸⁶ Abdolreza Karbassi, Gholamreza Nabi Bidhendi, Amirhossein Pejman and Mehdi Esmaeili Bidhendi, 'Environmental impacts of desalination on the ecology of Lake Urmia' [Sep 2010] *Journal of Great Lakes Research* 419, 424

⁸⁷ Babak Pourghahramani and Ali Sabernejad, 'Analysis of the Performance of Islamic Republic of Iran on the Environment of Urmia Lake in the Light of Ramsar Convention' [2015] *Indian Journal of Fundamental and Applied Life Sciences* 1646, 1649

⁸⁸ Genetic Science Learning Center, 'Brine Shrimp, *Artemia franciscana*' (learn.genetics Oct 2014) <https://learn.genetics.utah.edu/content/gsl/foodweb/brine_shrimp/> accessed 03 Sep 2019

⁸⁹ UNEP, 'the Drying of Iran's Lake Urmia and its Environmental Consequences' (Feb 2012) <http://www.europarl.europa.eu/meetdocs/2009_2014/documents/d-ir/dv/lakeurmia&env_cn/lakeurmia&env_cnsq.pdf> Accessed 04 Feb 2016

⁹⁰ Pierre-Marie Dupuy and Jorge E. Viñuales, *International Environmental Law* (1st, Cambridge University Press, Cambridge, UK Apr 2015) 173-175

⁹¹ Hojat Salimi Torkamani, 'Investigating the Biological difficulties of the Lake Urmia from the perspective of International Environmental Law' [2011] *Rahbord Quarterly Journal* 177, 202

⁹² UNESCO, 'Convention on Wetlands of International Importance especially as Waterfowl Habitat' <http://portal.unesco.org/en/ev.php-URL_ID=15398&URL_DO=DO_TOPIC&URL_SECTION=201.html> Accessed 20 May 2015

⁹³ Hojat Salimi Torkamani, 'Investigating the Biological difficulties of the Lake Urmia from the perspective of international environmental law' [2011] *Rahbord Quarterly Journal* 177, 202

maintenance of biological diversity and human well-being, they are richer than other lands. Studies done in Economics reveal that economically one wetland is worth 10 times forest lands and 200 times farming lands.⁹⁴ Wetland ecologists have already documented different environmental benefits of wetlands for example, water purification, flood protection, shoreline stabilization, groundwater recharge, and stream flow maintenance.⁹⁵ Wetlands also provide habitat for fish and wildlife, including endangered species.⁹⁶ Due to the importance of wetlands, various nations have joined the Ramsar international convention to help preserve their wetlands. Iran joined the Ramsar Convention in 1971 with the aim of preserving its wetlands.⁹⁷

Further information on the biology of the Lake Urmia is given in the footnote.⁹⁸

⁹⁴ ibid

⁹⁵ Department of Ecology State of Washington, 'Functions and Values of Wetlands' <<http://www.ecy.wa.gov/programs/sea/wetlands/functions.html>> Accessed 07 Feb 2016

⁹⁶ ibid

⁹⁷ Ramsar, *History of the Ramsar Convention* <<http://www.ramsar.org/about/history-of-the-ramsar-convention>> Accessed 07 Feb 2016

⁹⁸ The surface of the Lake Urmia is approximately 5200 km² (i.e. 2000 mile) with 140 km (87 mile) length, 55 km (34 mile) width, and 16 m (52 ft) depth during high water periods. The total catchment area of the lake is about 51,876 Km² which consists 3.15% of the entire catchment area of the country and includes 7% of the total surface water in Iran. The total annual inflow into the Lake Urmia is 6900 × 10⁶ m³; of this amount 4900 × 10⁶ m³ is from rivers, 500 × 10⁶ m³ from flood water (through rainfalls) and 1500 × 10⁶ m³ from precipitation. Underground springs are also a source of water to the Lake, but the volume is not known. In fact, Lake Urmia is the 20th largest lake in the world. It is also important to mention that 21 rivers feed into Lake Urmia. Among them seven rivers are seasonal, and of the remaining rivers are permanent with different water discharges for instance, Zarrineh Rood with 2000 Million m³ has the highest place of discharge and Azar Shahrchai with 34 million m³ discharge has the lowest place among other rivers. Moreover, 39 flood flows feed the lake throughout the year. The important rivers in Lake Urmia basin are as follows:

1. Talkh Rood which is originated from Salavan and Sahand Mountains located in north of Tabriz;
2. Mardi Rood which is originated from Sahand Mountain irrigating Maragheh then joins Lake Urmia;
3. Soofi Chai which is originated from south west of Sahand Mountain after irrigating Bonab City joins Lake Urmia;
4. Azar Shahr River which is originated from Sahand Mountain passes the Azar Shahr City and after irrigating Gookan joins the Lake Urmia;
5. Zarrineh Rood which is originated from Chehel-Cheshmeh Mountains in Kurdistan and passes Shahindej and Miandoab (This river is the biggest river joining Lake Urmia. The length of the river is 240 Km);
6. Ghader Rood, Oormia Rood and Shahr Chai rivers which are originated from Kurdistan Mountains and join the lake;
7. Zoola Rood which is originated from Turkey after irrigating Salmas City joins the Lake;
8. Nazloo Chai which is originated from Turkey after covering some areas of the Iranian border with Turkey joins the Lake Urmia;
9. Simineh Rood (Tataoo) which is originated from Saghez and Baneh mountains then passes Savojbolagh city and join Lake Urmia;
10. Barandooz Chai which is originated from border height of Jamaloddin then passes Barandooz Village and then joins the Lake.

Each of these rivers discharges variable amount of water into the Lake Urmia during the year. For example, during the spring the Talkheh River and Simineh River may each discharge about 2,000 cubic feet (57 cubic m) per second, while this rate might drop to only 130 or 60 cubic feet (3.7 or 1.7 cubic m) per second in dry summers. This variation causes the lake itself to rise and fall, fluctuating by 2 to 3 feet (0.6 to 0.9 m). In addition to seasonal variations, there are also longer periods of fluctuations, lasting from 12 to 20 years, with water-level fluctuations of 6 to 9 feet (1.8 to 2.7 m).

The Lake Urmia is now at risk of drying. Historically, the volume of water in the Lake was estimated to be 19,000,000,000 m³ with an area of about 5,700 km². The area of the Lake Urmia in 1998 and 2001 were 5,650 and 4,610 km², respectively.⁹⁹ It means that the area of the lake decreased by approximately 1,040 km² during that period; however, since then it has been shrinking at a much faster pace.¹⁰⁰ Figure 1 demonstrates images taken from 1998 to 2014 showing the shrinking of the Lake's surface area.¹⁰¹

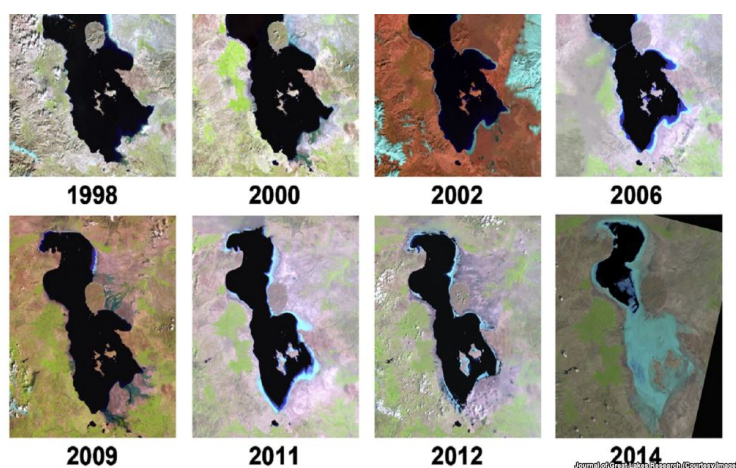


Figure 1: water surface of the Lake Urmia (1998 to 2014)

The 2013 report by the Department of Environment of Islamic Republic of Iran recorded the smallest surface area in history, with only 20% of the normal surface area remaining at the end of the dry season, and 30% during the wet season. As reported by the Department of Environment, the Lake Urmia is in the worst condition ever recorded.¹⁰² Over the years, the water level has been declining continuously and there are different reasons causing the problem. The direct and indirect causes of the crises will be studied later in section 5 after the ecosystem services of the Lake are highlighted.

⁹⁹Samad Alipour, ' Hydrogeochemistry of seasonal variation of Urmia Salt Lake, Iran' [2006] Saline Systems 1, 19

¹⁰⁰Jyotishman Deka, O. P. Tripathi and Mohammad Latif Khan, ' A multi-temporal remote sensing approach for monitoring changes in spatial extent of freshwater lake of DeeporBeel Ramsar Site, a major wetland of Assam' [2011] Journal of Wetlands Ecology 40, 47

¹⁰¹Ali Mirchi, Kaveh Madani and Amir AghaKouchak, 'Lake Urmia: how Iran's most famous lake is disappearing' (theguardian.com 2015) < <https://www.theguardian.com/world/iran-blog/2015/jan/23/iran-lake-urmia-drying-up-new-research-scientists-urge-action>> accessed 17 Dec 2016

¹⁰² UNDP &Department of Environment Islamic Republic of Iran, *Towards a Solution for Iran's Drying Wetlands*,

<<http://www.ir.undp.org/content/dam/iran/docs/Publications/E%26SD/WIRT%20Conclusions%20and%20Recommendations.pdf>>Accessed 1 Nov 2015

3.1. Lake Urmia in the List of Ramsar Convention

The World Wide Fund for Nature (WWF), a non-governmental organisation, claims that ‘half of the world's wetlands have disappeared since 1900. Development and conversion continue to pose major threats to wetlands, despite their value and importance.’¹⁰³ Lake Urmia is a site at risk of drying up. In total, 24 sites within the territory of Iran have been registered in the list of Ramsar Convention.¹⁰⁴

Indeed, among the 2,241 Ramsar Sites covering 215,247,631 ha of the Earth’s surface, Lake Urmia [or Orumiyeh] with the coordinates of 37°30'N 45°30'E covering 483,000 ha has been designated as the 38th site in the list of the Ramsar Convention. This site has been added to the Ramsar list of internationally important wetlands on 23rd of June in 1975.¹⁰⁵ The map of the Lake Urmia site is available on the Ramsar website.¹⁰⁶ See Figure 2 below.

¹⁰³ Perrings C, *Biodiversity Loss: Economic and Ecological Issues* (Cambridge University Press 1997) 129-132.

¹⁰⁴ Iran (Islamic Republic of) <http://www.ramsar.org/search?search_api_views_fulltext=iran> Accessed 11 Jun 2016

The Iranian sites included in the convention are as follows:

Choghakhor Wetland, Khuran Straits, Govater Bay and Hur-e-Bahu, Deltas of Rud-e-Shur, Rud-e-Shirin and Rud-e-Minab, FereydoonKenar, Ezbaran&SorkhRuds Ab-Bandans, Gomishan Lagoon, Hamun-e-Saberi&Hamun-e-Helmand, Kanibarazan Wetland, Miankaleh Peninsula, Gorgan Bay and Lapoo-Zaghmarz Ab-bandan, Anzali Wetland Complex, Shadegan Marshes & mudflats of Khor-al Amaya & Khor Musa, Lake Parishan and Dasht-e-Arjan, Shurgol, Yadegarlu&DorgehSangi Lakes, Sheedvar Island, Deltas of Rud-e-Gaz and Rud-e-Hara, Lake Kobi, Bujagh National Park, Alagol, Ulmagol and Ajigol Lakes, Amirkelayeh Lake, Hamun-e-Puzak, south end, Neiriz Lakes & Kamjan Marshes, Lake Gori, Gavkhouni Lake and marshes of the lower ZaindehRud and Lake Urmia also called Orumiyeh.

¹⁰⁵ Lake Urmia <<https://rsis.ramsar.org/rsis/38>> Accessed 26 Jul 2016

¹⁰⁶ Ramsar Sites Information Service, *Lake*

Rezaiyeh <<https://rsis.ramsar.org/RISapp/files/181/pictures/IR38map.pdf>> Accessed 19 Jun 2016



ruberlandPelecanusonocrotalus, and as a staging area for migratory species in spring and autumn. The lake is protected as a National Park and Ramsar Site.”¹⁰⁷

4. Ecosystem services and wetland’s benefits

An ecosystem is a large community of living organisms (plants, animals and microbes) in a particular area. The living and physical components are linked together through nutrient cycles and energy flows.¹⁰⁸ According to Millennium Ecosystem Assessment (MA)¹⁰⁹ which is a major assessment of the human impact on the environment, an ecosystem is a dynamic complex of plant, animal, and microorganism communities and then on-living environment interacting as a functional unit.¹¹⁰ Ecosystem provides ecosystem services for human being. Ecosystem services are the many and varied benefits that humans freely gain from the natural environment and from properly-functioning ecosystems.¹¹¹ Washington (2013) described the ecosystem services as providing food, water, timber, and fiber; regulating services that affect climate, floods, disease, wastes, and water quality; cultural services that provide recreational, aesthetic, and spiritual benefits; and supporting services such as soil formation, photosynthesis, and nutrient cycling.¹¹² The human species, while buffered against environmental changes by culture and technology, is fundamentally dependent on the flow of ecosystem services.¹¹³

A wetland is a distinct ecosystem that is inundated by water.¹¹⁴ Wetlands are indispensable for the countless benefits or the “ecosystem services” that they provide for humanity. Such

¹⁰⁷ Ramsar Convention Bureau, Information Sheet on Ramsar Wetlands

<<https://rsis.ramsar.org/RISapp/files/RISrep/IR38RIS.pdf>> Accessed 19 Aug 2016

¹⁰⁸ Experts D, ‘Assertion-Reason Question Bank in Biology for AIIMS’(Disha Publications 2017) P 264.

¹⁰⁹ Millennium Ecosystem Assessment, ' Overview of the Millennium Ecosystem Assessment' (millenniumassessment.org) < <https://www.millenniumassessment.org/en/About.html#1>> accessed 11 Jan 2018
The Millennium Ecosystem Assessment (MA) was called for by the United Nations Secretary-General Kofi Annan in 2000. Initiated in 2001, the objective of the MA was to assess the consequences of ecosystem change for human well-being and the scientific basis for action needed to enhance the conservation and sustainable use of those systems and their contribution to human well-being.

¹¹⁰ Clifford S. Russell and Duane D. Baumann, *The Evolution of Water Resource Planning and Decision Making* (1st, Edward Elgar Publishing, Cheltenham, UK 2009) 206-208

Millennium Ecosystem Assessment was called for by the United Nations Secretary-General Kofi Annan in 2000, launched in 2001 and published in 2005 with more than \$14 million of grants.

¹¹¹ Sven Sebastian Uhlmann, Clara Ulrich and Steven James Kennelly, ‘European Landing Obligation: Reducing Discards in Complex, Multi-species and Multi Jurisdictional Fisheries’ (Springer, Switzerland 2019) 241-242

¹¹² Haydn Washington, *Human Dependence on Nature: How to Help Solve the Environmental Crisis* (Routledge, USA and Canada, 2013) 27-29

¹¹³ ibid

¹¹⁴ William J. Mitsch, James G. Gosselink, Li Zhang and Christopher J. Anderson, *Wetland Ecosystems* (1st, John Wiley & Sons, New Jersey 2009) 15-17

ecosystem services range from freshwater supply, food and building materials, and biodiversity, to flood control, groundwater recharge, and climate change mitigation.¹¹⁵ Wetlands are vital for human survival. They are among the world's most productive environments for agriculture.¹¹⁶ Moreover, wetlands are the cradles of biological diversity that provide water and food upon which countless species of plants and animals depend for survival.¹¹⁷

Shuqing (2019) in detail outlined the wetlands' ecosystem services and functions as follows:¹¹⁸

- Gas regulation (regulation of atmospheric chemical composition),
- Climate regulation (regulation of global temperature, precipitation, and other biological mediated climate processes at global or local levels)
- Disturbance regulation (capacitance, damping, and integrity of ecosystem response to environmental fluctuations)
- Water regulation (regulation of hydrological flows)
- Water supply (storage and retention of water)
- Erosion control and sediment retention (retention of soil within ecosystem)
- Soil formation (soil formation processes)
- Nutrient cycle (storage, internal cycling, processing and acquisition of nutrients)
- Waste treatment (recovery of mobile nutrients and removal or breakdown of excess nutrients and compounds)
- Pollination (movement of floral gametes)
- Biological control (trophic-dynamic regulations of populations)
- Refugia (habitat for resident and transient populations)
- Food production (that portion of gross primary production extractable as food)
- Raw materials (that portion of gross primary production extractable as raw materials)
- Genetic resources (sources of unique biological materials and products)
- Recreation (providing opportunities for recreational activities)

¹¹⁵Giblett R, 'Cities and Wetlands: The Return of the Repressed in Nature and Culture'(Bloomsbury publishing 2016) 4-5

¹¹⁶Koos de Voogt, Geoff Kite, Peter Droogers, Hammond Murray-Rust, *Modeling Water Allocation Between Wetlands and Irrigated Agriculture: Case of Gedizbaisin Turkey* (IWMI, 2000) 1.

¹¹⁷ Sunil Kumar Verma KUMAR VERMA, *Environmental Crisis And Conservation* (Laxmi Book Publication, 2015) 197

¹¹⁸Shuqing An and Jos T. A. Verhoeven, *Wetlands: Ecosystem Services, Restoration and Wise Use* (1st, Springer, Switzerland 2019) 2-3

- Cultural (providing opportunities for non-commercial uses)

Also, this set of 10 Ramsar Factsheets profiles the ‘ecosystem services’ – the benefits people obtain from ecosystems – provided by wetlands. They cover:

- 1 Flood control
- 2 Groundwater replenishment
- 3 Shoreline stabilisation & storm protection
- 4 Sediment & nutrient retention and export
- 5 Water purification
- 6 Reservoirs of biodiversity
- 7 Wetland products
- 8 Cultural values
- 9 Recreation & tourism
- 10 Climate change mitigation and adaptation¹¹⁹

A brief description of the wetlands’ services as reported in Ramsar and WWF is provided as follows:

- Wetlands protect various species

It has been estimated that freshwater wetlands hold more than 40% of all of the world’s species and 12% of all animal species.¹²⁰ Individual wetlands can be extremely important in supporting high numbers of endemic species. For example, Lake Tanganyika in Central Africa supports 632 endemic animal species.¹²¹ Wetlands provide a nursery habitat for many commercially important fish species that are harvested outside the wetland.¹²² The Varzea Flooded Forest in Brazil is a breeding ground for more than 200 species of fish.¹²³ Wetlands are refuges for migratory birds. When winter sets in across the northern hemisphere, it triggers the most extraordinary mass movement of any living creature on Earth which is the annual migration of countless birds over vast distances.¹²⁴ The world’s wetlands offer a

¹¹⁹ Ramsar Convention Secretariat, 'Wetland Ecosystem Services—an Introduction' (ramsar.org) <https://www.ramsar.org/sites/default/files/documents/library/services_00_e.pdf> accessed 11 Jan 2016

¹²⁰ Ramsar, *Reservoirs of Biodiversity* <http://www.ramsar.org/sites/default/files/documents/tmp/pdf/info/values_biodiversity_e.pdf> Accessed 27 sep 2016

¹²¹ *ibid*

¹²² *ibid*

¹²³ *ibid*

¹²⁴ WWF Global, ‘The value of wetlands’ <http://wwf.panda.org/about_our_earth/about_freshwater/intro/value/> Accessed 26 Sep 2016.

welcome pit stop, offering protection and food before the birds continue on to their final destination.¹²⁵

- Wetlands are good protectors against natural disasters

Wetlands have an array of favorable functions. Indeed, due to their natural infrastructure which is a complex interactions of their physical, biological and chemical components, such as soils, water, plants and animals, wetlands are capable of storing water, protecting against storm, mitigating flood, stabilizing shoreline, and controlling erosion, recharging and discharging groundwater, purifying water, and stabilizing local climate conditions, particularly rainfall and temperature.¹²⁶ These complex habitats act as giant sponges, soaking up rainfall and slowly releasing it over time. Wetlands are like highly efficient sewage treatment works. They absorb chemicals, filter pollutants and sediments, break down suspended solids and neutralize harmful bacteria.¹²⁷ Wetlands are good protectors against natural disasters. The devastating effects of natural phenomena such as hurricanes, cyclones and tsunamis cannot be denied. Worldwide, an estimated 200 million people who live in low-lying coastal regions are at potential risk from catastrophic flooding.¹²⁸ Coastal wetlands such as reefs, mangroves and salt-marshes act as frontline defenses against potential devastation. The roots of wetland plants bind the shoreline together, resisting erosion by wind and waves and providing a physical barrier that slows down storm surges and tidal waves, thereby reducing their height and destructive power.¹²⁹

- wetlands are economically beneficial

For instance, wetlands are useful in fisheries since, as reported by the conferences of the Ramsar Convention, over two thirds of fish harvest worldwide is directly related to the health of the wetlands.¹³⁰

- wetlands serve agriculture

¹²⁵ *ibid*

¹²⁶ WWF Global, Wetlands conservation milestone for WWF <<http://zimbabwe.panda.org/?260633/Wetlands-conservation-milestone-for-wwf>> Accessed 28 Sep 2016

¹²⁷ *ibid*

¹²⁸ Shimelis Gebriye Setegn and Maria Concepcion Donoso, *Sustainability of Integrated Water Resources Management: Water Governance, Climate and Ecohydrology* (1st, Springer, London Sep 2015) 134-136

¹²⁹ *ibid*

¹³⁰ Wildfowl & Wetlands Trust (WWT), 'Ramsar Technical Report No. 7 Ramsar Wetland Disease Manual Guidelines for Assessment, Monitoring and Management of Animal Disease in Wetlands' (Ramsar.org 2012) <<https://www.ramsar.org/sites/default/files/documents/library/rtr7-disease.pdf>> accessed 28 Sep 2016

Wetlands through the maintenance of water tables and nutrient retention in floodplains are important in agriculture. As reported by WWF, food control is the most outstanding social and economic benefit that wetlands provide for humans.¹³¹ As already stated wetlands like peatlands and wet grasslands alongside river basins can act like sponges due to their remarkable structure, absorbing rainfall and controlling its flow into streams and rivers. When peat becomes completely saturated and unable to absorb any more water, surface pools and peat land vegetation including sedge meadows and some types of forest and consequently help to slow and reduce runoff. Similarly, floodplains alongside the lower reaches of major rivers, such as the Nile, Yangtze and Danube allow heavy rainfall or spring snowmelt to spread out slowly. When the peat bogs are drained or the floodplains reduced, the risk of flash floods is increased.¹³²

- Wetlands supply food

Rice is the staple diet of nearly 3 billion people around the world which is indeed half of the world's population. It is grown in wetlands across Asia and West Africa, and in the United States. Almost as important is sago palm, which provides starch from which sago flour is made.¹³³ And palms from the wetlands of Africa yield valuable oils for cooking and soap making.¹³⁴

- Wetlands work as the Earth's filters

Wetlands clean up waters through different ways. They actually work as the Earth's filters. For example, nitrogen in water is transformed to harmless nitrogen gas; nutrients are taken up by wetland plants in the water. Wetlands remove pollutants such as phosphorous, heavy metals and toxins which are trapped in the sediments of the wetlands. In addition, nitrogen and heavy metals are incorporated into peat during its formation. For instance, New York City found that it could avoid spending USD\$3-8 billion on new waste water treatment plants by investing USD\$1.5 billion in the purchase of land around the reservoirs upstate. This land purifies the water supply for free.¹³⁵

¹³¹ WWF, 'Wetlands contribute in no small way to our quality of life - indeed, to our very survival' (wwfkenya.org January 2019) < https://www.wwfkenya.org/our_news/news/?230090/A-source-of-life-for-people-and-wildlife > accessed 1 Feb 2019

¹³² *ibid*

¹³³ *ibid*

¹³⁴ *ibid*

¹³⁵ ShimelisGebriyeSetegn and Maria Concepcion Donoso, *Sustainability of Integrated Water Resources Management: Water Governance, Climate and Ecohydrology* (1st, Springer, London Sep 2015) P173-175

- Wetlands are cultural heritage of humanity

Besides the advantageous functions and profits in economics plus wellbeing of the people and animals and plants, wetlands have special attributes as part of the cultural heritage of humanity. Wetlands are related to religious and cosmological beliefs and spiritual values constituting a source of aesthetic and artistic inspiration.¹³⁶ Wetlands yield invaluable archaeological evidence from the remote past. They designate the cultural traditions. Hence, they are meaningful in historical studies as well. Throughout history humans have gathered around wetlands and these areas have played an important part in human development and are of significant religious, historical or archeological value to many cultures around the world. For example, on the Coburg Peninsula (the world's first Ramsar site), traditional Aboriginal owners still conduct an active ceremonial life and undertake semi-traditional hunting and gathering in this coastal wetland.¹³⁷

- Wetlands provide leisure facilities

Wetlands everywhere provide important leisure facilities like canoeing and fishing, shell collecting and bird watching, swimming and snorkeling, hunting and sailing.¹³⁸

- Further services of wetlands

Further explicit and implicit virtues of the wetlands can be counted in providing timber as well as other building materials, water supply (quantity and quality), energy resources, such as peat and plant matter; wildlife resources; transport; a wide range of other wetland products, including herbal medicines; and recreation and tourism opportunities.¹³⁹ Wetlands yield fuel wood for cooking, thatch for roofing, fibers for textiles and paper making as well. Medicines are extracted from their bark, leaves, and fruits, and they also provide tannins and dyes, used extensively in the treatment of leather.¹⁴⁰

¹³⁶ Ramsar, 'An Introduction to the Ramsar convention on Wetlands', (Ramsar Convention Secretariat, 5th edn, 2016) <http://www.ramsar.org/sites/default/files/documents/library/handbook1_5ed_introductiontoconvention_e.pdf> Accessed 04 Oct 2016

¹³⁷ *ibid*

¹³⁸ WWF, 'Wetlands contribute in no small way to our quality of life - indeed, to our very survival' (wwfkenya.org January 2019) <https://www.wwfkenya.org/our_news/news/?230090/A-source-of-life-for-people-and-wildlife> accessed 1 Feb 2019

¹³⁹ Ania Grobicki, Camilla Chalmers, Edmund Jennings, Tim Jones and Dwight Peck, *An Introduction to the Ramsar Convention on Wetlands* (7th, Ramsar Convention Secretariat, Gland, Switzerland 2016) 10-12

¹⁴⁰ WWF, 'Wetlands contribute in no small way to our quality of life - indeed, to our very survival' (wwfkenya.org January 2019) <https://www.wwfkenya.org/our_news/news/?230090/A-source-of-life-for-people-and-wildlife> accessed 1 Feb 2019

Not all wetlands provide all of the services listed above all of the time. Different wetlands provide a range of services according to their type, size and location.¹⁴¹ According to the Iranian Environmental Protection Agency (2010), the importance of Lake Urmia can be viewed from three aspects:¹⁴²

- Functions (protection from environmental diversity, weather adjustment, reducing the sediments and pollutants, and avoiding the proceeding of salty water and beautiful landscape);
- Products (Artemia fishing, salt harvesting, grazing livestock and buffaloes, hunting waterfowl, fishing, resource of medical plants); and
- Services (tourism, eco-tourism of hot springs, mud therapy, aquaculture, education and research works, and cultural heritage).

WWF claimed that wetlands were the most undervalued ecosystems.¹⁴³ Wetland conservation is a young science and its management largely depends on adaptive management approaches.¹⁴⁴ There are key challenges that hinder the effective protection of wetlands. Raburuet *al* discussed the key challenges as issues faced as market failures, lack of institutional framework, policy failures, lack of baseline information and awareness among stakeholders, and unclear land tenure and ownership within wetland ecosystems.¹⁴⁵ Other challenges include inadequate funding of wetland conservation initiatives, inadequate community participation, variability of climatic conditions, lack of political goodwill and lack of wetland management plans to guide towards wise use of wetlands.¹⁴⁶ Different wetlands undergo a range of challenges which hinder their effective protection. Lake Urmia as the case of the present research study has been faced with challenges which led the Lake to lose 70 to 80 percent of the surface water.¹⁴⁷ The causes and consequences of the Lake Urmia degradation will be reviewed hereafter.

¹⁴¹Ramsar Convention Secretariat, 'Wetland Ecosystem Services—an Introduction' (ramsar.org) <https://www.ramsar.org/sites/default/files/documents/library/services_00_e.pdf> accessed 11 Jan 2016

¹⁴² Babak Pourghahramani and Ali Sabernejad, 'Analysis of the Performance of Islamic Republic of Iran on the Environment of Urmia Lake in the Light of Ramsar Convention' [2014] IJOFALS 1646, 1649

¹⁴³ *ibid*

¹⁴⁴ Raburu P.O., Kwena F. and Nyandiga, C.O., 'Challenges and Lessons Learnt on Community Based Wetland Management' in RABURU P.O., OKEYO-OWUOR J.B. and KWENA F. (eds), *Community Based Approach to the Management of Nyando Wetland, Lake Victoria Basin, Kenya* (1st, Mcpowl Media Ltd, Nairobi 2012).

¹⁴⁵ *ibid*

¹⁴⁶ *ibid*

¹⁴⁷ UNDP & Department of Environment Islamic Republic of Iran, *Towards a Solution for Iran's Drying Wetlands*,

<<http://www.ir.undp.org/content/dam/iran/docs/Publications/E%26SD/WIRT%20Conclusions%20and%20Recommendations.pdf>> Accessed 1 Nov 2015

5. Causes of wetlands' degradation

Different factors could cause changes to ecosystems. The MA (2005) classified the most critical factors causing ecosystem changes as direct and indirect drivers.¹⁴⁸ Natural or human-induced factors that directly or indirectly cause a change in an ecosystem are referred to as 'drivers'. A direct driver unequivocally influences ecosystem processes. An indirect driver operates more diffusely, by altering one or more direct drivers.¹⁴⁹ According to the MA, drivers affect ecosystem services and human well-being at different spatial and temporal scales, which makes both their assessment and their management complex. For instance,

Climate change may operate on a global or a large regional spatial scale; political change may operate at the scale of a nation or a municipal district. Sociocultural change typically occurs slowly, on a time scale of decades (although abrupt changes can sometimes occur, as in the case of wars or political regime changes), while economic changes tend to occur more rapidly.¹⁵⁰

Because of this spatial and temporal dependence of drivers, the forces that appear to be most significant at a specific location and time may not be the most significant over larger (or smaller) region or time scales. However, based on the literature reviewed about the ecosystem changes of Lake Urmia the next subsections deal with the direct and indirect drivers affecting the Lake Urmia ecosystem.

5.1. Direct drivers changing the Lake Urmia ecosystem

According to MA, the most important direct drivers changing the ecosystems are habitat change (land use change and physical modification of rivers or water withdrawal from rivers), overexploitation, invasive alien species, pollution, and climate change.¹⁵¹ However, the influence of such drivers can vary from region to region.¹⁵² The direct drivers changing the ecosystem of the Lake Urmia are discussed in the following subsections.

¹⁴⁸ Carlos Corvalán, Simon Hales, Anthony J. McMichael, Colin Butler, A. McMichael, Millennium Ecosystem Assessment (Program) and World Health Organization, *Ecosystems and Human Well-being: Health Synthesis* (1st, World Health Organization, France 2005) 33-35

¹⁴⁹ *ibid*

¹⁵⁰ *ibid*

¹⁵¹ Carlos Corvalán, Simon Hales, Anthony J. McMichael, Colin Butler, A. McMichael, Millennium Ecosystem Assessment (Program) and World Health Organization, *Ecosystems and Human Well-being: Health Synthesis* (1st, World Health Organization, France 2005) 13-15

¹⁵² *ibid*

5.1.1. Climate change

As section 4 discussed, wetlands can convey resilience to our communities, providing many critical ecosystem services such as cleaning water, absorbing floodwaters, and providing habitat for wildlife.¹⁵³ Despite their natural resilience and the natural benefits they provide, wetlands are vulnerable to many of the changes in our landscapes and weather patterns.¹⁵⁴ Climate change is predicted to increase flooding, drought, the number of high heat days, and the frequency of severe storms, all of which will affect wetlands.¹⁵⁵ Wetlands are particularly vulnerable to changes in hydrology as they exist between fully aquatic and fully terrestrial ecosystems.¹⁵⁶ The MA designates climate change as a direct driver influencing wetland ecosystems.¹⁵⁷

Climate change could affect *precipitation*.¹⁵⁸ The head of Lake Urmia Restoration Programme¹⁵⁹, informed that the average rainfall in the lake basin has decreased by 18 percent during the last two decades¹⁶⁰ and actual annual precipitation in the lake basin is approximately 350mm.¹⁶¹ Climate change could affect *temperature* as well.¹⁶² Temperature around the lake basin has risen about 2 degrees in the past two decades.¹⁶³ As a matter of fact, the two factors of rainfall decrease and temperature increase have played roles in shrinking of

¹⁵³ Wisconsin Wetlands Association, 'How will wetlands be affected by climate change?' (wisconsinwetlands.org May 2018) < <https://wisconsinwetlands.org/updates/how-will-wetlands-be-affected-by-climate-change/> > accessed 11 Jul 2018

¹⁵⁴ *ibid*

¹⁵⁵ *ibid*

¹⁵⁶ *ibid*

¹⁵⁷ Gerhard Petschel-Held, Rodolfo Lasco, Erin Bohensky, Tiago Domingos, André's Guhl, Jakob Lundberg and Monika Zurek, 'Drivers of Ecosystem Change' in Millennium Ecosystem Assessment (eds), *Ecosystems and Human Well-Being: Multiscale Assessments: Findings of the Sub-Global Assessments Working Group* (1st, Island Press, Washington 2005).

¹⁵⁸ *ibid*

¹⁵⁹ A comprehensive description of the Lake Urmia Restoration Programme aims, functions is discussed in Chapter 4 section 2.4

¹⁶⁰ Mehdi Ebrahimi, 'Lake Urmia problem is not the reduction of rainfall' (Farsnews.com Jan 2019) < <https://www.farsnews.com/news/13971018001153/مشکل-دریاچه-ارومیه-کاهش-بارندگی-نیست> > accessed 2 Mar 2019

¹⁶¹ Conservation of Iranian Wetlands Project, 'Lake Urmia' (wetlandsproject) < <http://www.wetlandsproject.ir/lagoons/detail/1001/دریاچه-ارومیه/view/> > accessed 27 May 2016

Urmia Lake Restoration Program is a governmental plan to contribute to the restoration of Lake Urmia. A comprehensive description of the aims, functions and outcomes of the program will be studied in chapter 4, section 4

¹⁶² Gerhard Petschel-Held, Rodolfo Lasco, Erin Bohensky, Tiago Domingos, André's Guhl, Jakob Lundberg and Monika Zurek, 'Drivers of Ecosystem Change' in Millennium Ecosystem Assessment (eds), *Ecosystems and Human Well-Being: Multiscale Assessments: Findings of the Sub-Global Assessments Working Group* (1st, Island Press, Washington 2005).

¹⁶³ Department of Environment <<http://www.doe.ir/Portal/Home/ShowPage.aspx?Object=News&ID=32f9bf5d-203d-4a74-883f-8a4a215ae311&LayoutID=d1d80beb-cefb-4c89-8b0e-a654056723fc&CategoryID=7fb271f5-f2fe-4a98-a24a-83889b582c66&SearchKey=>> Accessed 9 Dec 2015

the Lake.¹⁶⁴ Delju, Piguet and Rebetez (2012) analysed the effect of climate change in the Urmia Lake Basin.¹⁶⁵ They analysed the annual average of dry bulb temperature, maximum and minimum temperature, precipitation, and number of rainy and snowy days by statistical methods for the period 1964–2005 to find out whether fluctuations in the lake level are attributable to natural drought.¹⁶⁶ The results indicated that mean precipitation has decreased by 9.2 % and the average maximum temperature has increased by 0.8 degrees centigrade (°C) over these four decades.¹⁶⁷ They finally claimed that on average, drought episodes have hit the Urmia Lake Basin every 5 years and most of them reached severe levels, but recent droughts have become more intense and last longer.¹⁶⁸ In sum, the precipitation and temperature resulting from the climate change are direct drivers affecting the ecosystem of the Lake Urmia.

5.1.2. Constructions

According to MA, dam construction is a further significant direct driver which can change the ecosystem.¹⁶⁹ As a matter of fact, dam construction is directly reversing the ecosystem of the Lake Urmia.¹⁷⁰ As it is already described, the climate change has affected the ecosystem of the region.¹⁷¹ As a result, today the country is faced with serious challenges in the water sector, including rising water demand and shortages and declining groundwater levels.¹⁷² Hence, over the last three decades tremendous efforts have been made to supply water in Urmia region, primarily through an extensive program of development, with dam building at the forefront.¹⁷³ 35 dams have been built on 21 rivers feeding the Lake Urmia so far.¹⁷⁴ Some

¹⁶⁴ *ibid*

¹⁶⁵ Amir Hooshang Delju, Etienne Piguet and Martine Rebetez, 'Observed climate variability and change in Urmia Lake Basin, Iran' [January 2012] Springer

¹⁶⁶ *ibid*

¹⁶⁷ *ibid*

¹⁶⁸ *ibid*

¹⁶⁹ Gerhard Petschel-Held, Rodel Lasco, Erin Bohensky, Tiago Domingos, André's Guhl, Jakob Lundberg and Monika Zurek, 'Drivers of Ecosystem Change' in Millennium Ecosystem Assessment (eds), *Ecosystems and Human Well-Being: Multiscale Assessments: Findings of the Sub-Global Assessments Working Group* (1st, Island Press, Washington 2005).

¹⁷⁰ Farhad Yazdandoost, 'Dams, Drought and Water Shortage in Today's Iran' [November 2016] Iranian Studies Journal 1017, 1027

¹⁷¹ Chapter 2, section 5.1.1

¹⁷² Farhad Yazdandoost, 'Dams, Drought and Water Shortage in Today's Iran' [November 2016] Iranian Studies Journal 1017, 1027

¹⁷³ *ibid*

¹⁷⁴ Gholamreza Noori and Vahed Aghaee, 'Assessment of Environmental hazards for surrounding areas of the Lake Urmia due to the fluctuations border, during 1985-2010' [2013] Journal of Natural Environmental Hazards 79, 92

of the most important dams in the region are Zarineh Rood, Mahabad, Alavian and Sahand.¹⁷⁵ Dams are built mainly to meet the agricultural and industrial needs of the region. Dam construction in this region has led to water misbalance in the lake basin.¹⁷⁶ Also, due to the construction of dams in this region, water entrance has been reduced from 5 billion m³ to 2.5 billion m³ between years 1990 and 2014.¹⁷⁷ Figure 1 illustrates the most important projects in the Lake Urmia basin.¹¹ further dams are currently under construction.¹⁷⁸ 275 projects are under study 231 of which will be starting in near future. These projects contain 71 reservoir dams, 124 weirs and conduction facilities, 17 pumping stations and 10 flood controlling and artificial feeding programmes.¹⁷⁹ Hoseinpour, Fakheri and Neghili declared that dam construction is a major reason for drying of the lake.¹⁸⁰ They claimed that the capacity of current water reservoirs of dams in the basin is 1.624 billion m³ which will rise to 3.568 milliard m³ and it is obvious that the process will make the situation more critical.¹⁸¹ Their study demonstrated that climate changes and dam constructions are the most important reasons for this disaster.¹⁸²

¹⁷⁵ibid

¹⁷⁶FarhadYazdandoost, ' Dams, Drought and Water Shortage in Today's Iran' [November 2016] Iranian Studies Journal 1017, 1027

¹⁷⁷ Islamic republic news Agency, '*The annual loss of 2.5billion cubic meters of entrance water to the Lake Urmia*' (Mar 2015) <<http://www.irna.ir/fa/News/81543992/>> Accessed 22 Oct 2015

Please also see;

Hoseinpour M, FakheriFard A and Naghili R, ' Death of Urmia Lake, a Silent Disaster Investigating of causes, results and solutions of Urmia Lake drying ' [Apr 2010] International applied Geological Congress (Iran) 700, 702

¹⁷⁸ ibid

¹⁷⁹Elmira Hassanzadeh, Mahdi Zargham and Yousef Hassanzadeh, ' Determining the Main Factors in Declining the Lake Urmia Level by Using System Dynamics Modeling' [Jan 2012] Water Resources Management 129, 145

¹⁸⁰Hoseinpour M, FakheriFard A and Naghili R, ' Death of Urmia Lake, a Silent Disaster Investigating of causes, results and solutions of Urmia Lake drying ' [Apr 2010] International applied Geological Congress (Iran) 700, 702

¹⁸¹ibid

¹⁸²ibid

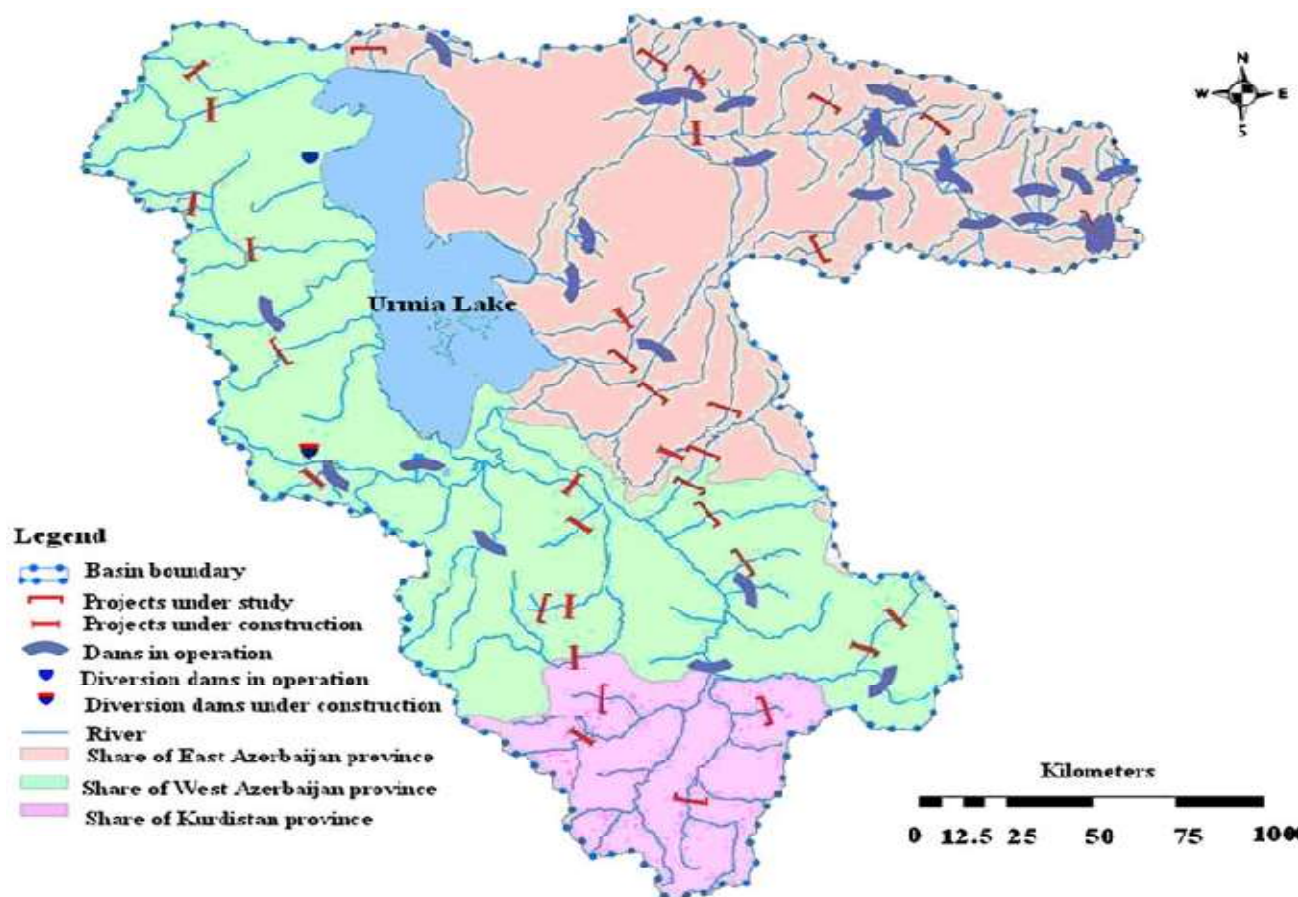


Figure 3: The most important dam projects in the Lake Urmia basin¹⁸³

Besides intensive dam constructions, the construction of Shahid Kalantari highway is another reason for drying of the Lake.¹⁸⁴ Shahid Kalantari bridge is a part of Shahid Kalantari highway which is located on Lake Urmia and split the Lake into two basins because the main part of the bridge.¹⁸⁵ Shahid Kalantari highway was built with the aim of connecting the two provinces of East and West Azerbaijan.¹⁸⁶ The bridge is 1709 meters long and 1276 meters of which is built in the Lake Urmia.¹⁸⁷ The most part of the bridge was built by constructing a

¹⁸³ Elmira Hassanzadeh, Mahdi Zargham and Yousef Hassanzadeh, 'Determining the Main Factors in Declining the Lake Urmia Level by Using System Dynamics Modeling' [Jan 2012] *Water Resources Management* 129, 145

¹⁸⁴ Sanaeepour S and Ramazani GhavaamAbbaadi M.H, 'Legal Evaluation of Iran's' adherence to wise use of Lake Urmia with emphasis on Ramsar Convention' [2014] *journal of Legal studies of Shiraz University* 109, 140

And

Bagherzadeh Karimi, Roohani M and Rankoohi M, *Handbook of Iranian Wetlands Recorded in Ramsar Convention*, (Rooze No publication, Tehran 2007) 28-34

¹⁸⁵ Mohammad Bagher Ghalibaf and Zahra Moussavi, 'Development and Environment in Urmia Lake of Iran' [Oct 2014] *European Journal of Sustainable Development* 219, 226

¹⁸⁶ *ibid*

¹⁸⁷ *ibid*

levee in the Lake.¹⁸⁸ The highway is made by iron structures and concrete foundations which are destructive to the environments.¹⁸⁹ Construction of Shahid Kalantari Highway has negatively affected the ecosystem of the Lake.¹⁹⁰ Shahid Kalantari highway has influenced the natural flow of water. It has influenced the precipitation in Northern and Southern parts of the Lake.¹⁹¹ It has changed the physical, chemical characteristics and ecological character of the Lake¹⁹² and has put the biodiversity in danger.¹⁹³ The detrimental influence of Shahid Kalantari highway with respect to conservation and sustainable use of Lake Urmia will be discussed in chapter 4.¹⁹⁴

5.1.3. Exploitation of water

Over-exploitation of water is another direct driver changing the Lake Urmia's ecosystem.¹⁹⁵ Urmia Lake has lost on average 34 ± 1 cm of its water level every year from 2002 to 2014.¹⁹⁶ The lake has lost about 70% of its water extent within the last 14 years.¹⁹⁷ The lake water volume has decreased from 10 to 11 km³ to less than 2 km³ in 10 years.¹⁹⁸ Tourianet *al.* research results indicated the anthropogenic influences on an accelerated desiccation. They suggested the groundwater exploitation in the basin is the primary reason for drying of the Lake Urmia.¹⁹⁹ As a matter of fact, extensive increase in the rate of groundwater extraction

¹⁸⁸ Mohammad Bagher Ghalibaf and Zahra Moussavi, 'Development and Environment in Urmia Lake of Iran' [Oct 2014] European Journal of Sustainable Development 219, 226

¹⁸⁹ *ibid*

¹⁹⁰ Mohammad Bagher Ghalibaf and Zahra Moussavi, 'Development and Environment in Urmia Lake of Iran' [Oct 2014] European Journal of Sustainable Development 219, 226

And

Gardeshgari, 'Urmia Lake Crossing Bridge' (gardeshgari724.com) <

<https://gardeshgari724.com/attractions/2465/ارومیه-گذر-دریاچه-ارومیه> accessed 2 Nov 2019

And

Sanaeepour S and Ramazani GhavaamAbbaadi M.H, 'Legal Evaluation of Iran's' adherence to wise use of Lake Urmia with emphasis on Ramsar Convention' [2014] journal of Legal studies of Shiraz University 109, 140

And

Bagherzadeh Karimi, Roohani M and Rankoohi M, Handbook of Iranian Wetlands Recorded in Ramsar Convention, (Rooze No publication, Tehran 2007) 28-34

¹⁹¹ *ibid*

¹⁹² *ibid*

¹⁹³ *ibid*

¹⁹⁴ Chapter 4 section 2.4

¹⁹⁵ Hoseinpour M, FakheriFard A and Naghili R, 'Death of Urmia Lake, a Silent Disaster Investigating of causes, results and solutions of Urmia Lake drying' [Apr 2010] International applied Geological Congress (Iran) 700, 702

¹⁹⁶ Tourian M.J. , Elmi O, Chen Q, Devaraju B, RoohiSh, Sneeuw N, 'A spaceborne multisensor approach to monitor the desiccation of Lake Urmia in Iran' [2015] Remote Sensing of Environmen 349, 355

¹⁹⁷ *ibid*

¹⁹⁸ *ibid*

¹⁹⁹ In their study, they used a multi sensor approach to monitor the desiccation of Lake Urmia. They used space borne sensors which provide several novel ways to monitor the hydrological cycle and its inter annual changes.

over this region has been acknowledged by some researchers (Alipour, 2006, Joodaki et al., 2014, Voss et al., 2013).²⁰⁰

Gary Lewis, the United Nations (UN) Resident Coordinator and United Nations Development Programme (UNDP) Resident Representative in Iran suggested that Lake Urmia is drying out as a result of massive over-use of feeding rivers which had diverted the natural flow of sweet water from the surrounding basin into the salty lake in this region.²⁰¹ He continued that there would be a further self-destructive phenomenon due to over-exploitation of water at play as well. As farmers drilled ever-deeper to pump out the aquifers at the side of the lake for farming, over-exploitation of this groundwater surrounding the lake would cause saltwater seepage into those very same wells. This would affect people's access to potable drinking water.²⁰²

5.2. Indirect drivers changing the Lake Urmia ecosystem

According to MA, in the aggregate and at a global scale, there are five indirect drivers of changes in ecosystems and their services: population change, change in economic activity, socio-political factors, cultural factors, and technological change.²⁰³ The following subsection reviews the indirect drivers in changing the Lake Urmia's ecosystem.

They used technical data which makes it possible to determine continental water storage changes and assess the water budget on monthly to multi-annual time scales.

Tourian M.J. , Elmi O, Chen Q, Devaraju B, RoohiSh, Sneeuw N, ' A spaceborne multi sensor approach to monitor the desiccation of Lake Urmia in Iran' [2015] Remote Sensing of Environment 349, 355

²⁰⁰ Samad Alipour, ' Hydro geochemistry of seasonal variation of Urmia Salt Lake, Iran' [2006] Aquatic Bio systems 1, 19

please also see

GholamrezaJoodaki, John Wahr and Sean Swenson, ' Estimating the human contribution to groundwater depletion in the Middle East, from GRACE data, land surface models, and well observations' [Mar 2014] AGU 2679, 2690

and

Ministry of Energy of Islamic Republic of Iran, ' A brief view to the status of the Lake Urmia and suggested remedies for it ' (lar-co.com 2013) < http://www.lar-co.com/_DouranPortal/documents/lakeUrmia1.pdf> accessed 17 Mar 2016

²⁰¹Gary Lewis, ' Lake Urmia comes back to life slowly but surely' (undp.org Mar 2017) <

<https://www.ir.undp.org/content/iran/en/home/presscenter/articles/2017/03/22/lake-urmia-comes-back-to-life-slowly-but-surely.html>> accessed 12 May 2017

²⁰² ibid

²⁰³ShunsukeManagi, 'The Economics of Biodiversity and EcosystemServices' (Routledge, USA and Canada, 2013) P 10-11

5.2.1. Growth of agriculture in the region and inefficient irrigation methods²⁰⁴

The United Nations Food and Agriculture Organization (FAO) reported that the agricultural industry is one of the fastest-growing industries in Iran. Statistics show that a quick growth from 9 to 23 percent of Gross Domestic Product (GDP) of the country between the years 1992 and 2007 has made agricultural productions one of the most important economic sectors.²⁰⁵ However, this so-called success has contributed to wetland degradation as the agricultural system in the country is not modern and has led to a huge amount of water wastes. Indeed, about 83.5 billion cubic meters of the country's water resources which are approximately 90 percent of the whole water resources in Iran are being consumed by agriculture sectors.²⁰⁶ With regards to the Lake Urmia region, the livelihood of approximately 35% of the population in the West Azerbaijan province depends on agricultural industry. At the moment, approximately 450,000-500,000 hectares of the lands surrounding the Lake Urmia are under cultivation. This number has been increasing significantly in recent years.²⁰⁷ Most water usage in the basin of Lake Urmia includes the irrigation of crops.²⁰⁸ However, irrigation efficiency in Iran varies between 33 and 37 percent. As a result, approximately 60 percent of water is wasted in the irrigation process in this region.²⁰⁹ Statistics show that the average consumption rate of Urmia Lake Basin is 7.84 billion m³ of which 94% is dedicated to agricultural activities.²¹⁰ The growth of agriculture around Lake Urmia has led to more consumption of water storage of the basin and so less amount of water will enter the lake every year.²¹¹

²⁰⁴ ISNA, ' Lake Urmia will be saved by Buying water share' (isna.ir Jul 2015) < <http://www.isna.ir/fa/news/94050401498/>> accessed 15 Oct 2015

²⁰⁵ Food and Agriculture Organization (FAO), 'Iran (Islamic Republic of) ' (fao.org 2008) < http://www.fao.org/nr/water/aquastat/countries_regions/irn/irn-cp_eng.pdf> accessed 7 Dec 2015

²⁰⁶ Reza Ardakanian, ' Overview of Water Management in Iran' in Academy of Sciences of the Islamic Republic of Iran, National Research Council, Policy and Global Affairs, Development, Security, and Cooperation, Office for Central Europe and Eurasia and Committee on US-Iranian Workshop on Water Conservation and Recycling (eds), *Water Conservation, Reuse, and Recycling: Proceedings of an Iranian-American Workshop* (1st, National Academies Press, Washington 2005).

²⁰⁷ *ibid*

²⁰⁸ *ibid*

²⁰⁹ *ibid*

²¹⁰ Hoseinpour M, FakhriFard A and Naghili R, ' Death of Urmia Lake, a Silent Disaster Investigating of causes, results and solutions of Urmia Lake drying ' [Apr 2010] International applied Geological Congress (Iran) 700, 702

²¹¹ *ibid*

5.2.2. Poor water management

Generally speaking, mismanagement of water resources is a leading indirect driver contributing to wetland degradation.²¹² With respect to the Lake Urmia, from scientific point of view, lack of dredging²¹³ and from legal perspective, lack of regulations (or weak rules) for water usage are the instances of poor management of water in the region.

Dredging is the removal of sediments and debris from the bottom of lakes, rivers, and other water bodies.²¹⁴ It is a routine necessity in waterways around the world because sedimentation—the natural process of sand and silt washing downstream—gradually blocks the flow of water.²¹⁵ This material must be periodically removed by dredging.²¹⁶ With respect to Lake Urmia, due to lack of dredging, water pools to the river shoulder and then spreads and eventually evaporates.²¹⁷ The head of Lake Urmia Restoration Programme suggested that lack of dredging of rivers feeding the lake was a reason that rainfalls of more than 400 mm were not effective in increasing the lake's water level because rainwater could not reach the body of the lake.²¹⁸

As already mentioned, lack of regulations (or weak rules) for water usage is a further driver indirectly affecting the Lake Urmia. Hosseini-Moghariet *al.* investigated the impacts of both *underground water use* and *surface water use* on the lake's water.²¹⁹ According to Hosseini-Moghariet *al.*, human water use was the reason for 50% of the total basin water loss of about 10 km³ during 2003-2013, for 40% of the Lake Urmia water loss of about 8 km³ and for up to 90% of the underground water loss. Lake inflow was 40% less than it would have been

²¹² Gerald C. Nelson, Elena Bennett, AsmeretAsefawBerhe, Kenneth G. Cassman, Ruth DeFries, Thomas Dietz, Andrew Dobson, Achim Dobermann, Anthony Janetos, Marc Levy, Diana Marco, Nebojsa Nakic' enovic', Brian O'Neill, Richard Norgaard, Gerhard Petschel-Held, Dennis Ojima, Prabhu Pingali, Robert Watson and Monika Zurek, 'Drivers of Change in Ecosystem Condition and Services' in Millennium Ecosystem Assessment (eds), *Ecosystems and Human Well-Being: Scenarios: Findings of the Scenarios Working Group* (1st, Island Press, Washington, D.C 2005).

²¹³ noaa, 'What is dredging?' (oceanservice.noaa.gov) < <https://oceanservice.noaa.gov/facts/dredging.html> > accessed 17 Nov 2015

²¹⁴ ibid

²¹⁵ ibid

²¹⁶ ibid

²¹⁷ Lake Urmia Restoration Program, 'In different parts of the Lake Urmia basin water consumption is not optima' <<http://ulrp.sharif.ir/en/news/news-640>> در بخش های مختلف حوضه دریاچه ارومیه مصرف آب بهینه - Accessed 19 Nov 2015

²¹⁸ Tasnim News Agency, 'From Effects of Increasing Rainfall on the Lake Urmia Revival to growing Medicinal Plants in the Watershed of the Lake' (tasnimnews.com Sep 2018) < <https://www.tasnimnews.com/fa/news/1398/06/27/2097878> > accessed 27 Oct 2018

²¹⁹ Mohammad Hosseini Moghari, Shahab Araghinejad, Mohammad J. Tourian, Kumars Ebrahimi and Petra Döl, 'Quantifying the impacts of human water use and climate variations on recent drying of Lake Urmia basin: the value of different sets of spaceborne and in-situ data for calibrating a hydrological model' [Jul 2018] Hydrol. Earth Syst. Sci. Discuss 1, 24

without human water use.²²⁰ As a matter of fact, the detrimental impacts of *illegal wells* in the region have been discussed in different studies.²²¹ Illegal water uptake from the basin is one of the issues with significant negative impact on the Lake Urmia.²²² Irrigation in the region relies on groundwater coming from wells, springs and flume.²²³ There are around 88,000 wells in the Urmia Lake Basin, of which an estimated 40,000 are unauthorized.²²⁴ Figure 4 represents a picture of the illegal wells in the region. All wells located in Urmia, the forbidden area (pink) and some in yellow are illegal.²²⁵

²²⁰ *ibid*

²²¹ UNEP, 'Lake Urmia: Signs of recovery' (unep.org Nov 2017)

<https://wedocs.unep.org/bitstream/handle/20.500.11822/22312/Foresight_%20Brief_%20004_2017.pdf?sequence=1&isAllowed=y> 11 Dec 2017

Please also see;

Somayeh Shadkam, 'PRESERVING URMIA LAKE IN A CHANGING WORLD: Reconciling anthropogenic and climate drivers by hydrological modelling and policy assessment' (PhD thesis, Wageningen University 2017)

And

Mohammad Hosseini Moghari, Shahab Araghi, Mohammad J. Tourian, Kumars Ebrahimi and Petra Döl, 'Quantifying the impacts of human water use and climate variations on recent drying of Lake Urmia basin: the value of different sets of spaceborne and in-situ data for calibrating a hydrological model' [Jul 2018] Hydrol. Earth Syst. Sci. Discuss 1, 24

and

Nahal Faramarzi, Agricultural Water Use in Lake 'Urmia Basin, Iran: An Approach to Adaptive Policies and Transition to Sustainable Irrigation Water Use' (Master thesis, Uppsala University 2012)

²²² UNEP, 'Lake Urmia: Signs of recovery' (unep.org Nov 2017)

<https://wedocs.unep.org/bitstream/handle/20.500.11822/22312/Foresight_%20Brief_%20004_2017.pdf?sequence=1&isAllowed=y> 11 Dec 2017

²²³ Nahal Faramarzi, Agricultural Water Use in Lake 'Urmia Basin, Iran: An Approach to Adaptive Policies and Transition to Sustainable Irrigation Water Use' (Master thesis, Uppsala University 2012)

²²⁴ Somayeh Shadkam, 'PRESERVING URMIA LAKE IN A CHANGING WORLD: Reconciling anthropogenic and climate drivers by hydrological modelling and policy assessment' (PhD thesis, Wageningen University 2017)

²²⁵ *ibid*

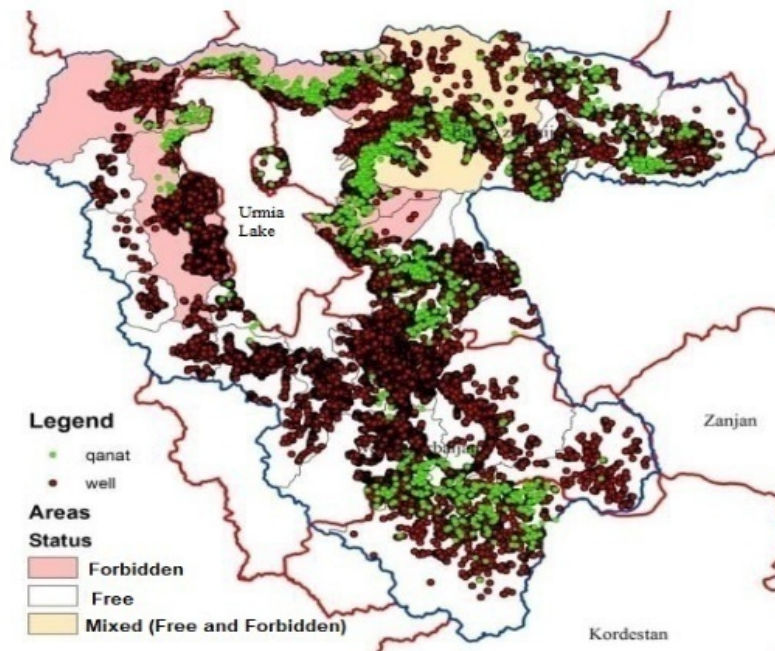


Figure 4: Wells around the Lake Urmia

As a matter of fact, there is no robust regulation for supervising the water usage through wells in Iran. According to Navabi, the policies to control illegal abstraction by requiring registration of unlicensed wells have become one of the biggest failures in Iran's current history of water policymaking.²²⁶

Besides illegal wells, it is worth mentioning that currently farmers are charged little for using water for irrigating their lands in this region.²²⁷ In fact, the local communities in Iran traditionally use water for irrigating their lands freely. In the Urmia region, this is one of the main reasons for the overuse of this valuable resource.²²⁸ As Esmaeili and Shahsavari suggested, approximately 95 % of the usable water resources in Iran are allocated to the agricultural sector; however, irrigation water is completely subsidized and farmers only have to pay a small fee for water. They claimed that the low price of agricultural water and the observed subsidy for the use of this resource have resulted in there being little incentive to

²²⁶ Ehsan Nabav, 'Failed Policies, Falling Aquifers: Unpacking Groundwater Over abstraction in Iran' (2018) Water Alternatives <<http://www.water-alternatives.org/index.php/alldoc/articles/vol11/v11issue3/461-a11-3-14/file>> Accessed 15 Jan 2019

a comprehensive review of the Iranian national laws which could have implications for Lake Urmia along with their success/failure is discussed in chapter 4.

²²⁷ Nahal Faramarzi, Agricultural Water Use in Lake 'Urmia Basin, Iran: An Approach to Adaptive Policies and Transition to Sustainable Irrigation Water Use' (Master thesis, Uppsala University 2012)

²²⁸ *ibid*

conserve water as well.²²⁹ Apparently, because farmers in the Urmia region pay little for water usage (there is no law in this respect), there is no incentive for taking care of water.²³⁰

6. The consequences of the lake shrinking

Drying of the Lake Urmia is a matter of considerable consequences. Some of the serious consequences would be climate change, agriculture degradation, migration problems and threats to human health, flora and fauna, and tourism industry which are discussed in this section.

6.1. Climate change in the region

According to International Union for Conservation of Nature (IUCN), degraded wetlands contribute to climate change.²³¹ With respect to Lake Urmia, climate change is considered both as the cause and effect of the drying of the Lake. Climate change could affect precipitation and temperature on the one hand (as discussed in direct drivers, Section 5.1.1) and wetland degradation could cause climate change on the other hand.²³² In fact, the climate condition has changed adversely in the region due mainly to the Lake crisis. As previously stated,²³³ the existence of the Lake Urmia contributes greatly to the creation of a moderate climate in the region (in terms of temperature and humidity) and keeps the climate appropriate for living and agriculture.²³⁴ The humidity by the lake plays an important role in keeping the weather moderate in the region. Humidity prevents the creation and spread of dust and salt hovering in this area. During hot summers the lake acts as a cooler and decreases the temperature and in cold winters the lake helps the temperature to rise.²³⁵ In addition, in dry seasons the humidity coming from the lake surface increases humidity in adjacent areas.²³⁶ Indeed, this unique circumstance has created a special micro local climate in this area. The climate in the surrounding areas of the lake is under the influence of the lake evaporation.

²²⁹ Abdoulkarim Esmaeili and Zahra Shahsavari, 'Water allocation for agriculture in southwestern Iran using a programming model' [May 2014] *Applied Water Science* 305, 310

²³⁰ Nahal Faramarzi, *Agricultural Water Use in Lake Urmia Basin, Iran: An Approach to Adaptive Policies and Transition to Sustainable Irrigation Water Use* (Master thesis, Uppsala University 2012)

²³¹ IUCN, 'Degraded coastal wetlands contribute to climate change' (iucn.org Apr 2011) <<https://www.iucn.org/content/degraded-coastal-wetlands-contribute-climate-change>> accessed 15 Feb 2016

²³² Mohammad Bagher Ghalibaf and Zahra Moussavi, 'Development and Environment in Urmia Lake of Iran' [Oct 2014] *European Journal of Sustainable Development* 219, 224

²³³ Chapter 2, section 3

²³⁴ Mohammad Bagher Ghalibaf and Zahra Moussavi, 'Development and Environment in Urmia Lake of Iran' [Oct 2014] *European Journal of Sustainable Development* 219, 224

²³⁵ *ibid*

²³⁶ *ibid*

Hence, it appears that the existence of the lake in this region keeps the balance in the micro local climate of the wetlands.²³⁷ Different studies have shown that shrinking of the surface of the lake will disturb this balance.²³⁸ In addition, the wetland degradation will increase differences between the day and night temperatures in the region as well as causing egregious differences between seasons of the year.²³⁹ Thus, during the last decade with the ever-increasing speed of the Lake drying, the climate condition has been changing. Following this, the lake drying is causing decrease in the humidity and consequently changing the annual rainfall regime in neighbouring regions.²⁴⁰ In fact, a vicious cycle of environmental degradation is happening as a result of drying of Lake Urmia.

6.2. Agricultural degradation

Agriculture is also considered as both the cause and consequence of drying of the Lake Urmia. On the one hand, as previously discussed, the growth of agriculture and inefficient water irrigation methods have contributed to shrinkage of the lake.²⁴¹ On the other hand, the drying of the lake could cause agricultural degradation in this region. According to the Iranian Community Consulting Engineers (CCE) in 2011, the wetland degradation has a detrimental impact on agriculture industry in the region and this could directly affect local people's lives.²⁴² Particularly, in up to the altitude of 2000 meters where most of the population is gathered, the main occupation of local people is farming.²⁴³ It is obvious that farming largely depends on irrigation and lack of enough water would be a threat for agriculture. Decrease in the water level of the lake would result in the decrease in the amount of the ground water and

²³⁷ *ibid*

²³⁸ Two studies are cited here;

Gholamreza Roshan, JafarMasoompourSamakosh and José A. Orosa, ' The impacts of drying of Lake Urmia on changes of degree day index of the surrounding cities by meteorological modelling' [October 2016] Environmental Earth Sciences 1, 4

Please also see;

Mohammad Bagher Ghalibaf and Zahra Moussavi, ' Development and Environment in Urmia Lake of Iran' [Oct 2014] European Journal of Sustainable Development 219, 224

²³⁹ *ibid*

²⁴⁰ Mohammad Bagher Ghalibaf and Zahra Moussavi, ' Development and Environment in Urmia Lake of Iran' [Oct 2014] European Journal of Sustainable Development 219, 224

²⁴¹ Chapter 2 section5.2.1

²⁴² Mohammad Ali Ahmadian and Samira Asghari, ' Environmental consequences of reduction on Lake Urmia water surface and solutions to save it' [2014] Sarzamin Quarterly Journal 81, 96

²⁴³ Mohammad Ali Ahmadian and Samira Asghari, ' Environmental consequences of reduction on Lake Urmia water surface and solutions to save it' [2014] Sarzamin Quarterly Journal 81, 96

Please also see;

Mohammad Bagher Ghalibaf and Zahra Moussavi, ' Development and Environment in Urmia Lake of Iran' [Oct 2014] European Journal of Sustainable Development 219, 224

consequently leads to agriculture degradation.²⁴⁴ Besides the scarcity of water for agriculture as a result of shrinking of the lake, excessive drying of the lake surface causes the salt particles to diffuse from the lake bed to the adjacent farmlands and this gradually increases soil salinity in lands around the lake. This is in fact a serious threat for the agriculture industry in the region.²⁴⁵ According to the report by CCE in 2011, when the salt marshes of Urmia Lake expand, a mass of salt amount would be dispersed in the air with every wind. This will lead to soil, crop, and orchard destruction.²⁴⁶

6.3. Threats to human health

A further consequence of the drying of the Lake could be the threats to people's health in this region. Lake Urmia is an endorheic or terminal lake which means that water leaves the Lake only by evaporation.²⁴⁷ As it is generally the case, this leads to a saltwater body and in the case of Lake Urmia, salinity is quite high. The lake has dramatically decreased in volume over the past decade and a half, further concentrating salts in the lake, raising salinity to more than 300 g/L (9) or 8 times as salty as typical seawater.²⁴⁸ The persistence of this situation allows the exposed salt to blow away, causing a serious threat to the health of the inhabitants of the region. As stated by the representative of Urmia City in Iranian Parliament, drying of the Lake Urmia has caused the spread of salt in this province.²⁴⁹ This could expand the deserts in this province as well. He added that drying of the lake could threat people's lives of the region tremendously.²⁵⁰ He also mentioned drying the Lake Urmia would cause salt storm and this will cause serious health and safety problem for the citizens.²⁵¹ For example, harsh wind conditions in the area can transfer salt molecules to the air that people breathe and as mentioned by the environmental experts this would cause serious breathing problems

²⁴⁴ *ibid*

²⁴⁵ *ibid*

²⁴⁶ Mohammad Bagher Ghalibaf and Zahra Moussavi, 'Development and Environment in Urmia Lake of Iran' [Oct 2014] *European Journal of Sustainable Development* 219, 224

Please also see;

Iranian Society of Consulting Engineers, *Sustainability Evaluation of Development Process and its consequences on Urmia Lake (Environmental Crisis in Urmia Lake)*. (1st, Samar Publication, Tehran 2015) 15-25

²⁴⁷ UNEP, 'The Drying of Iran's Lake Urmia and its Environmental Consequences' (europarl.europa.eu Feb 2012) < http://www.europarl.europa.eu/meetdocs/2009_2014/documents/d-ir/dv/lakeurmia&env_cn/lakeurmia&env_cnsq.pdf> accessed 19 May 2015

²⁴⁸ *ibid*

²⁴⁹ Islamic consultative Assembly News Agency, 'Urmia's Agricultural industries' pulse in the hands of the Lake Urmia' (icana.ir May 2012) < <http://www.icana.ir/Fa/News/197583>> accessed 9 Oct 2015

²⁵⁰ *ibid*

²⁵¹ *ibid*

(involving lung and respiratory diseases).²⁵² In addition, the level of UV radiation around the Lake has increased 2.5 times (as stated by the authorities) which can be one of the most and even main reasons for the elevated cancer rate around the Lake Urmia.²⁵³

To sum up, it can be stated that the decrease of the Lake Urmia water levels causes different interrelated problems which affect the human health in this region. Due mainly to the salty water, the evaporation leads the salt to spread in the air and this salt is a threat to the people's vision and lung health. Besides, the sun reflection over the salt particles increases the UV radiation which indeed could result in the increase of cancer in this region.²⁵⁴

6.4. Migration problems

Migration could be considered an additional serious challenge facing people and the government in this region. The lake level variation equaled to approximately 3 m from August 1998 to August 2001; however, the speed of receding water level has increased since 2010. The level of variation equaled to 6.8 m from January 1992 to August 2010.²⁵⁵ As a result, it has rapidly changed shorelines and caused disappearance of the existing landscapes in the region. Persistence of this phenomenon plus other subsidiary impacts of climate change such as rapid reduction in groundwater resources, loss of land productivity, degradation of agricultural lands, and soil erosion could be strong enough to trigger a possible future migration and human displacement of vulnerable rural populations from dry lands to other areas in the country.²⁵⁶ Indeed, the watershed of the lake used to be an important agricultural region with a population of around 6.4 million people.²⁵⁷ This population mostly work on farms and produce different agricultural crops like apple, grape, root vegetables, corn and many more.²⁵⁸ However, due to the drying of the lake and further aforesaid corollaries in this region which threaten their livelihood and health, many people will lose their jobs, houses, gardens and farms and consequently they will be forced to migrate. The governor of the province admitted that if the current situation continues in this province, it is predictable that

²⁵²Tasnim News Agency, 'Lake Urmia crisis is a humanitarian disaster'

<<http://www.tasnimnews.com/Home/Single/284591>> Accessed 12 Oct 2015

²⁵³Tasnim News agency, 'UV Radiation has increased 2.5 times around the Lake Urmia'(tasnimnews.com Aug 2015)<<http://www.tasnimnews.com/Home/Single/842823>> Accessed 11 Oct 2015

²⁵⁴ *ibid*

²⁵⁵ United Nations Environment Programme, 'The Drying of Iran's Lake Urmia and its Environmental Consequences' (unep.net 2012) < http://www.europarl.europa.eu/meetdocs/2009_2014/documents/d-ir/dv/lakeurmia&env_cn/lakeurmia&env_cnsq.pdf> Accessed 19 May 2015

²⁵⁶ *ibid*

²⁵⁷ *ibid*

²⁵⁸ *ibid*

local people will be forced to migrate to either other parts of the country or even other countries.²⁵⁹ Undoubtedly, this migration will be very costly for the people and the government. The drying of the Lake Urmia could cause further risks to people's lives in the region. As suggested by the Wageningen University researchers following their study on the climate change threats of the Lake Urmia, the threats to the people living within 500 km² of the lake's location could amplify economic, political and ethnic tensions in this already volatile region.²⁶⁰

6. 5. Threats to tourism industry

Tourism is another sector that could be affected by this crisis. Due to the beautiful nature in this area and also temperate Mediterranean weather, Lake Urmia is counted as one of the most important natural attractions of the country which has attracted a huge number of tourists both domestic and international, to this region.²⁶¹ However, the tourism sector has been declining.²⁶² In the past decade, the severe decline in Lake Urmia water surface has seriously endangered the tourism industry in this area. 250.000 hectares of the lake surface have been converted into a salt marsh and the natural habitat of aquatic plants and animals have been demolished.²⁶³ These are some of the main reasons for the ceasing of expansion of natural tourism in this region.²⁶⁴ A previous member of the Parliament, Zaker, stated that by the drying of the Lake Urmia, the West Azarbaijan province will totally be converted into a desert and salt marsh.²⁶⁵ The effects of the lake drying on people's lives will have further complicated influences such as in tourism industry which economically are very important for the local people and the country.²⁶⁶

²⁵⁹ Deutsche Welle Broadcast, 'Drying the Lake Urmia and the danger of 6 million rural migration' (.dw.com 2014) < <http://www.dw.com/fa-ir/خطر-مهاجرت-۶-میلیون-روستایی-در-پی-خشکی-دریاچه-ارومیه/a-17807808> > Accessed 10 Oct 2015

²⁶⁰ Wageningen University and Research Centre, 'Climate change threatens already volatile Urmia Lake' (sciencedaily.com 2016) < <https://www.sciencedaily.com/releases/2016/04/160422075421.htm> > accessed 21 Mar 2017

²⁶¹ Deutsche Welle Broadcast, 'Drying the Lake Urmia and the danger of 6 million rural migration' (.dw.com 2014) < <http://www.dw.com/fa-ir/خطر-مهاجرت-۶-میلیون-روستایی-در-پی-خشکی-دریاچه-ارومیه/a-17807808> > Accessed 10 Oct 2015

²⁶² Ali Mirchi, Kaveh Madani and Amir AghaKouchak, 'Lake Urmia: how Iran's most famous lake is disappearing' (theguardian.com Jan 2015) < <https://www.theguardian.com/world/iran-blog/2015/jan/23/iran-lake-urmia-drying-up-new-research-scientists-urge-action> > accessed 10 Oct 2015

²⁶³ ibid

²⁶⁴ Maryam Tehrani, Ali DashtiShafiei and Shahryar Shaghghi, 'Studying Solutions of Development of Tourism in Urmia Lake Based On SWOT Model' [2013] AENSI Journals 4505, 4509

²⁶⁵ Islamic consultative Assembly News Agency, 'Urmia's Agricultural industries' pulse in the hands of the Lake Urmia' (icana.ir May 2012) < <http://www.icana.ir/Fa/News/197583> > accessed 9 Oct 2015

²⁶⁶ ibid

6.6. Threats to flora, fauna and the habitats

The negative consequences of lack of enough water supply in Lake Urmia have not only led to climate changes or agricultural degradation or even threats to human lives and problems in tourism industry, but also have directly affected one of the richest habitats of flora and fauna in the country.²⁶⁷ Due to the drying of the lake, migration of tens of thousands of birds to this region appears to be disrupted.²⁶⁸ Indeed, the population of breeding birds which used to live and breed in this area especially during the winter has been decreased significantly. Moreover, the Iranian Environmental Protection Agency (EPA)²⁶⁹ reported that, 65000 flamingos, more than 16000 white pelicans, 5000-10000 common shelducks and coots used to migrate to the lake area but unfortunately this number of migration is no longer taking place.²⁷⁰ One of the main reasons of decrease in migration of the birds to this area is severe dehydration in the Lake surface. Moreover, as mentioned above, increase in the salinity of the lake has caused the destruction of the *Artemia Urmiana* habitat. As previously stated, the Lake Urmia is home to this unique brine shrimp species.²⁷¹ Since the main source of nutrition of some species of aquatic birds are *Artemia Urmiana*, this has drastically reduced their food source, further contributing to the disruption in migratory patterns as well as jeopardising the lake ecosystem as a whole.²⁷²

Moreover, the ever increasing harsh situation in Lake Urmia actually puts the life of 27 different species of mammals, 212 species of birds, 41 various reptiles, 7 types of batrachians, and 26 different types of fish in danger.²⁷³ As mentioned by the head of the Lake Urmia National Park, Shirpanjeh, at the moment about 200 yellow deer and 800 Armenian sheep dwell in this area.²⁷⁴ This is a decline from previous numbers of yellow deer of about 400 but

²⁶⁷SadraMohaghegh, 'Dehydration ambush for the wildlife of the lake Urmia' (irna.ir 2015) < <https://www.irna.ir/news/81621067/>> accessed 28 Oct 2015

²⁶⁸ ibid

²⁶⁹ A comprehensive review of the aims, functions and challenges facing EPA in Iran is discussed in chapter 5 Section 4.

²⁷⁰SadraMohaghegh, 'Dehydration ambush for the wildlife of the Lake Urmia' (irna.ir 2015) < <https://www.irna.ir/news/81621067/>> accessed 28 Oct 2015

²⁷¹Derek A. Scott, 'The Birds of Lake Orumiyeh and Adjacent Wetlands, Islamic Republic of Iran' (2001)rsis.ramsar< <https://rsis.ramsar.org/RISapp/files/181/documents/IR38taxo.pdf>> accessed 18 Jun 2015

²⁷² ibid

²⁷³SimaRezvantlab and Mohamad Amrollahi, 'Investigation of Recent Changes in Urmia Salt Lake' [2011] IJCEE 168, 170

²⁷⁴ ibid

as a result of the crisis the EPA had to catch and transfer about 200 of them to different provinces around the country.²⁷⁵

7. Conclusion

Lake Urmia is an internationally important wetland in the Ramsar Convention. The Lake is at the risk of completely drying out. The direct drivers (i.e., climate change, dam constructions, Shahid Kalantari highway and exploitation of water) and indirect drivers (i.e., the growth of agriculture in the region, the inefficient irrigation methods and poor water management) are changing the ecosystem of the Lake and jeopardising the ecosystem services that Lake Urmia provides for people. Different studies investigated the causes and consequences of drying of the Lake²⁷⁶ and proposed evidence-based and scientific solutions to the crisis.²⁷⁷ However, all studies have noted that coming up with a successful plan would require legal, political and administrative support. Hence, this study evaluates the international law (here Ramsar Convention) and national laws and their implementation in Iran with an attempt to bridge the gap between law and science and come up with solutions for preserving Lake Urmia and its ecosystem services in Iran. Iran is a contracting party to Ramsar Convention. The Ramsar Convention's broad aims are to halt the worldwide loss of wetlands and to conserve, through wise use and management, those that remain.²⁷⁸ This requires international cooperation, policy making, capacity building and technology transfer.²⁷⁹ Hence, before investigating the commitments of Iran to Ramsar Convention and the implementation of the Convention in

²⁷⁵ ibid

²⁷⁶ Mohammad Bagher Ghalibaf and Zahra Moussavi, 'Development and Environment in Urmia Lake of Iran' [Oct 2014] *European Journal of Sustainable Development* 219, 226

And

Gardeshgari, 'Urmia Lake Crossing Bridge' (gardeshgari724.com) <

<https://gardeshgari724.com/attractions/2465/ارومیه-دریاچه-ارومیه> accessed 2 Nov 2019

And

Sanaeepour S and Ramazani GhavaamAbbaadi M.H, 'Legal Evaluation of Iran's' adherence to wise use of Lake Urmia with emphasis on Ramsar Convention' [2014] *journal of Legal studies of Shiraz University* 109, 140

And

Bagherzadeh Karimi, Roohani M and Rankoohi M, *Handbook of Iranian Wetlands Recorded in Ramsar Convention*, (Rooze No publication, Tehran 2007) 28-34

And

Amir HooshangDelju, Etienne Piguet and Martine Rebetez, 'Observed climate variability and change in Urmia Lake Basin, Iran' [January 2012] Springer

And

Vahid Garousi, Aref Najafi, Azar Samadi and Kabir Rasouli, 'Environmental crisis in Lake Urmia, Iran: a systematic review of causes, negative consequences and possible solutions'(6th International Perspective on Water Resources, Izmir, Jan 2013)

²⁷⁷ The most important scientific solutions will be discussed in chapter 6, section 4.

²⁷⁸ G. V. T. Matthews, *The Ramsar Convention on Wetlands: its History and Development* (2nd, Ramsar Convention Bureau, Gland, Switzerland 2013)

²⁷⁹ ibid

Iran, it is first important to discuss the purposes, provisions, and legal status of the 1971 Ramsar Convention. For this reason, Chapter 3 will explore the Ramsar Convention in-depth.

Chapter Three

Ramsar Convention: the purpose, provisions and legal status

1. Introduction

One of the aims of the present study is to investigate the effectiveness of the international regulations in particular Ramsar Convention in preserving the Lake Urmia in Iran. Chapter 3 discusses the purpose, provisions and legal status of the 1971 Ramsar Convention with the aim of introducing the Convention's context and key concepts, reviewing the international legal obligations it brings for the contracting parties as well as analysing the content of the Convention. The aim of chapter 3 in general is to build a framework of the key concepts and provisions of the Convention based on which chapter 4 could analyse the implementation of the Convention in the context of Iran and in relation to the Lake Urmia, in particular. Chapter 3 examines the key debates surrounding each concept in the Convention's context and points out the weaknesses of the Convention. The aim of conceptually analysing the context of the Convention and pointing out the weaknesses is that when chapter 4 discusses the implementation of the convention and seeks the reasons of the failure of the convention in Iran in terms of the Lake Urmia, it would be clear if the failure is attributed to the Iranian rules and regulations and/or government or is it due to the context of the convention itself. As a matter of fact, the shortcomings with the content of the Convention could be a primary reason for its failure in respect to implementation and preserving the Lake Urmia, in particular. Along the same lines, section 2 reviews how the convention was developed; section 3 pictures the context of the convention *per se*; and section 4 discusses the weaknesses of the convention around the basic concepts on which the convention stands.

2. Development of the Ramsar Convention

Since the 1930s, international efforts have been made to attract public attention towards preserving the wetlands.²⁸⁰ These included efforts to convince politicians, administrators, engineers, scientists that wetlands are important and preserving wetlands is necessary for the protection of the environment and wellbeing of living creatures. In fact, for years many people had little or no knowledge about the wetlands in areas they lived in and the need for

²⁸⁰Mattews G.V.T, The Ramsar Convention on Wetlands: Its History and Development (Ramsar Convention Bureau, 1993) P 5

their protection.²⁸¹ Local people traditionally viewed wetlands as places that were better off being drained and consequently converted into more obvious uses, such as agriculture.²⁸² The speed with which wetlands were drained differed globally. In developed countries, wetlands were destroyed at a rapid rate as modern technology contributed in inventing machinery that drained wetlands efficiently.²⁸³ However, in these developed countries, the disappearance of their wetlands turned out to have undesirable consequences. For example, the loss of groundwater reserves and the consequent need for irrigation, flash floods, shoreline destruction, the accumulation of pollutants and other subtle disturbances.²⁸⁴ Moreover, many useful plants and animals dependent on wetlands disappeared with them.²⁸⁵ Considering the irreparable damage that draining wetlands caused to the environment, conservationists of waterfowl and fish felt that it was necessary to help developing countries to avoid making the same mistakes and treat their resources more wisely.²⁸⁶

In fact, serious actions were needed to save the wetlands in developing countries.²⁸⁷ The developed countries were asked to help the developing countries to save wetlands.²⁸⁸ Eventually, the international community formulated an international treaty to preserve wetlands worldwide.²⁸⁹ Due to the reasons which will be listed here, preserving wetland assets required international actions beside national and local actions: Firstly, many wetlands lie across the boundaries of two or more States, or are part of river basins that include more than one State and preserving them depends on the quality and quantity of the transboundary water supply from rivers, streams, lakes, or underground aquifers.²⁹⁰ Secondly, fish hatched in the wetlands of one country might be caught as adults in those of another, or in the high seas. Thirdly, water birds, migrating over thousands of kilometres twice a year, also ignore boundaries and need the wetlands of numerous countries to rest, feed and breed.²⁹¹ Finally, to help developing countries in treating their resources wisely, international agreements were

²⁸¹ Paul F. Scodari, *Measuring the Benefits of Federal Wetland Programs* (Environmental Law Institution Washington DC, 1997) P 16

²⁸² William J. Mitsch and James G. Gosselink, *Wetlands* (4th, John Wiley & Sons, United States of America 2007) P 478

²⁸³ Matthews G.V.T, *The Ramsar Convention on Wetlands: Its History and Development* (Ramsar Convention Bureau, 1993) 4-5

²⁸⁴ *ibid*

²⁸⁵ *ibid*

²⁸⁶ *ibid*

²⁸⁷ *ibid*

²⁸⁸ *ibid*

²⁸⁹ *ibid*

²⁹⁰ *ibid*

²⁹¹ *ibid*

required for the provision of technical and financial aid.²⁹² Hence, the problem was viewed as an international issue and as a result, international efforts for saving wetlands were increased.

The initial call for an international convention on wetlands came in 1962 during a conference which formed part of Project MAR (from ‘MARshes’, ‘MARécages’, ‘MARismas’), a programme established in 1960 following concern at the rapidity with which large stretches of marshland and other wetlands in Europe were being ‘reclaimed’ or otherwise destroyed, with a resulting decline in numbers of waterfowl.²⁹³ The MAR project’s primary focus was on conserving wetlands throughout the world, strongly recommended that internationally important wetlands should be listed and also started a discourse for formulating an international convention on wetlands.²⁹⁴

The MAR conference was held in Les Saintes Maries-de-la-Mer in the French Camargue, 12-16 November 1962.²⁹⁵ The following organisations participated in the MAR Conference: the International Union for the Conservation of Nature and Natural Resources (now IUCN–International Union for Conservation of Nature), the International Waterfowl and Wetlands Research Bureau, IWRB (now Wetlands International), and the International Council for Bird Preservation, ICBP (now Bird Life International).²⁹⁶

Over the next eight years, a convention text was negotiated through a series of international meetings (St. Andrews, 1963; Noordwijk, 1966; Leningrad, 1968; Morges, 1968; Vienna, 1969; Moscow, 1969; Espoo, 1970)²⁹⁷, held mainly under the auspices of IWRB, under the guidance of Prof. G.V.T. Matthews, and the leadership of the government of the Netherlands.²⁹⁸ Initially, the focus of this new Convention was directly on the conservation of

²⁹² Ramsar Organization, ‘Resolution vi.1: working definitions of ecological character, guidelines for describing and maintaining the ecological character of listed sites, and guidelines for operation of the montreux record (Proceedings of the 6TH Meeting of the Conference of the Contracting Parties’ (Brisbane, Australia, 19-27 March 1996) <http://www.ramsar.org/sites/default/files/documents/pdf/res/key_res_vi.01e.pdf> Accessed 1 Feb 2017

²⁹³ Ramsar Regional Centre East Africa, ‘The Convention on Wetlands of International Importance especially as Waterfowl Habitat’ (RRCEA.org)<<http://rrcea.org/ramsar/?ckattempt=1>> Accessed 02 Jan 2019

²⁹⁴ Australian Government, ‘Criteria for identifying Wetlands of International Importance’ (environment.gov.au)<<https://www.environment.gov.au/water/wetlands/ramsar/criteria-identifying-wetlands>> Accessed 19 Sep 2016

²⁹⁵ Ramsar Regional Centre East Africa, ‘The Convention on Wetlands of International Importance especially as Waterfowl Habitat’ (RRCEA.org)<<http://rrcea.org/ramsar/?ckattempt=1>> Accessed 02 Jan 2019

²⁹⁶ *ibid*

²⁹⁷ Please find a comprehensive description of the conferences of the contracting parties with their real achievements in appendix 3.1

²⁹⁸ Ramsar Regional Centre East Africa, ‘The Convention on Wetlands of International Importance especially as Waterfowl Habitat’ (RRCEA.org)<<http://rrcea.org/ramsar/?ckattempt=1>> Accessed 02 Jan 2019

waterfowl but as the conferences and meetings continued, the conservation of wetland habitat (rather than species) took prominence.²⁹⁹

Finally, the international efforts come to a conclusion in 1971 after years of discussions when the international Ramsar Convention was officially signed to save wetlands around the world.³⁰⁰ According to the Ramsar Convention handbook, it is the first of the modern global intergovernmental treaties on the conservation and sustainable use of natural resources³⁰¹ and in comparison with more recent treaties, Ramsar Convention provisions are relatively straightforward and general.³⁰² Matthews and Ghosh claim that Ramsar Convention is still the only worldwide treaty which restrains the countries joining it from the unthinking, selfish exploitation of their sovereign natural patrimony.³⁰³

The functions of the Ramsar Convention were publicised before the Ramsar Conference in 1971 and were sent to countries which expressed their interest in being parties to the convention.³⁰⁴ The primary prerequisite for the contracting parties was that they were required to add one internationally important wetland within their territory to the list of the Convention.³⁰⁵ Various representatives and delegates from both developing and developed countries participated in the Ramsar conference in 1971.³⁰⁶ Representatives from both

²⁹⁹ Ramsar Convention, (History, 1962-1970) < <http://www.ramsar.org/about/1962-1970>> Accessed 21 Sep 2016

³⁰⁰ Maniruzzaman M, Schwabach A, Cockfield A.J and Tarlock D, *International Sustainable Development Law - Volume II* (EOLSS 2010) 63

³⁰¹ Malgosia Fitzmaurice, David M. Ong, Panos Merkouris, *Research Handbook on International Environmental Law* (Edward Elgar Publishing 2010) 530

Please also see;

Ramsar Convention Secretariat, 'What is the Ramsar Convention on Wetlands?' (Ramsar.org, 10 AGU 2009) < <https://www.ramsar.org/sites/default/files/documents/library/info2007-02-e.pdf> > Accessed 22 Dec 2018

³⁰² David Hill, Matthew Fasham, Graham Tucker, Michael Shewry and Philip Shaw, *Handbook of Biodiversity Methods: Survey, Evaluation and Monitoring* (1st, Cambridge University Press, Cambridge Aug 2005) 92-93

Please also see;

Ramsar Convention Secretariat, 2013, *The Ramsar Convention Manual 6th edition* (Ramsar.org 2013)

<<http://www.ramsar.org/sites/default/files/documents/library/manual6-2013-e.pdf>> Accessed 27 Sep 2016

and

Malcolm Tait and Olive Tayler, *The Birdwatcher's Companion* (1st, Robson Books Italy, Italy Mar 2005) 132-134

³⁰³ PABAN GHOSH, 'Hydrological, Morphological, Ecological and Economical important and Threats of Wetland; A Case Study of Sandhya Wetland in Jadupur-2' (Laxmi Book Publication, Dec 2016) 1

Please also see

Matthews G.V.T, *The Ramsar Convention on Wetlands: Its History and Development* (Ramsar Convention Bureau, 1993) 4-6

³⁰⁴ Erik Carp, UNEP and IUCN, 'Directory of Wetlands of International Importance in the Western Palearctic Wetlands' (us.archive.org 1980) <https://archive.org/details/bub_gb_RNmtBYWb0w0C> Accessed 29 Jul 2016

³⁰⁵ *ibid*

³⁰⁶ Erik Carp, UNEP and IUCN, 'Directory of Wetlands of International Importance in the Western Palearctic' (archive.org 1980) <https://archive.org/details/bub_gb_RNmtBYWb0w0C> Accessed 29 Jul 2016, Delegates were from eighteen countries of Belgium, Denmark, Finland, France, the Federal Republic of Germany, India, Iran, Ireland, Jordan, the Netherlands, Pakistan, South Africa, Spain, Sweden, Switzerland, Turkey, the Union of

international agencies³⁰⁷ and non-governmental organizations³⁰⁸ including IUCN, IWRB and WWF participated in the conference as well.³⁰⁹ In the conference, the final proposals from different parties were discussed in detail and the text of the convention at the historic conference of Ramsar was agreed upon and signed.³¹⁰ Joining the convention provided contracting parties with some privileges:

- Firstly, it helps the contracting parties to apply appropriate policies at national level and consequently use their wetlands reasonably (Article 3 of the convention).³¹¹
- Secondly, joining the convention provides the parties with the opportunity to be heard internationally and get international help for wise use of wetlands such as receiving advice on application of the wise use concept, guidelines on management planning in wetlands (Article 6 of the Ramsar Convention, Note 2).³¹²
- More specifically, joining the convention brings access to expert advice on national and site-related problems in the conservation and management of wetlands.³¹³ Based on the Convention manual, this can be processed through contacts with Ramsar Secretariat personnel and collaborators and through application of the Ramsar Advisory Mission when appropriate (Article 3, Article 8 of the Ramsar Convention).³¹⁴

Furthermore, joining the convention encourages international cooperation on wetland issues and brings the possibility of support for wetland projects, either through the Convention's own small grants assistance programs or through the Convention's contacts with multilateral and bilateral external support agencies (Article 6, Note 1).³¹⁵

Soviet Socialist Republics and the United Kingdom who attended the conference. Five other countries sent their observers, namely Bulgaria, Greece, Hungary, Italy and Romania.

³⁰⁷ Food and Agriculture Organization of United Nations (FAO) and the United Nations Educational, Scientific and Cultural Organization (UNESCO)

³⁰⁸ International Council for Game and Wildlife Conservation (formerly CIC), The International Biological Program (IBP), the International Council for Bird Preservation (ICBP), International Union for the Conservation of Nature and Natural Resources (IUCN), the International Waterfowl and Wetlands Research Bureau (IWRB) and World Wildlife Fund (WWF)

³⁰⁹ *ibid*

³¹⁰ Matthews G.V.T, *The Ramsar Convention on Wetlands: Its History and Development* (Ramsar Convention Bureau, 1993) P 6-7

³¹¹ Ramsar, 'An Introduction to the Convention on Wetlands – Ramsar' (Ramsar Convention Secretariat, 5 edn, 2016) 12-16

³¹² *ibid*

³¹³ *ibid*

³¹⁴ *ibid*

³¹⁵ *Ibid.* Iran likewise participated in the Ramsar conference and joined the convention in 1971.

2. 1. Conferences of Contracting Parties

To have a clear picture of why the text of the convention is what we have today, eight years of international conferences which led to the development of the Ramsar Convention are reviewed briefly in the following section. The conferences are reviewed in the two decades of 1960s and 1970s.

2. 1.1. Development efforts in the 1960's

Seven conferences (1963 St Andrews, 1966 Noordwijk, 1967 Morges, 1968 Leningrad, 1968 Morges, 1969 Vienna and 1969 Moscow) were held in the 1960's with the aim of creating an agreed international treaty for preserving wetlands globally.

2.1.1.1. 1963 St Andrews meeting

After the MAR project in 1960 which was indeed an international call for preserving wetlands, the international community decided to take further action for maintaining the different types of wetlands worldwide. The St Andrews (1963) was the first official meeting after the MAR project.³¹⁶ The major concern of the meeting was the conservation of waterfowl rather than wetlands.³¹⁷ In the St Andrews meeting the subject of wetland preservation received very little attention as it mostly dealt with the waterfowls, their loss and the threats they were facing in the environment.³¹⁸ Later in 1965, after the outcomes of the St. Andrews' meeting were reviewed, IWRB in a separate publication entitled 'IWRB proposal' proposed actions to compensate the little attention that wetlands received in St Andrew's meeting.³¹⁹ A summary of six provisions of the IWRB proposal is presented here as they formed the basis of the final text of the Ramsar Convention.

Article 1 defines various types of wetlands and this was done with the aim of bringing the different types of wetlands under international protection. In Article 2, the priority of wetlands on the MAR List was emphasized and it was required that the list stays constant. Article 3 dealt with the exceptions in the higher national or international interest Article 4

³¹⁶Boere G.C, Galbraith C.A and Stroud D.A, 'Water birds around the world, A global overview of the conservation, management and research of the world's water bird flyways'(Stationery Office Limited, 2006) p55

³¹⁷ A brief history of the Ramsar Convention (Ramsar.org 2013) <http://archive.ramsar.org/cda/es/ramsar-about-history/main/ramsar/1-36-62_4000_2_> Accessed 15 Jul 2016

³¹⁸GVT Matthews, The International Wildfowl Research Bureau (wwt.org) <<http://wildfowl.wwt.org.uk/index.php/wildfowl/article/viewFile/2427/1538>> Accessed 21 Sep 2016

³¹⁹Matthews G.V.T, *The Ramsar Convention on Wetlands: Its History and Development* (Ramsar Convention Bureau, 1993) P 12-15

recommended that the wildfowl reserves in the MAR List areas were established. Article 5 strongly requested that environmental assessments should be made before any plans to drain areas which were not on the MAR List.³²⁰ Article 6 dealt with the artificial wetlands constructed by the States and added that the artificial wetlands be revived and made appropriate for wildfowl as well. Finally, there were provisions for joining and denouncing the Convention.³²¹

2.1.1.2. 1966 Noordwijk Meeting

The second international meeting was held in 1966 in Noordwijk, the Netherlands. The meeting was organized by IWRB with the cooperation of the Netherlands government. Representatives from 23 countries attended the meeting.³²² The Noordwijk Meeting examined the 1965 IWRB Proposals and concluded that the MAR List was incomplete and should be extended.³²³ Moreover, wetlands on the List should be precisely described, using maps. It was also concluded that a general embargo on drainage would be unacceptable as would international restrictions on the land-use policies of sovereign States.³²⁴

The critical review of the IWRB proposals had other implications such as the development of national plans for wetland conservation should be encouraged.³²⁵ The proposals for the conservation of artificial wetlands were thought to be impractical.³²⁶ Some countries wanted international regulation of hunting to be included in the Convention.³²⁷ The need for chains of adequate wildfowl reserves in the wetlands conserved by the Convention was more widely accepted.³²⁸ Finally, it was decided by the States later known as contracting parties involved in the conference that the convention should be redrafted. The Netherlands government agreed to lead the redrafting process of such a convention and proceeded to then invite other governments to discuss the redrafting.³²⁹ Subsequently, the first redraft of the convention on

³²⁰ *ibid*

³²¹ *ibid*

³²² Cyril de Klemm and Isabelle Créteaux, *The Legal Development of the Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat (2 February 1971)* (1st, Ramsar Convention Bureau, Gland, Switzerland 1995) 5

³²³ Matthews G.V.T, *The Ramsar Convention on Wetlands: Its History and Development* (Ramsar Convention Bureau, 1993) P 13-16

³²⁴ *ibid*

³²⁵ *ibid*

³²⁶ *ibid*

³²⁷ *ibid*

³²⁸ *ibid*

³²⁹ Cyril de Klemm and Isabelle Créteaux, *The Legal Development of the Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat (2 February 1971)* (1st, Ramsar Convention Bureau, Gland, Switzerland 1995) P 5

wetlands with 21 articles was released in Dutch.³³⁰ IUCN was in charge of operating the convention and the parties to the convention were asked to consult with the IUCN before making any fundamental decisions about the listed wetlands.³³¹ The issues of funding were also included in this draft. It was decided that in cases of any necessary and immediate need for preserving the flora and fauna, the States can ask for contribution from the fund allocated to the convention.³³² The convention fund came from the annual contributions of the member States to the convention plus any voluntary contributions.³³³ Besides the necessary or immediate needs for applying for funds, the commission could make contributions in various conditions if two-thirds of the Parties were in agreement.³³⁴ A governing body consisting of one representative from each party would approve the budget for the fund. Other agreements to the convention were that a State can join the convention if it adds a wetland in its territory to the convention list³³⁵ unless seventy five percent of the current members of the convention oppose the new comer to be listed in the convention parties.³³⁶ The prepared draft was supposed to be discussed and evaluated later.

2.1.1.3. 1967 Morges meeting

In 1967, the amendments on the first draft of the Convention were submitted to the IWRB board in Morges, Switzerland.³³⁷ The major outcome of the meeting were that conservation of wetlands should be the first major purpose of the convention but that the preservation of waterfowl would be a strong argument to reach this goal. Moreover, it was requested that in the preamble of the convention it should be stated that the wetlands are of great importance culturally, scientifically, economically and socially.³³⁸ The definition of wetlands should be based on the one used in Liquid Assets.³³⁹ It was also agreed that the member states should

³³⁰Matthews G.V.T, *The Ramsar Convention on Wetlands: Its History and Development* (Ramsar Convention Bureau, 1993) P 15-16

³³¹ *ibid*

³³²Matthews G.V.T, *The Ramsar Convention on Wetlands: Its History and Development* (Ramsar Convention Bureau, 1993) P15-17

³³³*ibid*

³³⁴Alexander Gillespie, *Protected Areas and International Environmental Law*(Martinus N Publishers 2007) 268

³³⁵ Ramsar Convention Secretariat, 'How States may join the Ramsar Convention' (ramsar.org 2007) < <https://www.ramsar.org/sites/default/files/documents/library/info2007-13-e.pdf>> accessed 11 Jun 2016

³³⁶Matthews G.V.T, *The Ramsar Convention on Wetlands: Its History and Development* (Ramsar Convention Bureau, 1993) P15-17

³³⁷ *ibid*

³³⁸UNESCO and IUCN, ' Proceedings of a Technical Meeting on Wetland Conservation' (iucn.org 1967) < <https://portals.iucn.org/library/sites/library/files/documents/NS-012.pdf>> accessed 8 Jul 2016

³³⁹Matthews G.V.T, *The Ramsar Convention on Wetlands: Its History and Development*(Ramsar Convention Bureau, 1993) 17

follow a general policy on preserving and managing wetlands which also took into consideration the needs for conservation of wildfowl habitats.³⁴⁰ The wetlands listed in MAR project plus the habitat of any animal or plant species threatened with extinction should be considered in the convention.³⁴¹ More importantly, an intergovernmental commission should be established to control the implementation of the convention and that the intergovernmental commission should consult IUCN in case of any technical matters and in particular on the initiation and coordination of research activities. IUCN may refer all specific matters to competent organizations. IWRB was in fact counted as a competent organization.³⁴² Finally, regarding the fund for the intergovernmental commission activities, it was decided that the financial aid should be contributed by the contracting States.³⁴³ The members agreed that the Netherland Ministry take the aforementioned points into consideration when preparing a new convention draft.

2.1.1.4. 1968 Leningrad meeting³⁴⁴

The new draft was examined in the next meeting of the convention members in Leningrad in 1968.³⁴⁵ The Leningrad meeting coincided with new political issues. Czechoslovakia was invaded at that time and this influenced the meeting's procedures.³⁴⁶ This was when the second draft of the wetland convention was being examined for consideration.

Notwithstanding the efforts to reach an internationally acceptable political convention after this meeting, Hoffmann informed all contacting parties that due to the penetration of the army of five Warsaw pact countries into Czechoslovakia, the Dutch Government has cancelled its official participation at the third international meeting on wetlands. It was then decided that the meeting be postponed. With all pros and cons views towards this idea, the meeting was held in Leningrad as it was supposed to be held although just a dozen of the parties

³⁴⁰ *ibid*

³⁴¹ UNESCO and IUCN, 'Proceedings of a Technical Meeting on Wetland Conservation' (iucn.org 1967) P 257-267 <<https://portals.iucn.org/library/sites/library/files/documents/NS-012.pdf>> accessed 8 Jul 2016

³⁴² *ibid*, 261-269

³⁴³ International Council of Environmental Law, *Environmental Policy and Law* (Elsevier Sequoia S.A., 1981) P-46

³⁴⁴ 'Wildfowl survey in south-west Asia : progress in 1968'(wt.org.uk)

<<http://wildfowl.wwt.org.uk/index.php/wildfowl/article/download/382/382>> Accessed 17 Jul 2014

³⁴⁵ *ibid*

³⁴⁶ Royal C. Gardner and Kim Diana Connolly, 'Electronic copy available at: <http://ssrn.com/abstract=1127966> Electronic copy available at: <http://ssrn.com/abstract=1127966> The Ramsar Convention on Wetlands: Assessment of International Designations Within the United States' [2008] ELR 10089, 10113

participated.³⁴⁷ In the meeting, the issue of preserving wetlands was not dealt with however several papers on saving waterfowl and international control of their hunting were presented.³⁴⁸ All in all, ‘agreements admitting the so-called compulsory jurisdiction of the International Court of Justice or arbitration in settling disputes relating to their interpretation or application were not acceptable to a number of States including the USSR.’³⁴⁹

In spite of the disagreements between the two sides of the divide, they came together for further negotiations and discussions on an internationally accepted treaty for preserving wetlands since the long term future of environment should not be easily affected by the passing political and ideological struggles. Hence, the meetings on the wetland convention were preceded with the aim of coming into an international treaty on wetlands worldwide.

2.1.1.5. 1968 Morges meeting

The next meeting was held in 1968 in Morges Switzerland (was a substitute venue.³⁵⁰ The new directorship was requested to bring the 61 papers convention draft which was prepared by IWRB for the Leningrad Meeting to publication and that take immediate and necessary steps to accelerate preparing the final wetland convention.³⁵¹

2.1.1.6. 1969 Vienna meeting³⁵²

Major recommendations of the Vienna meeting after reviewing the redraft of the convention could be summarised as follows:

In terms of the legal text, it stated that the Convention should be concerned primarily with wetlands.³⁵³ Wildfowl should be omitted from the title.³⁵⁴ In terms of political issues, the sovereign right of the states over the wetlands within their own territories is recommended to be respected in the final draft of the convention.³⁵⁵ Regarding the financial support for implementing the convention, IUCN or IWRB could fulfil the secretariat functions, but would

³⁴⁷ *ibid*

³⁴⁸ IUCN, ‘*Directory of Wetlands of International Importance in the Western Palearctic*’ (IUCN 1980)

<https://archive.org/details/bub_gb_RNmtBYWb0w0C> Accessed 29 Jul 2016

³⁴⁹ Matthews G.V.T, *The Ramsar Convention on Wetlands: Its History and Development*(Ramsar Convention Bureau, 1993) 20

³⁵⁰ IUCN, *Directory of Wetlands of International Importance in the Western Palearctic* (IUCN 1980) 3

³⁵¹ Matthews G.V.T, *The Ramsar Convention on Wetlands: Its History and Development* (Ramsar Convention Bureau, 1993) p 20

³⁵² *ibid*

³⁵³ *ibid*

³⁵⁴ *ibid*

³⁵⁵ Nayak, B.K., Nanda, Anima, Bhat, M. Amin, *Integrating Biologically-Inspired Nanotechnology into Medical Practice* (IGI Global, 2016) 292

still need financial assistance.³⁵⁶ Finally, regarding the NGO involvement, it was commented that the ability of IUCN and/or IWRB to act in an advisory capacity receive mention in the text.³⁵⁷ However, the Council of Europe was not suitable since the Convention had to be completely free of political affiliations.³⁵⁸

After the Vienna meeting, in the same year, Eskander Firouz who was the secretary of the Ministry of Natural Resources and Director of the Game and Fish Department of Iran and also Iran's national delegate to IWRB stated that Iran could host a conference in the Iranian city of Babolsar in 1971 to bring the convention in to being when he visited IWRB headquarters at Slim bridge (1969). They expected that the convention be finalized in 1971.³⁵⁹

2.1.1.7. 1969 Moscow Conference

In the subsequent Moscow conference it was recommended by the Soviet Union that the proposed title of the convention was too broad and it could be replaced by 'convention on wetlands as wildfowl habitat'.³⁶⁰ More importantly, it was concluded in the Moscow conference that a technical meeting is necessary before bringing the wetland convention into being in Iran.³⁶¹

2.2. Development efforts in the 1970's

2.2.1. 1970 Espoo meeting³⁶²

The 1970 Espoo meeting was a technical meeting in which the 14 article draft of the convention was discussed before the convention was to be finalized in Iran. This technical meeting was organised by IWRB and hosted by Finland in Espoo.

Regarding the title of the convention, mostly due to the insistence of the Soviet delegate, it was agreed that the 'Convention on Wetlands of International Importance, especially as

³⁵⁶ Matthews G.V.T, *The Ramsar Convention on Wetlands: Its History and Development* (Ramsar Convention Bureau, 1993) P 20

³⁵⁷ *ibid*

³⁵⁸ *ibid*

³⁵⁹ *ibid*

³⁶⁰ Isakov, Yu. A., 'Proceedings of the International Regional Meeting on Conservation Wildfowl Resources (Europe, Western Asia, Northern and Tropical Africa), Leningrad, USSR, 25–30 September 1968, Moscow' (Ministry of Agriculture, Moscow 1970)

³⁶¹ Erik Carp, *Directory of Wetlands of International Importance in the Western Palearctic* (UNEP 1980) 2-4

³⁶² Cyril de Klemm and Isabelle Créteaux, 'The Legal Development of the Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat' (Ramsar.org 1995) <https://www.ramsar.org/sites/default/files/documents/library/the_legal_development_of_the_ramsar_convention.pdf> accessed 2 Jul 2016

Waterfowl Habitat' be chosen³⁶³ In the convention text, the terms of wetlands and their eight different types plus wildfowl were defined, Moreover, the term 'wildfowl' was suggested to be replaced by 'waterfowl' as it would be more widely understood, and comprehensive.³⁶⁴

Regarding the involvement of NGOs, it was clarified that 'the tasks of the Secretariat could be carried out by the Depositary countries, the Netherlands and the USSR (being particularly concerned with the evolution of the Convention) and Iran (host of the forthcoming Conference and representing Asian nations).³⁶⁵ The regular meetings convened by IWRB could be the basis for the proposed conferences and thus avoid additional expense. Eventually the IWRB, either by itself or acting in association with IUCN, FAO or UNESCO could be charged with continuing bureau duties.'³⁶⁶

In general, it was agreed that States which have wetland and waterfowl within their borders to be added to the convention list are able to be a member of the convention.³⁶⁷

Finally, in the 1970 Espoo meeting, the IWRB was requested to prepare the final draft of the convention and send it out to all countries likely to attend the final conference in Iran where the aim at this conference, was to sign the final version of the convention on wetlands.³⁶⁸

2.2.2. 1970 Knokke meeting

In 1970, in the annual Executive Board meeting of IWRB which was held at Knokke, Belgium,³⁶⁹ the newly assigned director of IUCN, F.G. Nicholls, brought up 4 points that needed to be taken into consideration before the convention could be finalised.³⁷⁰ He stated that the convention would be strengthened if it would be tied to the published MAR List; where the precise criteria for the degree of protection of species would be set out.³⁷¹ Moreover, Nicholls recommended that the minimum requirements for the conservation and

³⁶³ *ibid*

³⁶⁴ Boere G.C, Galbraith C.A and Stroud D.A, *Waterbirds around the world, A global overview of the conservation, management and research of the world's waterbird flyways* (Stationery Office Limited, 2006) 53

³⁶⁵ *ibid*

³⁶⁶ *ibid*

³⁶⁷ Andrew S. Goudie, David J. Cuff, *Encyclopedia of Global Change: Environmental Change and Human Society* (Oxford University Press 2001) 289-290

³⁶⁸ Cyril de Klemm and Isabelle Créteaux, 'The Legal Development of the Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat' (Ramsar.org 1995) <https://www.ramsar.org/sites/default/files/documents/library/the_legal_development_of_the_ramsar_convention.pdf> accessed 2 Jul 2016

³⁶⁹ AEWA, 'People behind AEWA - Eckhart Kuijken' (unep-aewa.org 2015) <<https://www.unep-aewa.org/en/news/people-behind-aewa-eckhart-kuijken>> accessed 3 Jul 2016

³⁷⁰ Matthews G.V.T, *The Ramsar Convention on Wetlands: Its History and Development*(Ramsar Convention Bureau, 1993) P 19-23

³⁷¹ *ibid*

management of the habitat would be specified; and finally a period of delay before the withdrawal of a wetland from the List would be insisted upon. It was reported to the director of IWRB, Mr. Matthews that each of these points was considered in the final draft of the convention. It was also insisted in the report that ‘any last-minute revision of the convention text would be disastrous’ and the members came to an agreement that no revision would be applied before the conference in Iran.³⁷²

3. The Convention articles: The provisions of the Convention in a glance

The Ramsar Convention includes 12 articles which reflect the provisions of the Convention. The articles were formed based on the comments and recommendations of the parties culminating from nine years of discussions, technical meetings and conferences.³⁷³ This section introduces the 12 articles of the Ramsar Convention. The aim is to succinctly encapsulate the provisions of the Ramsar Convention so section 4 evaluates those provisions in terms of strengths and weaknesses.

Wetland is defined in Article 1 of the Convention. Besides to the *definition of wetland*, Article 1 also classified wetland types which are covered under the Ramsar Convention.

Article 2 is devoted to the provisions of the Listing approach and the Sovereign right. With respect to the *listing approach*, Each Contracting Party shall designate suitable wetlands within its territory for inclusion in a List of Wetlands of International Importance, hereinafter referred to as ‘the List’. Adding at least one wetland to the List is the prerequisite by which a State would be able to be a Contracting Party of the Ramsar Convention. Furthermore, based on the *Sovereign right*, the States have exclusive right over the wetlands within their territory. Any Contracting Party shall have the right to add to the List further wetlands situated within its territory, to extend the boundaries of those wetlands already included by it in the List, or, because of its urgent national interests, to delete or restrict the boundaries of wetlands already included by it in the List.

The provisions of the Convention on the wise use of wetlands and the issues over any change in ecological character of the wetlands are in Article 3. The Contracting Parties shall formulate and implement their planning so as to promote the conservation of the wetlands

³⁷² *ibid*

³⁷³ Ramsar, ‘An Introduction to the Convention on Wetlands –Ramsar’ (Ramsar Convention Secretariat, 5 edn, 2016) 12-16

included in the List, and as far as possible the wise use of wetlands in their territory. Each Contracting Party shall arrange to be informed at the earliest possible time if the ecological character of any wetland in its territory and included in the List has changed, is changing or is likely to change as the result of technological developments, pollution or other human interference. It is indeed the first commitment of the States to report any ecological changes in wetlands to Ramsar Secretariat which will be discussed later under section 4.

Article 4 instructed the Contracting Parties to exchange information in order to improve the wellbeing of wetlands. The Contracting Parties shall encourage research and the exchange of data and publications regarding wetlands and their flora and fauna.

With respect to the wetlands which are extended over the territories of more than one contracting party, in Article 5 of the Convention, the necessity of consultation between the contracting parties about implementing any obligations were emphasised.

In Article 6 of the Ramsar Convention, the prospective periodical conferences in order to assess the performance and consequently promote the convention are discussed. The information about the content of the conferences is explained. It is recommended to discuss the implementation of the Convention; the additions to and changes in the List; information regarding changes in the ecological character of wetlands, etc. in Article 6. In 2 paragraphs under Article 6, the information on financial issues are given. For instance, how conference of contracting parties shall establish and keep under review the financial regulations of the Convention or how each Contracting Party shall contribute to the budget.³⁷⁴

Four major NGOs of IUCN, Birdlife International, Wetlands International, and the World Wide Fund for Nature have been accorded the formal status of partner organizations for the purposes of the Convention.³⁷⁵ The provisions of the Convention on the participation of NGOs in the implementation of the Convention are discussed in Articles 7 and 8.

The conditions under which the Convention is put into force, how and when the articles could be amended as well as the conditions under which the States might denounce the Convention have been provided in Articles 9 to 12. (Please see Appendix 3.1 for the Ramsar Convention).

³⁷⁴ *ibid*

³⁷⁵ Olav Schram Stokke, *Yearbook of International Co-operation on Environment and Development*(Earthscan Publications, Norway, 2002) 62-63

The convention entered into force in December 1975, upon receipt by UNESCO, which had agreed to act as the Convention's depositary.³⁷⁶ Since its adoption, the Ramsar Convention has been modified on two occasions. The first one was by the Paris Protocol³⁷⁷ (a new treaty which amends the original treaty) in December 1982, and the second one was by a series of amendments to the original treaty, known as the 'Regina Amendments'³⁷⁸ in 1987.³⁷⁹ Over 106 States have joined the convention so far and over 108 million square kilometres which in fact covers 75% of the world's lands (apart from Antarctica that is protected by Antarctic Conservation Act, 1978³⁸⁰) have been registered as the convention's sites.³⁸¹ In fact, North America and Europe are virtually completely Ramsar- orientated. Oceania (93% coverage) and Central and South America (89%) are approaching that condition. It is in Asia (61%) and, especially, Africa (42%) where the gaps remain and the greatest effort, as Matthews suggest is needed to recruit more countries into the Ramsar family.³⁸²

3.1. Bodies assisting in the operation of the Ramsar Convention

Since the establishment of the Ramsar Convention, there has been different bodies that were established to assist in the operation of Convention.³⁸³

- i. The Ramsar Conferences
- ii. The Standing Committee
- iii. The Secretariat
- iv. The administrative authorities and diplomatic notifications
- v. The Scientific and Technical Review Panel

³⁷⁶ Ramsar Convention Secretariat, '1975' (Ramsar.org 2014) < <https://www.ramsar.org/about/1975>> accessed 05 Jul 2016

³⁷⁷ The Paris Protocol was adopted at a Conference of the Contracting Parties which was held at UNESCO headquarters in Paris. The Protocol established a procedure for amending the Convention (Article 10 *bis*) and adopted official versions of the treaty in Arabic, French, English, German, Russian and Spanish.

³⁷⁸ The Regina Amendments are a series of amendments to Articles 6 and 7 that were accepted at a Conference of the Contracting Parties held in Regina. These did not affect the basic substantive principles of the Convention, but related to its operation – briefly, the amendments defined the powers of the Conference of the Parties, established an inter-sessional Standing Committee, and established both a permanent secretariat and a budget for the Convention.

³⁷⁹ Amendments to Articles 6 and 7 of the Convention on Wetlands, Convention Adopted by the Extraordinary Conference (Regina, Canada, June 1987) <http://www.ramsar.org/sites/default/files/documents/library/regina_amendments_e.pdf> Accessed 20 Aug 2016

³⁸⁰ Secretariat of Antarctic Treaty, The Protocol on Environmental Protection to the Antarctic Treaty <<https://www.ats.aq/e/ep.htm>> Accessed 09 Dec 2018

³⁸¹ Matthews G.V.T, *The Ramsar Convention on Wetlands: Its History and Development* (Ramsar Convention Bureau, 1993) P 4-5

³⁸² *ibid*

³⁸³ Joyce Chepkemai, 'What Is The RAMSAR Convention?' (worldatlas.com April 2017) < <https://www.worldatlas.com/articles/what-is-the-ramsar-convention.html>> accessed 27 May 2017

The function of each body is discussed in this section.

1. The Ramsar Conferences

The Ramsar Conferences of the contracting parties are held at least every three years at which decisions and recommendations are made for the improvement of the operation of the Convention.³⁸⁴ Conference of the Parties (COP) is the Convention's governing body which consists of all governments that have ratified the convention. According to Article 6 of the Ramsar Convention, this ultimate authority reviews progress under the Convention, identifies new priorities, and sets work plans for members.³⁸⁵ The COP can also make amendments to the Convention, create expert advisory bodies, review progress reports by member nations, and collaborate with other international organizations and agreements.³⁸⁶

It is in the Ramsar Convention Conferences where delegates of the contracting parties meet in order to discuss and assess the success and failure of the program of the three bygone years and make decisions for the program and budgets of the next three years.³⁸⁷ Further information regarding the conferences of the Ramsar Convention is set in Articles 6 and 7 of the convention.³⁸⁸ Every decision in the Ramsar Conferences is made by consensus of the contracting parties.³⁸⁹ The proceedings³⁹⁰ of each conference are published publicly and then released in three official languages of English, French and Spanish.

2. The Standing Committee

³⁸⁴ The Secretariat of the Convention on Wetlands, 'The Ramsar Convention's International Organization Partners (IOPs) 2011-2017' (Ramsar.org, 2011) <
https://www.ramsar.org/sites/default/files/documents/pdf/moc/MoC_5IOPs_19-5-11_SIGNED.pdf> Accessed 01 Sep 2016

³⁸⁵ *ibid*

³⁸⁶ *ibid*

³⁸⁷ MedWet, 'A vibrant Mediterranean presence at Ramsar COP 12' (medwet.org May 2015) <
<https://medwet.org/2015/05/medwet-at-ramsar-cop-12/>> accessed 21 Aug 2016

³⁸⁸ UNESCO Constitution, 'Convention on Wetlands of International Importance especially as Waterfowl Habitat 1971' (unesco.org) <http://portal.unesco.org/en/ev.php-URL_ID=15398&URL_DO=DO_TOPIC&URL_SECTION=201.html> Accessed 04 Oct 2016

³⁸⁹ Ramsar, 'An Introduction to the Convention on Wetlands –Ramsar' (Ramsar Convention Secretariat, 5 edn, 2016) 27-29

³⁹⁰ As reported by Secretariat of the convention, the proceedings normally contain:

- A Conference Report on the plenary sessions;
- The Resolutions and Recommendations adopted by the Conference;
- Lists of the participants;
- The National Reports submitted by the Parties; and
- Other documentation provided to the COP (Conference of the Contracting Parties) for consideration or information.

The Standing Committee is the inter-sessional executive body which represents the COP between its triennial meetings.³⁹¹ The committee meetings are usually held every year in Switzerland at the office of the secretariat before the Ramsar Conferences to gather the recommendations from contracting parties to be discussed later in the conferences.³⁹² In order to improve the quality of conferences, the Contracting Parties are assigned to perform some tasks³⁹³ in the Standing Committee.³⁹⁴

3. The Secretariat

The secretariat as the third body involved in the implementation of the Ramsar Convention is in charge of the coordination of all Ramsar Convention's activities.³⁹⁵ The office of the secretariat is located in the headquarters facilities of IUCN in Gland, Switzerland and their staffs consist of IUCN employees.³⁹⁶ The functions³⁹⁷ of the secretariat are reported in the footnote.³⁹⁸

³⁹¹ Pamela Chasek and Lynn Wagne, *The Roads from Rio: Lessons Learned from Twenty Years of Multilateral Environmental Negotiations*, (RFF Press 2012) P 290-292

³⁹² *ibid*

³⁹³ The duties are:

To designate their delegates to the Standing Committee taking into account their significant responsibilities as Regional Representatives [. . .] and to make every effort that their delegates or their substitutes attend all meetings of the Committee.

To maintain regular contacts and consultations with the Contracting Parties in their regional group, and to use the opportunities of travel within their regions and of attending regional or international meetings to consult about issues related to the Convention and to promote its objectives.

To canvass the opinions of the Contracting Parties in their regional group before meetings of the Standing Committee.

To advise the Secretariat in setting the agenda of regional meetings.

To assume additional responsibilities by serving as members of the subgroups established by the Standing Committee.

To provide advice as requested by the Chairperson and/or the chairs of subgroups and/or the Secretariat of the Convention.

To make deliberate efforts to encourage other countries to join the Convention.

³⁹⁴ Peck D, *The Ramsar Convention Manual: a guide to the Convention on Wetlands* (Ramsar Convention Secretariat, Sixth edn, 2013) 31-37

³⁹⁵ *ibid*

³⁹⁶ *ibid*

³⁹⁷ Ramsar, 'The Ramsar Convention Secretariat' (Ramsar.org) <<http://www.ramsar.org/about/the-ramsar-convention-secretariat>> Accessed 05 Oct 2016

³⁹⁸ To keep the list of Wetlands of International Importance and note all additions and changes to the List and the Ramsar Sites Database;

To assist in convening and organizing the Conference of the Parties, the meetings of the Standing Committee and the STRP (Scientific and Technical Review Panel), and Ramsar regional meetings;

To provide administrative, scientific, and technical support to Contracting Parties,

To assist in recruiting new contracting parties;

To disseminate the decisions, resolutions, and recommendations of the COP Conference of the Contracting Parties) and the SC (Standing Committee);

To seek financial contributions for the Small Grants Fund,

To administer projects funded with earmarked contributions;

To inform and advise inquirers about matters concerning the Convention and wetlands;

4. The administrative authorities and diplomatic notifications

Nationally, each Contracting Party designates an Administrative Authority as its focal point for implementation of the Convention.³⁹⁹ The Administrative Authority can be appointed by the head of State or government or the Foreign Office of each contracting party in order to act as the implementing agency.⁴⁰⁰ In Iran, the designated Ramsar administrative authority is the Ministry of Foreign Affairs⁴⁰¹ which communicates through its Department of International Environmental Affairs with the Ramsar Convention. The Iranian Environmental Protection Agency (EPA) is responsible for monitoring and enforcing the Convention in Iran.⁴⁰²

The Ramsar Convention administrative agency functions as a centre for the communications between the secretariat and the contracting parties.⁴⁰³ The administrative authority is expected to consult and cooperate with other government agencies and non-governmental institutions in the same country in order to ensure the best possible results in achieving the goals of the Ramsar Convention.⁴⁰⁴

5. The Scientific and Technical Review Panel

The Scientific and Technical Review Panel⁴⁰⁵ of the Ramsar Convention was established with the aim of providing guidance to the conference of the contracting parties, the standing committee, and the secretariat. Staff under the Scientific and Technical Review Panel work solely to provide the other bodies involved in the implementation of the Ramsar Convention with guidance on the scientific and technical aspects but they are not the delegates of the countries they come from.⁴⁰⁶ Besides the involvement of these bodies in the implementation of Convention, countries are encouraged to establish National Wetland Committees, involving

To develop avenues of cooperation with other conventions, intergovernmental institutions, and national and international NGOs.

³⁹⁹ The Secretariat of the Convention on Wetlands, 'The Ramsar Convention's International Organization Partners (IOPs) 2011-2017' (Ramsar.org, 2011) <https://www.ramsar.org/sites/default/files/documents/pdf/moc/MoC_5IOPs_19-5-11_SIGNED.pdf> Accessed 01 Sep 2016

⁴⁰⁰ Ramsar Convention Secretariat, 'Administrative Authorities and National Focal Points' (ramsar.org) <<https://www.ramsar.org/sites/default/files/documents/library/info2007-09-e.pdf>> accessed 01 Mar 2017

⁴⁰¹ Ramsar Bureau, National Report on the Implementation of the Ramsar Convention on Wetlands <http://www.ramsar.org/sites/default/files/documents/library/cop12_nrf_iran.pdf> Accessed 17 Nov 2016

⁴⁰² Farhad Dabiri, Borhan Riyazi and Faranak Taheri Yazdi, 'The State of Implementation Ramsar Convention in Iran' [2014] *Journal of Sustainability, Development and Environment* 39, 49

⁴⁰³ Ramsar Convention Secretariat, 'The Ramsar Convention Manual: a Guide to the Convention on Wetlands (Ramsar, Iran, 1971)' (Ramsar Convention Secretariat, 3rd ed, Gland, Switzerland, 2004)

⁴⁰⁴ *ibid*

⁴⁰⁵ The members of the Scientific and Technical Review Panel are not paid for their services and are selected by the standing committee based on nominations from the Parties.

⁴⁰⁶ Michael Bowman, Peter Davies, Catherine Redgwell, 'The Ramsar Convention on Wetlands' in (eds), *Lyster's International Wildlife Law* (2nd, Cambridge University Press, Cambridge Dec 2010).

all government sectors dealing with water resources, development planning, protected areas, biodiversity, tourism, education, development assistance, etc. Participation by NGOs and civil society is also encouraged.⁴⁰⁷

The implementation of the Ramsar Convention depends upon the cooperation of the aforementioned bodies with the support of the International Organization Partners (IOPs). The Convention works jointly with other international organizations referred to as IOPs. There are six IOPs and they include; Wetlands International, WWF International, International Water Management Institute (IWMI), Birdlife International, Wildfowl and Wetlands Trust (WWT), and the International Union for Conservation of Nature (IUCN). These organizations encourage and assist the Convention's work through financial support, providing professional and technical advice to aid in the implementation of field studies. The IOPs also regularly participate as observing members of the Scientific and Technical Review Panel during COP meetings.⁴⁰⁸

4. Evaluation of the key provisions of Ramsar Convention

Reviewing literature, some debates over the concepts and provisions of the convention can be found.⁴⁰⁹ As the present study aims at investigating the implementation of the Ramsar Convention in the context of Iran with a focus on Lake Urmia,⁴¹⁰ the present chapter discusses the provisions of the Ramsar Convention focusing on the literature evaluating the content of the Convention. The aim of conceptually analysing the content of the Convention as suggested in the introduction section and pointing out the weaknesses is that when chapter 4 discusses the implementation of the convention and seeks the reasons of the failure of the Convention in Iran in terms of the Lake Urmia, it would be clear if the failure is attributed to the Iranian government or is it due to the context of the convention itself. As a matter of fact, the shortcomings with the content of the Convention could be a primary reason for its failure in respect to implementation and preserving the Lake Urmia, in particular. Hence, this section

⁴⁰⁷ Ramsar Convention Secretariat, *The Ramsar Convention Manual: a guide to the Convention on Wetlands* (Ramsar Convention Secretariat, Switzerland, 6th edn, 2013) P 42-44

⁴⁰⁸ Joyce Chepkemai, 'What Is The RAMSAR Convention?' (worldatlas.com April 2017) <
<https://www.worldatlas.com/articles/what-is-the-ramsar-convention.html>> accessed 27 May 2017

⁴⁰⁹ Michael Bowman, 'The Ramsar Convention on Wetlands: Has it Made a Difference?' in Olav Schram Stokke and Oystein B. Thommessen (eds), *Yearbook of International Cooperation on Environment and Development 2002-03* (1st, earthscan publishing, London, UK Nov 2013).

Please also see;

David Farrier and Linda Tucker, 'Wise use of wetlands under the Ramsar Convention: a challenge for meaningful implementation of international law' [Mar 2000] *Journal of Environmental Law* 21, 42

⁴¹⁰ See Chapter 4.

reviews the academic debates over the strengths and weaknesses of the provisions of the convention in order to build a robust framework for analysing the implementation of the convention in Iran in chapter 4.

Reviewing the Articles of the Ramsar Convention, there are nine key provisions on which the Convention stands.

1. Definition of wetlands (Articles 1 and 2)
2. Listing approach (Article 2)
3. Exclusive sovereign right (Article 2)
4. Wise use (Article 3)
5. Ecological character of wetlands (Article 3)
6. Information exchange (Article 4)
7. Intergovernmental cooperation (Article 5)
8. Financial resources (Article 6)
9. NGO participation (Articles 7 and 8)

The following sections discuss the key purposes and provisions of the Convention under each segment followed by the conceptual analysis and challenges surrounding them.

4.1. Definition of wetlands

The definition of wetlands had undergone numerous changes before being finalized in the text of the Convention. In the 1930s, wetlands were called ‘wastelands’⁴¹¹ but this term changed into a ‘euphemistic subtitle for swamp’⁴¹² and later to ‘mire, bog and fen’.⁴¹³ These terms were used to describe different types of wetlands scientifically.⁴¹⁴ After the beneficial role of wetlands was recognized by scientists, definitions evolved in various ways in order to specify the boundaries of wetlands and distinguish wetlands from other types of

⁴¹¹ Matthews G.V.T, The Ramsar Convention on Wetlands: Its History and Development (Ramsar Convention Bureau, 1993) P 5-6

⁴¹² National Research Council, Division on Earth and Life Studies, Commission on Geosciences, Environment and Resources, Committee on Characterization of Wetlands, *Wetlands: Characteristics and Boundaries* (National Academy Press 1995) P 43-47

⁴¹³ *ibid*

⁴¹⁴ *ibid*

ecosystems.⁴¹⁵ Different classifications of wetlands can be found in the literature. The WWF and Ramsar definitions of wetlands are explained here. WWF classified wetlands as follows:⁴¹⁶

1. Coastal wetlands which can be found in the areas between land and open sea that are not influenced by rivers such as shorelines, beaches, mangroves and coral reefs. A good example of coastal wetlands is the mangrove swamp which is found in sheltered tropical coastal areas.
2. Shallow lakes and ponds which are areas of permanent or semi-permanent water with little flow. They include vernal ponds, spring pools, salt lakes and volcanic crater lakes. They are small, shallow, intermittently flooded depressions in grasslands or forests, and are often only wet in winter and early spring.
3. Bogs which are waterlogged peatlands in old lake basins or depressions in the landscape. Almost all water in bogs comes from rainfall. Bogs have specialized and unique flora that have evolved in their nutrient-poor and acidic conditions, including for example the carnivorous pitcher plant.
4. Marshes and swamps which are almost half of all wetlands throughout the world. Marshes are one of the broadest categories of wetlands and in general they are the greatest biological diversity.
5. Estuaries which are the areas where rivers meet the sea and water changes from fresh to salt. They can offer an extremely rich mix of biodiversity.

In the Ramsar Convention, wetlands as the focus of the Convention plus waterfowl as birds which ecologically depend on wetlands are defined in Article 1. In Article 1 of the convention, wetlands are defined as ‘areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters.’⁴¹⁷ In the Convention, the definition of wetlands is not bound to Article 1. Article 2 with the aim of protecting coherent sites mentioned that wetlands to be listed in the Ramsar Convention ‘may incorporate riparian and coastal zones adjacent to wetlands, and islands or bodies of

⁴¹⁵ *ibid*

⁴¹⁶ WWF Global, Types of wetlands <http://wwf.panda.org/about_our_earth/about_freshwater/intro/types/> Accessed 6 Aug 2016

⁴¹⁷ UNESCO, 'Convention on Wetlands of International Importance especially as Waterfowl Habitat' (Ramsar.org 1994) <https://www.ramsar.org/sites/default/files/documents/library/current_convention_text_e.pdf> accessed 9 Jul 2016

marine water deeper than six meters at low tide lying within the wetlands.’⁴¹⁸ The Ramsar Convention identifies a grand total of 42 different types of wetlands.⁴¹⁹ The Convention splits these wetlands into three broad categories of marine and coastal wetlands, inland wetlands, and man-made wetlands.⁴²⁰ In the preamble, the aim of the Convention is stated as ‘to stem the progressive encroachment on and loss of wetlands now and in the future’. Along the same lines, an enormous variety of areas is included in the definition of wetlands in Article 1 plus further inclusions in Article 2. This means that the Convention identifies not only those areas falling within traditional conceptions of wetlands (such as mangrove swamps, peat bogs, tidal flats, and water meadows), but also many other natural features (among them coastal beaches and waters, freshwater lakes and rivers, and even underground karst systems) and man-made sites (such as rice paddies, reservoirs, and flooded gravel pits) as wetlands.⁴²¹

However, the definition of wetlands has been criticised by scholars.⁴²² The key feature in this criticism according to Bowman is the ‘very wide definition of wetlands which the Convention, in Article 1, saw fit to adopt.’⁴²³ Indeed, it is believed that the Convention takes an extremely broad approach in defining wetlands.⁴²⁴ According to Torell, Salamanca and Ahmed, the problem with the current definition of wetland in the Ramsar Convention is that it is too broad when compared to a common understanding of wetlands as being swamps, marshes and the like.⁴²⁵

The broad and vague definition of wetlands in the Ramsar Convention has affected the effective management of wetlands in member States (hereafter will be referred to as contracting parties, CP). According to Shine and de Klemm, the general definition of wetlands provided by the Ramsar Convention is not sufficiently detailed for practical application in the field.⁴²⁶ They suggested that terms such as ‘marsh’ and ‘fen’ which appear

⁴¹⁸ UNESCO, *Convention on Wetlands of International Importance especially as Waterfowl Habitat* <http://www.ramsar.org/sites/default/files/documents/library/scan_certified_e.pdf> Accessed 23 Sep 2016

⁴¹⁹ T. Travis, Brown Sh, *Pocketguide to Eastern Wetlands* (Stackpole Book Publications, 1st edn, USA, 2014) 20-27.

⁴²⁰ *ibid*

⁴²¹ Michael Bowman, ‘The Ramsar Convention on Wetlands: Has it Made a Difference?’ in Olav Schram Stokke and Oystein B. Thommessen (eds), *Yearbook of International Cooperation on Environment and Development 2002-03* (1st, earthscan publishing, UK 2013).

⁴²² *ibid*

⁴²³ *ibid*

⁴²⁴ M. Torell, A.M. Salamanca and M. Ahmed, ‘Management of wetland resources in the lower Mekong Basin: issues and future directions’ [Dec 2001] *Naga : the ICLARM quarterly* 4, 10

⁴²⁵ *ibid*

⁴²⁶ Shine, Cyrille de Klemm, *Wetlands, Water and the Law: Using Law to Advance Wetland Conservation and Wise Use* (IUCN 1999) 87-89

in the Ramsar Convention's definition of wetlands may be too imprecise for CPs to decide if the law covers particular wetland sites.⁴²⁷ This is particularly true of areas such as temporary marshes or ponds or vernal pools, where water is only present during part of the year and which are not generally identified as wetlands by the layman. Even for scientists, confusion can arise over the classification of terrestrial and aquatic ecosystems where the former are periodically waterlogged or submerged.⁴²⁸ Furthermore, Ramsar Convention very broadly referred to 'water that is static or flowing' as a part of wetlands. However, Gopal indicated that it is not easy to determine whether a small brook or pond counts as a river or lake under the applicable law unless the latter clearly establishes size thresholds.⁴²⁹ He suggested that the broad references to 'rivers' or 'lakes' may need to be expanded.⁴³⁰

Indeed, in the absence of unambiguous definitions or adequate maps, wetland owners and users effectively have to decide for themselves whether a particular wetland is covered by the relevant legislation. This increases the likelihood that differences of opinion between landowners and enforcement agencies will arise and that litigation may follow.⁴³¹ As a matter of fact, many jurisdictions are not very informative about the exact nature of the wetlands they purport to cover. In India, wetlands are not defined at all under national environmental legislation.⁴³² There is no direct equivalent of the generic term 'wetlands' in Lao, Khmer, Thai or Vietnamese.⁴³³ Some laws merely refer to wetlands without further definition. Others lay down a general definition, often based on that provided by the Ramsar Convention, which as discussed is not precise. Others list specified types of wetlands without adequate definition.⁴³⁴ Iran put into force the Ramsar Convention as a law. The implementation of the Ramsar Convention with regards to the provision of wetlands' definition will be discussed in chapter 4.

⁴²⁷ *ibid*

⁴²⁸ *ibid*

⁴²⁹ Brij Gopal, 'Biodiversity in inland aquatic ecosystems in India: an overview' [1997] *International Journal of Ecology and Environmental Sciences* 305, 313

⁴³⁰ *ibid*

⁴³¹ Clare Shine, Cyrille de Klemm, *Wetlands, Water and the Law: Using Law to Advance Wetland Conservation and Wise Use* (IUCN 1999) 87-89

⁴³² *ibid*

⁴³³ M. Torell, A.M. Salamanca and M. Ahmed, 'Management of wetland resources in the lower Mekong Basin: issues and future directions' [Dec 2001] *Naga : the ICLARM quarterly* 4, 10

⁴³⁴ Clare Shine, Cyrille de Klemm, *Wetlands, Water and the Law: Using Law to Advance Wetland Conservation and Wise Use* (IUCN 1999) 87-89

4.2. Listing approach

Based on the Ramsar definition of wetlands, it can be stated that wetlands exist in various areas worldwide. According to WWF, almost every country in the world possesses a wetland of some description.⁴³⁵ However, wetlands cannot be included in the Ramsar List unless they are labelled as internationally important (Article 2, Paragraph 1 of the Ramsar Convention). To join the Ramsar Convention, any State should designate at least one internationally important wetland (Article 4, Paragraph 4 of the Convention). A site would be internationally important if it is important in terms of 'ecology, botany, zoology, limnology, or hydrology' (Article 2, Paragraph 2).⁴³⁶

The Ramsar listing approach has been criticised in the literature. There is a key feature in this criticism and that is this principle (being internationally important in terms of ecology, botany, zoology, limnology, or hydrology) is rather vague.⁴³⁷ In fact, it is suggested that the principle is not quite clear and straightforward. Indeed, according to Bowman, the selection criteria are vague and hence should be clarified 'through the elaboration of more detailed criteria to govern the question of eligibility for listing.'⁴³⁸ Elsewhere, Bowman critically analysed the legal development of the Convention and stated with regards to the listing approach of the Convention that the criteria were expressed at a rather high level of generality in the text of the Convention and he emphasised the need for the subsequent elaboration of more specific guidance regarding the question of suitability for listing.⁴³⁹

As a matter of fact, the vague definition of internationally important wetlands has led to challenges; for example, this narrow definition resulted in some confusions for CPs in terms of designating wetlands for Ramsar List and that some wetlands are not covered in the list, consequently. There are wetlands which are important but have not been labelled as internationally important and missed the opportunity to be included in the Ramsar List.⁴⁴⁰ For instance, Bowman believed that in the listing approach of the Convention, the emphasis is on

⁴³⁵ WWF Global, Types of wetlands <http://wwf.panda.org/about_our_earth/about_freshwater/intro/types/> Accessed 6 Aug 2016

⁴³⁶ Clare Shine, Cyrille de Klemm, *Wetlands, Water and the Law: Using Law to Advance Wetland Conservation and Wise Use* (IUCN 1999) 99.

⁴³⁷ Michael Bowman, 'The Ramsar Convention on Wetlands: Has it Made a Difference?' in Olav Schram Stokke and Oystein B. Thommessen (eds), *Yearbook of International Cooperation on Environment and Development 2002-03* (1st, earthscan publishing, UK 2009).

⁴³⁸ *ibid*

⁴³⁹ *ibid*

⁴⁴⁰ Agherzadeh Karimi M, 'Introducing the ecological, economical and social functions of Iranian wetlands along with their values and issues' (Iran Wetlands, 4 Jan 2009) <<http://www.iranwetland.blogfa.com/post/4>> Accessed 19 Dec 2018

the conservation of waterfowl which lay at the heart of the Convention and then he highlighted the obvious risk that 'this consideration might come to exert an excessive and unbalancing influence on the convention's development.'⁴⁴¹ For instance, mainly wetlands that are of importance in supporting waterfowl could be designated for the Ramsar List and covered by the Convention. Elsewhere, according to Geijzendorffer *et al*, CPs of the Ramsar Convention propose the sites within their own country for a Ramsar designation based on their international importance for biodiversity.⁴⁴² Within a selection of 236 wetland sites Geijzendorffer *et al* found that the sites that have undergone the largest changes in precipitation and temperature are also the least well covered by protection.⁴⁴³ They then proposed that CPs need help with identifying sites of importance given the expected impacts of global change, be it climate change, the construction of dams or the impacts of urbanization.⁴⁴⁴ Recently, the NGOs such as Bird Life International, WWF International, IUCN or Wildfowl and Wetlands Trust have identified potential Ramsar sites based on their current importance for biodiversity,⁴⁴⁵ but a forecasting perspective is clearly lacking.⁴⁴⁶ In addition, where many sites are currently identified using bird species, sites of importance to plants, molluscs, Odonata or fish are often linked to habitat types which are currently poorly represented among Ramsar sites (e.g., small sized temporary ponds) and particularly vulnerable to destruction and degradation (e.g., reductions in water availability, pollution). It

⁴⁴¹ Bowman MJ, 'The Ramsar Convention Comes of Age' (1995) 42 Netherlands International Law Review 1

⁴⁴² Ilse R. Geijzendorffer, Coralie Beltrame, Laurent Chazee, Elie Gaget, Thomas Galewski, Anis Guelmami, Christian Perennou, Nadège Popoff, Carlos A. Guerra, Roxanne Leberger, Jean Jalbert and Patrick Grillas, 'A More Effective Ramsar Convention for the Conservation of Mediterranean Wetlands' [Feb 2019] Front. Ecol. Evol 1, 6

<https://pdfs.semanticscholar.org/dc1d/e6b82960aa39167d3b638c8b2ce8409cdbc1.pdf?_ga=2.104021376.1475823384.1573642123-1397096562.1571650870> Accessed 09 Nov 2019

⁴⁴³ Ibid

⁴⁴⁴ Ibid

⁴⁴⁵ Ramsar Regional Center – East Asia, 'The Designation and Management of Ramsar Sites – A practitioner's guide' (Ramsar.org 2017) <

https://www.ramsar.org/sites/default/files/documents/library/designation_management Ramsar sites_e.pdf> accessed 6 Jul 2016

⁴⁴⁶ For example, Geijzendorffer *et al* suggested that in the perspective of impacts of global change, coastal wetlands, and wetlands in the South East of the Mediterranean basin seem to be particularly vulnerable. Ilse R. Geijzendorffer, Coralie Beltrame, Laurent Chazee, Elie Gaget, Thomas Galewski, Anis Guelmami, Christian Perennou, Nadège Popoff, Carlos A. Guerra, Roxanne Leberger, Jean Jalbert and Patrick Grillas, 'A More Effective Ramsar Convention for the Conservation of Mediterranean Wetlands' [Feb 2019] Front. Ecol. Evol 1, 6

<https://pdfs.semanticscholar.org/dc1d/e6b82960aa39167d3b638c8b2ce8409cdbc1.pdf?_ga=2.104021376.1475823384.1573642123-1397096562.1571650870> Accessed 09 Nov 2019

is equally unclear how well the current Ramsar sites cover wetlands of cultural importance or the key areas of ecosystem services supply.⁴⁴⁷

The 17th handbook of Ramsar in 2010 proposed strategic framework and guidelines for the future development of the List of Wetlands of International Importance. Four criteria are provided accompanied by guidelines for each criterion to assist CPs in taking a systematic approach to identifying their priority sites for designation.

- Criterion 1: A wetland should be considered internationally important if it contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate bio-geographic region.
- Criterion 2: A wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecological communities
- Criterion 3: A wetland should be considered internationally important if it supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region.
- Criterion 4: A wetland should be considered internationally important if it supports plant and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions.⁴⁴⁸

However, from a strictly legal point of view, the listing criteria are no more than guidelines.⁴⁴⁹ Parties are in principle free to designate sites of their choice and, moreover, are not legally bound under the Convention to designate all sites meeting the current criteria.⁴⁵⁰ However, the clear policy of the Ramsar institutions is to maintain the quality of wetlands included in the Ramsar List by ensuring that proposed designations fulfil specific criteria or clusters of criteria.⁴⁵¹

⁴⁴⁷ *ibid*

⁴⁴⁸ Ramsar Convention Secretariat, *Designating Ramsar Sites: Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (4th, Ramsar Publications, Switzerland 2007) 28-40

⁴⁴⁹ Clare Shine, Cyrille de Klemm, *Wetlands, Water and the Law: Using Law to Advance Wetland Conservation and Wise Use* (IUCN 1999) 98-103

⁴⁵⁰ *ibid*

⁴⁵¹ *ibid*

Lake Urmia is one of the first internationally important sites in Iran that was registered in the Ramsar list on 23 June in 1975.⁴⁵² However, According to Director of the Bureau of Iranian Wetlands Ecosystems, 250 wetlands nationwide have been identified, 25 of which are registered in Ramsar Convention, there are important wetlands within the country which are not included in the List, for example, Lake Sabalan-Noshar wetland, Haft Barm Lake, Langoor wetland, Ganjgah wetland Ghooch Lake, Pasab-e Yazd wetland, Bezowjeh, Barmshir wetland, Barm-Alvan wetland⁴⁵³ and it can be stated that a more precise listing approach could improve the preservation of the wetlands⁴⁵⁴ in Iran and worldwide.

4.3. Exclusive sovereign right

The provision of the sovereign right of the Contracting Parties over wetlands within their territory is elaborated in Article 2 of the Convention under paragraphs 3 and 5. It is stated in paragraph 3 that ‘the inclusion of a wetland in the List does not prejudice the exclusive sovereign rights of the Contracting Party in whose territory the wetland is situated.’ Furthermore, under paragraph 5, the Contracting Parties are given the right to add further wetlands within their territories to the List of Convention in order ‘to extend the boundaries of those wetlands already included by it in the List, or, because of its urgent national interests, to delete or restrict the boundaries of wetlands already included by it in the List.’⁴⁵⁵

The concept of sovereignty over natural resources including wetlands could be a controversial debate. Ramsar Convention has granted the CPs an ‘exclusive sovereign right’ over their wetlands. As a matter of fact, whether the exclusive sovereign right of the CPs over their wetlands in Ramsar Convention help protect wetlands could be a conflict emerging between the principle of national sovereignty over wetlands and the idea that each CP is master in its own house on the one hand, and the general principles of wetland protection which could constrain CPs’ behaviour regarding wetlands located within their territory, on the other hand.

⁴⁵²Karen Denyer, Yaiphaba Akoijam, Mariam Kenza Ali, Solongo Khurelbaatar, Gonzalo Oviedo, Lew Young, *Learning from Experience: How indigenous peoples and local communities contribute to wetland conservation in Asia and Oceania* (1st, Ramsar Convention Secretariat, Gland, Switzerland Mar 2018) 14-43

⁴⁵³ IRNA, '33 Iranian wetlands are registered in the Ramsar Convention' (irna.ir, Nov 2018) <<https://www.irna.ir/news/83098431/33>> accessed 10 Nov 2019

⁴⁵⁴ Nick C Davidson, 'How much wetland has the world lost? Long-term and recent trends in global wetland area' [Jan 2014] CSIRO 936, 941

And

Matthew J.R. Dixon, Jonathan Loh, Nick Davidson, Coralie Beltrame, Robin Freeman and Matt J. Walpole, 'Tracking global change in ecosystem area: The Wetland Extent Trends index' [Jan 2016] Biological Conservation 27, 35

⁴⁵⁵ Ramsar Convention Bureau, 'The Ramsar Convention in international law (reprint article)' (Ramsar.org, 2001) <http://archive.ramsar.org/cda/fr/ramsar-news-archives-1999-ramsar-convention-in-20942/main/ramsar/1-26-45-90%5E20942_4000_1__> Accessed 06 Jan 2019

An example for constraining the CP's behaviour could be to prevent dam construction on any river where it is shown that the resulting damage to the natural environment will be unacceptably high.⁴⁵⁶ Hence, it is important to shed light on how Ramsar Convention is moving between national sovereignty and wetland preservation.

According to Timoshenko, the Ramsar Convention attempted to coordinate exclusive sovereign rights on states' natural resources, state responsibility for environmental protection, and rational use.⁴⁵⁷ However, Farrier and Tucker believed what is claimed in *Ramsar Convention on wetlands: Its history and development* (Ramsar Convention bureau, 1993) that Ramsar Convention is the only treaty which restrains the States from unthinking and selfish exploitation of their sovereign natural patrimony is an overstatement.⁴⁵⁸ Huber suggested that the nature of the enduring relationship between a State and its territory, including the resources located therein, is an exclusive jurisdiction.⁴⁵⁹ According to Barral, this vision of sovereignty grants the State exclusive powers over the territory both as an object and as a spatial entity. Hence, 'a State both owns the territory and controls the space'.⁴⁶⁰ As a matter of fact, permanent sovereignty protects the freedom of the State to choose its own path, regarding the exploration, exploitation and conservation of its natural resources. However, the most environmental problems, including resource depletion, today transcend national boundaries and they take on a global character. Indeed, the management of wetlands, for example, whose exploitation and conservation typically falls under the national sovereignty of the State where they are located, directly affects biodiversity and the climate system and could cause environmental challenges with international consequences.⁴⁶¹ Though some researchers

⁴⁵⁶ Clare Shine, Cyrille de Klemm, *Wetlands, Water and the Law: Using Law to Advance Wetland Conservation and Wise Use* (IUCN 1999) P 197-199

⁴⁵⁷ Alexandre S. Timoshenko, 'Protection of Wetlands by International Law' [1988] PELR 463, 470

⁴⁵⁸ David Farrier and Linda Tucker, 'Wise use of wetlands under the Ramsar Convention: a challenge for meaningful implementation of international law' [Mar 2000] *Journal of Environmental Law* 21, 42
Farrier and Tucker even compared the provision of sovereign right in Ramsar Convention and the Convention Concerning the Protection of the World Cultural and Natural Heritage and claimed that the latter is more that of exaggeration.

Article 6 of Protection of the World Cultural and Natural Heritage: *Whilst fully respecting the sovereignty of the States on whose territory the cultural and natural heritage is situated, and without prejudice to property right provided by national legislation, the States Parties to this Convention recognize that such heritage constitutes a world heritage for whose protection it is the duty of the international community as a whole to co-operate.*
UNESCO, 'Convention Concerning the Protection of the World Cultural and Natural Heritage' (unesco.org Nov 1972) < <https://whc.unesco.org/en/conventiontext/> > accessed 22 Sep 2016

⁴⁵⁹ Virginie Barral, 'National sovereignty over natural resources: Environmental challenges and sustainable development' in Elisa Morgera and Kati Kulovesi (eds), *Research Handbook on International Law and Natural Resources* (1st, Edward Elgar Publishing, Cheltenham 2016).

⁴⁶⁰ *ibid*

⁴⁶¹ As an example, the consequences of Urmia lake degradation in climate change of the region (affecting neighbour countries), political issues in terms of migrations (both nationally and internationally) and flora and fauna lives were discussed in chapter 2 section 6.

suggest that granting the ‘exclusive sovereign right’ over natural resources to CPs and wetland preservation could be incompatible, Barral believes it is only under the sustainable development umbrella that sovereignty and resource conservation can be reconciled; there they have found their common and mutual interest.⁴⁶² The parameters of such reconciliation, however, have yet to be specified in different areas. As a part of sovereign right, the CPs are also required to promote wetland conservation by establishing nature reserves in wetlands and providing adequately for their wardening. However, these obligations are extremely general and leave Parties considerable discretion in the extent to which they implement their commitments.⁴⁶³

Another concern with the sovereignty issues in the Convention is that though to date, no CP has ever deleted a wetland from the List, it is criticised that the Convention is silent on the question of delisting.⁴⁶⁴ However, it is to be remembered that a State which wishes to withdraw from the Convention entirely may not do so until it has been a party for at least five years, and then only upon four months notice, so the imposition of temporal restrictions upon States which are seeking to extricate themselves from obligations affecting particular sites can hardly be regarded as unthinkable.⁴⁶⁵

4.4. Wise use

The Ramsar Convention brings certain obligations for the contracting parties with respect to wetlands generally. Wise use is an obligation which is set forward in Article 3, Paragraph 1.

‘The Contracting Parties shall formulate and implement their planning so as to promote as far as possible the wise use of wetlands in their territory’ (Article 3, Paragraph 1).

Virginie Barral, 'National sovereignty over natural resources: Environmental challenges and sustainable development' in Elisa Morgera and Kati Kulovesi (eds), *Research Handbook on International Law and Natural Resources* (1st, Edward Elgar Publishing, Cheltenham 2016).

⁴⁶² Virginie Barral, 'National sovereignty over natural resources: Environmental challenges and sustainable development' in Elisa Morgera and Kati Kulovesi (eds), *Research Handbook on International Law and Natural Resources* (1st, Edward Elgar Publishing, Cheltenham 2016).

⁴⁶³ The extent to which Iran implement its commitment is investigated in chapter 4.

Clare Shine, Cyrille de Klemm, *Wetlands, Water and the Law: Using Law to Advance Wetland Conservation and Wise Use* (IUCN 1999) P 99

⁴⁶⁴ Clare Shine, Cyrille de Klemm, *Wetlands, Water and the Law: Using Law to Advance Wetland Conservation and Wise Use* (IUCN 1999) P 114-115

⁴⁶⁵ Bowman MJ, 'The Ramsar Convention Comes of Age' (1995) 42 *Netherlands International Law Review* 1

According to Bowman the concept of 'wise use' is the central provision of the Ramsar Convention.⁴⁶⁶ However, wise use has been criticised in the literature. In the content of Ramsar Convention the concept of 'wise use' is a very vague provision. Bowman suggested 'it is legitimate to speculate whether it would have been possible to frame a treaty obligation in more vague or vacuous terms'.⁴⁶⁷ It is indeed debatable whether such words should be regarded as having created any legal obligation at all.⁴⁶⁸ In fact, the concept of 'wise use' is nowhere defined in the text of the Convention, the duty is neither to secure or guarantee such use but only to 'promote' it, and then only 'as far as possible'.⁴⁶⁹ Matthews also found the wise use provision of the Convention hard to define. According to Matthews, based on the Article 3 (1) of the Convention, it is quite easy to realise what is not wise use.⁴⁷⁰ For example, he thought that 'drainage to produce marginal agricultural land is not wise use. Corruption of a wetland's hydrological cycle and its capacity to store and supply water is not wise use. Tipping rubbish and pollutants into wetlands is not wise use'.⁴⁷¹ These are a few examples of unwise use of wetlands. However, it is rather more 'difficult to define wise use'.⁴⁷² Matthews believed that, in Article 3, there is a general obligation for the CPs to include wetland conservation considerations in their national land-use planning however the convention did not attempt a definition for 'wise use' itself. In spite of attempts in modifying and clarifying the provision of 'wise use' in the Convention throughout years, it is still criticized as being vague and weakly drafted.⁴⁷³ Wise use has been interpreted in literature; based on the Ramsar Convention manual, 'wise use' of wetlands means sustainable exploitation of wetlands.⁴⁷⁴ Sustainable exploitation has undergone changes from 'excluding human activity' to 'wise use of wetlands'. It is mentioned in the Ramsar manual that 'in making this provision with regard to a habitat, the Convention was in advance of its time'.⁴⁷⁵ Until the 1950s, the specialists believed that to safeguard a natural area, it was only necessary to exclude any human activity.

⁴⁶⁶Michael Bowman, 'The Ramsar Convention on Wetlands: Has it Made a Difference?' in Olav Schram Stokke and Oystein B. Thommessen (eds), *Yearbook of International Cooperation on Environment and Development 2002-03* (1st, earthscan publishing, UK 2009).

⁴⁶⁷ *ibid*

⁴⁶⁸ *ibid*

⁴⁶⁹ *ibid*

⁴⁷⁰Matthews G.V.T, *The Ramsar Convention on Wetlands: Its History and Development* (Ramsar Convention Bureau, 1993) P 47-48

⁴⁷¹ *ibid*

⁴⁷² *ibid*

⁴⁷³Michael Bowman, 'The Ramsar Convention on Wetlands: Has it Made a Difference?' in Olav Schram Stokke and Oystein B. Thommessen (eds), *Yearbook of International Cooperation on Environment and Development 2002-03* (1st, earthscan publishing, UK 2009).

⁴⁷⁴Matthews G.V.T, *The Ramsar Convention on Wetlands: Its History and Development* (Ramsar Convention Bureau, 1993) P47-48

⁴⁷⁵ *ibid*

They subsequently realised that the influence of human beings in nature was becoming so pervasive that even the remotest area was not free of it.⁴⁷⁶ Consequently, 'instead of preservation, conservation, the maintenance of an area (or a species) in its current status by positive, well-informed intervention became the order of the day.'⁴⁷⁷ Later in 1980, the World Conservation Strategy set out by IUCN, UNEP and WWF defined conservation as 'the management of human use of the biosphere so that it may yield the greatest sustainable benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations'.⁴⁷⁸ According to the Ramsar handbooks for the wise use of wetlands, an updated definition of 'wise use' of wetlands is 'the maintenance of their ecological character, achieved through the implementation of ecosystem approaches, within the context of sustainable development'.⁴⁷⁹ Based on these interpretations, wise use therefore has at its heart the conservation and sustainable use of wetlands and their resources, for the benefit of humankind.⁴⁸⁰ However, this provision is not clearly defined in the Ramsar Convention hence promoting wise use (encouraged in Article 3) still remains vague. According to Sands and Peel, 'although attempts at definition have been made, no generally accepted definition exists, and it is unlikely that distinguishable legal definitions could be agreed.'⁴⁸¹

In addition to the criticisms over lack of precise definition of wise use in the Convention, Farrier and Tucker, analysed the obligation under the Convention to promote 'the wise use' of all wetlands and pointed out that the Convention is segmented in its approach and therefore 'inherently limited'.⁴⁸² They stated that there are two rungs to the convention:

1. A commitment to entering internationally significant wetlands on the List of wetlands of international importance and promoting their conservation, and
2. A commitment to promoting, as far as possible, the wise use of all wetlands within member states territories.

Following this, they criticised Ramsar Convention since they believed wetlands are dissociated from their catchments, waterfowl is the centre of attention, and a sharp distinction

⁴⁷⁶ *ibid*

⁴⁷⁷ *ibid*

⁴⁷⁸ *ibid*

⁴⁷⁹ Ramsar Convention Secretariat, *Wise use of wetlands: A Conceptual Framework for the wise use of wetlands* (3rd, Ramsar Publications, Gland, Switzerland 2007) 11-12

⁴⁸⁰ Ramsar Convention Secretariat, *The Ramsar Convention Manual: a guide to the Convention on Wetlands* (Ramsar Convention Secretariat, Switzerland, 6th edn, 2013) P 47

⁴⁸¹ Sands P and Peel j, *Principles of International Environmental Law* (3rd end, Cambridge University Press 2012) P 212-213

⁴⁸² David Farrier and Linda Tucker, ' Wise use of wetlands under the Ramsar Convention: a challenge for meaningful implementation of international law ' [Mar 2000] *Journal of Environmental Law* 21, 42

is drawn between wetlands included in the list of wetlands of international importance, which are to be conserved and unlisted wetlands which are to be used, albeit wisely.⁴⁸³ Farrier and Tucker declared that, when Article 3.1 distinguishes between ‘the conservation of the wetlands included in the List’ and ‘the wise use of wetlands in their territory’, it represents a different expectation or obligation in each case. The authors also contended that Ramsar’s preoccupation with managing wetlands rather than ‘the broader catchments of which they are an intimate part’, and the emphasis upon waterfowl, ‘has exacerbated the segmentation’. This would seem to suggest that the authors’ concerns about Ramsar’s ‘segmented approach’ would be allayed by the evolution of thinking within the Convention (which they themselves document) which now sees Parties to the Convention openly, and increasingly, insisting that the wise use provisions of the Convention apply to all wetlands regardless of whether or not they are Ramsar sites.

Briefly, wise use is not clearly defined in the Convention and consequently the promotion of wise use remains vague. Moreover, the Convention’s approach is segmented so it is limited.⁴⁸⁴ The Convention is segmented in its approach to the landscape. The Convention focuses narrowly on land and water use within wetlands ‘rather than the broader catchment of which they are an intimate part’.⁴⁸⁵ Indeed, the lifeline of a wetland is an appropriate supply of water of suitable quality. Hence, it can be stated that wetlands are susceptible to threats from a range of activities carried out elsewhere in the water catchment which affect the quality and quantity of water flows.⁴⁸⁶ Furthermore, Farrier and Tucker claimed that the Convention’s historical focus was on wetlands which provided habitat for waterfowl and this has exacerbated the segmentation inherent in the selection focus on wetlands.⁴⁸⁷ The authors claimed that although the final draft of the Convention moved away from its primary focus on waterfowl to wetland, there is still a considerable focus on waterfowl.⁴⁸⁸ Indeed, the segmentation of the landscape and its inhabitant with emphasis on ‘special areas’ and ‘specific species’ is increasingly being called in to question by conservation biologists.⁴⁸⁹

⁴⁸³ *ibid*

⁴⁸⁴ *ibid*

⁴⁸⁵ *ibid*

⁴⁸⁶ *ibid*

⁴⁸⁷ *ibid*

⁴⁸⁸ Article 4 (4) of the Ramsar Convention: The Contracting Parties shall endeavor through management to increase waterfowl populations on appropriate wetlands.

⁴⁸⁹ David Farrier and Linda Tucker, 'Wise use of wetlands under the Ramsar Convention: a challenge for meaningful implementation of international law' [Mar 2000] *Journal of Environmental Law* 21, 42
And

The COP of the Ramsar Convention for promoting the wise use of wetlands with the motto of *people and wetlands: the vital link*⁴⁹⁰ adopted guidance on appropriate legal and institutional frameworks for wise use to urge the contracting parties to review their national wetland policies and develop their national wetland policies to support wise use and to address all problems and activities related to wetlands in a national context.⁴⁹¹ In the guidelines of the Conference of the Contracting Parties, the parties are particularly encouraged to review their legal and institutional frameworks to ensure that they are generally compatible with the wise use commitment agreed in the Convention. The COP asked the contracting parties that the review should cover laws and institutions not only at the national level, but also at the sub-national and supranational (i.e., regional economic integration organizations) levels.⁴⁹² The contracting parties were asked to repeat their national law review at regular intervals to ensure that laws and institutions remain compatible with the wise use obligation of the Convention. The aim under such guidance was to help contracting parties ‘to take stock of how existing laws and institutions contribute to or work against wetland conservation and wise use. This should contribute to a more rationalised approach to their achievement.’⁴⁹³ The review was encouraged with two main objectives:

1. To identify legal and institutional measures which constrain wetland conservation and wise use; and
2. To support the development of positive legal and institutional measures for wetland conservation and wise use.⁴⁹⁴

The Ramsar Convention guidelines aim at meeting the challenges and helping contracting parties to preserve their wetlands.⁴⁹⁵ The *guideline for reviewing laws and institutions to promote the conservation and wise use of wetlands* helps the Contracting parties strengthening their national laws in order to effectively implement the Convention and

Reed F. Noss and Larry D. Harris, 'Nodes, networks, and MUMs: Preserving diversity at all scales' [May 1986] Environmental Management 299, 309

⁴⁹⁰ Ramsar Convention, 'Guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands', (Ramsar.org 1999) <<https://www.ramsar.org/sites/default/files/documents/pdf/guide-laws-e.pdf>> Accessed 07 Nov 2017

⁴⁹¹ *ibid*

⁴⁹² *ibid*

⁴⁹³ Gillespie A, *Conservation, Biodiversity and International Law* (Edward Elgar Publishing, USA, 2011) 395-398

⁴⁹⁴ Shine C, Klemm C, *Wetlands, Water, and the Law: Using Law to Advance Wetland Conservation and Wise Use* (IUCN, Switzerland 1999) 59-64

⁴⁹⁵ Ramsar, 'The Guidelines adopted by the Conference of the Contracting Parties'<https://www.ramsar.org/search?search_api_views_fulltext=+Guidelines+> Accessed 28 Oct 2017

promote their wetlands' conditions.⁴⁹⁶ Examining the implementation of the convention in Iran and checking the Ramsar Convention guidelines, the key challenges that the legal provisions face will be discussed in chapter 6.⁴⁹⁷

4.5. Ecological character of wetlands

In Article 3, paragraph 2 of the convention, the parties have committed themselves:

'to arrange to be informed at the earliest possible time if the ecological character of any wetland in its territory and included in the List has changed, is changing or is likely to change as the result of technological developments, pollution or other human interference. Information on such changes shall be passed without delay to the Ramsar Secretariat.'⁴⁹⁸

The COP as mentioned in Article 6 of the Convention shall be competent to consider information regarding changes in ecological character of wetlands included in the List of Ramsar Convention. The Contracting Parties should be aware of their wetland's conditions in particular any probable ecological changes whether it is due to technological developments, pollutions or other human interference.⁴⁹⁹ The concept of pollution was added into Article 3 of the convention after it was recommended in the 1970 Espoo meeting. The purpose of this provision is plainly to establish some form of international monitoring of the ecological condition of internationally important sites, and the COP is empowered under Article 6 to consider such information and to make appropriate recommendations to the parties.⁵⁰⁰ Along the same lines, Ramsar sites facing problems in maintaining their ecological character can be placed by the country concerned on a special list, the Montreux Record, and technical assistance to help solve the problems can be provided.⁵⁰¹ According to Bowman,

⁴⁹⁶ Ramsar Convention, *Guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands*, Resolution VII.7 (1999) of the Ramsar Convention
<<https://www.ramsar.org/sites/default/files/documents/pdf/guide-laws-e.pdf>> Accessed 07 Nov 2017

⁴⁹⁷ The national legal provisions of Iran will be reviewed along the same guideline to see how Iran can amend and improve its national laws to meet the wise use commitment of the Ramsar Convention. This review will be dealt with in the final chapter after the national legal provisions and their enforcements were introduced in chapters 4 and 5.

⁴⁹⁸ Ramsar, '*An Introduction to the Convention on Wetlands –Ramsar*' (Ramsar Convention Secretariat, 5 edn, 2016) P 65

⁴⁹⁹ *ibid*

⁵⁰⁰ Michael Bowman, 'The Ramsar Convention on Wetlands: Has it Made a Difference?' in Olav Schram Stokke and Oystein B. Thommessen (eds), *Yearbook of International Cooperation on Environment and Development 2002-03* (1st, earthscan publishing, London, UK Nov 2013).

⁵⁰¹ Gerhard von Glahn and James Larry Taulbee, *Law Among Nations: An Introduction to Public International Law* (10th, Routledge, New York Jul 2015) P 529-530

‘the purpose of this provision is plainly to establish some form of international monitoring of the ecological condition of internationally important sites, and the Conference of the Parties is empowered under Article 6 to consider such information and to make appropriate recommendations to the parties.’⁵⁰²

However, the concepts of ‘ecological character’, ‘changes in the ecological character’ and subsequently ‘the commitment of the contracting parties to report changes in the ecological character’ have been criticised in the literature. Indeed, these terms have not been precisely defined in the Convention. It is necessary to have a clear picture of what the ‘ecological characters’ are and what precisely should be reported as ecological change of a site. Otherwise, the Contracting Parties would not be able to report the changes to the Ramsar Secretariat.⁵⁰³ Finlayson defined ecological character as ‘the combination of the ecosystem components, processes and benefits/services that characterize the wetland at a given point of time.’⁵⁰⁴ Bowman, Davies and Redgwell defined the change in the ecological character as ‘the human induced adverse alternation of any ecosystem component, process and/or ecosystem benefit/services.’⁵⁰⁵ ‘Ecological character’ and ‘change in ecological character’ have been defined in order to provide ‘frameworks and guidelines for management planning, establishing monitoring programs and undertaking risk assessment.’⁵⁰⁶ However, a definitive guidance on how to describe ecological character has not been forthcoming from the Convention to date despite recognition that it is needed.⁵⁰⁷

4.6. Information exchange

The exchange of information is mentioned in Articles 3 and 4 of the Convention. In Article 3 as discussed under the ‘ecological character change’⁵⁰⁸ section, the contracting parties are committed to pass the information of the changes in the ecological character of the wetlands within their territory without delay to the Ramsar Bureau with the purpose of establishing some form of international monitoring of the ecological condition of internationally important

⁵⁰² Michael Bowman, 'The Ramsar Convention on Wetlands: Has it Made a Difference?' in Olav Schram Stokke and Oystein B. Thommessen (eds), *Yearbook of International Cooperation on Environment and Development 2002-03* (1st, earthscan publishing, London, UK Nov 2013).

⁵⁰³ *ibid*

⁵⁰⁴ C Max Finlayson, Horwitz P, Weinstein P, *Wetlands and Human Health* (Springer, 2015) 232-235

⁵⁰⁵ Michael Bowman, Peter Davies and Catherine Redgwell, *Lyster's International Wildlife Law* (Cambridge University Press 2ndedn, 2010) P 421-422

⁵⁰⁶ Phillips, W. and Muller, K, *Ecological Character of the Coorong, Lakes Alexandrina and Albert Wetland of International Importance* (South Australian Department for Environment and Heritage, 2006) P 2-5

⁵⁰⁷ *ibid*

⁵⁰⁸ Section 4.5 of the present chapter

sites. Furthermore, under Article 4 the parties are committed to promote the conservation of wetlands and waterfowl by establishing nature reserves on wetlands, whether included in the list or not, and to provide adequately for their wardening. In particular, where they delete or restrict the boundaries of listed sites, they are as far as possible to compensate for this through the creation of additional nature reserves. Supporting obligations relate to the encouragement of research and the exchange of information regarding wetlands, the training of personnel for wetland research, management, and wardening, and the attempt to increase waterfowl populations in such habitat.

A further provision of the Ramsar Convention which can be derived from Article 4 of the convention is the issue of encouraging research and the exchange of information. According to the convention's guidelines in paragraphs 3, 4 and 5 of Article 4, the Contracting Parties should 'encourage research and the exchange of data and publications regarding wetlands and their flora and fauna,' 'endeavour... to increase waterfowl populations on appropriate wetlands' and 'promote the training of personnel competent in the fields of wetland research, management and wardening.'

Briefly, the Convention instructs the Contracting Parties to exchange information to improve the wellbeing of wetlands. However, according to Batanjski, Purger and Alegro, the Convention 'does not seem to provide an efficient mechanism of legal measures that would ensure its implementation.'⁵⁰⁹ Reviewing the Ramsar provision on the issue of exchanging data and conducting research would raise a question on how the Convention ensures that the contracting parties exchange information. A State can fail to respect the Convention without any form of sanctioning.⁵¹⁰ In fact, NGOs and other inter-governmental organisations/agencies working in cooperation with Ramsar secretariat can help CPs ensure effective information exchange.

The NGOs which are involved in information exchange could be (i) international NGOs (e.g., Royal Society for the Protection of Birds, RSPB; WWF) and (ii) national as well as (iii) local NGOs.⁵¹¹ The World Wetland Network (WWN) as a global network of over 2000 wetland

⁵⁰⁹ Vera Batanjski, Ana Batricevic, DragicaPurger and Antun L. Alegro, 'protection from invasive plant species: an example of the Southern Pannonia region' [Oct 2015] *Int Environ Agreements* 833, 848

⁵¹⁰ *ibid*

⁵¹¹ Irini Ibrahim and NorazlinaAbdulAziz, 'The Roles of International NGOs in the Conservation of Bio-Diversity of Wetlands' [2012] *Procedia - Social and Behavioral Sciences* 242, 247
Please also see;

NGOs initiated on the eve of the CPs' meeting, November 2008, in Changwon, South Korea. WWN is an international network of NGOs and civil society organisations, many of whom are focused on one or two wetlands in their local area. These organisations reflect their local cultures and communities and represent a considerable force for improving delivery of Ramsar wetland conservation goals. Many of these organisations have focused on specific wetlands for decades. NGOs often create a longer-term and more continuous link for Ramsar than government representatives. WWN raises awareness of the role of local people in wetland conservation, supports their active involvement and builds their capacity to deliver effective wetland conservation.⁵¹² In 2014, WWN explored the relationship between NGOs, civil society organisations and Ramsar and delivery of Ramsar wetland conservation goals and suggested that there is little contact with National Focal Points between each Ramsar COP and a belief was often expressed that governments did not respect the value of NGOs. Furthermore, many NGOs have skills that could be more actively used in this process.

Besides the role that NGOs can play in preserving wetlands, there are *other inter-governmental organisations/agencies* working in cooperation with Ramsar secretariat. This is while; Samaan holds the view that with regard to international conventions, the issue of information exchange and research has not received the required enforcement power.⁵¹³ Samaan brought United Nations Environment Programme (UNEP) as an example which effectively monitors and assesses the environment through effective programmes. UNEP is the organisation established by the United Nations General Assembly in 1972 in order to promote cooperation and coordination among nations, recommend environmental policies and provide general policy guidelines in the international environmental arena for all nations.⁵¹⁴ UNEP is actively involved in the assessment and monitoring of the global environment. Through a program called Earth Watch,⁵¹⁵ 'information exchange, research activities, monitoring of environmental issues and a continual review and evaluation of the environment on a global scale take place periodically in order to identify new problems.'⁵¹⁶

Margi Prideaux , Chris Rostron and Louise Duff, ' Ramsar and Wetland NGOs: A Report of the World Wetland Network for Ramsar CoP12' (worldwetnet.org 2015) <

http://www.worldwetnet.org/docs/RamsarNGOs_Final.pdf> accessed 22 Sep 2019

⁵¹² Margi Prideaux , Chris Rostron and Louise Duff, ' Ramsar and Wetland NGOs: A Report of the World Wetland Network for Ramsar CoP12' (worldwetnet.org 2015) <

http://www.worldwetnet.org/docs/RamsarNGOs_Final.pdf> accessed 22 Sep 2019

⁵¹³ Andrew Watson Samaan, ' Enforcement of International Environmental Treaties: At Analysis' [2011] Fordham Envtl. L. Rev 261, 283

⁵¹⁴ *ibid*

⁵¹⁵ *ibid*

⁵¹⁶ *ibid*

The reason for looking into the UNEP for discussing the information exchange here is that according to Watson, UN agencies can play an enforcement role in monitoring information exchange or conducting research.⁵¹⁷ Besides UNEP, Convention on Biological Diversity (CBD) secretariat; Conservation of Migratory Species (CMS) secretariat; United Nations Convention to Combat Desertification (UNCCD) secretariat, United Nations Framework Convention on Climate Change (UNFCCC) secretariat; The Convention on the International Trade in Endangered Species of Wild Flora and Fauna (CITES) secretariat are other examples of intergovernmental organisations which have joint work plan with the Ramsar secretariat.⁵¹⁸

4.7. Financial resources

Article 6 discusses the financial resources of the Convention. Article 6 (paragraphs 5 and 6) is the only Article in the Ramsar Convention in which the funding issue is mentioned.

Paragraph 5; The Conference of the Contracting Parties shall establish and keep under review the financial regulations of this Convention. At each of its ordinary meetings, it shall adopt the budget for the next financial period by a two-thirds majority of Contracting Parties present and voting.

Paragraph 6; Each Contracting Party shall contribute to the budget according to a scale of contributions adopted by unanimity of the Contracting Parties present and voting at a meeting of the ordinary Conference of the Contracting Parties.

As reported in the manual of the Ramsar Convention, the economic climate at the time of the Ramsar Conference was such that very few countries were prepared to accept a Convention to which they would have to make a financial contribution.⁵¹⁹ Hence, no provision for financing the operation of the Convention was included.⁵²⁰ Basically, it was the duty of IUCN and International Waterfowl and Wetlands Research Bureau (IWRB) to keep the Convention active using their limited sources.⁵²¹ The concern of having a permanent body for supervising the implementation of the Convention was first stressed in the 1966 Noordwijk meeting.

⁵¹⁷ *ibid*

⁵¹⁸ Ramsar Convention Secretariat, 'Partnerships with other Conventions' (ramsar.org) <<https://www.ramsar.org/about/partnerships-with-other-conventions>> accessed 15 Jan 2019

⁵¹⁹ Matthews G.V.T, The Ramsar Convention on Wetlands: Its History and Development (Ramsar Convention Bureau, 1993) P 64-66

⁵²⁰ *ibid*

⁵²¹ *ibid*

Later, following the amendments which came into force on 1 May 1994⁵²² most Parties contribute the necessary sums on a voluntary basis.⁵²³ As described in section 3, the bodies governing the implementation of the Convention monitor the funding and the financial affairs.⁵²⁴ Eligible countries can apply to a Ramsar Small Grants Fund and Wetlands for the Future Fund for financial assistance to implement wetland conservation and wise use projects.⁵²⁵

In fact, the Ramsar Resolution 4.3 of the Fourth Meeting of the Conference of the Contracting Parties, held at Montreux, Switzerland in 1990, established the Ramsar Wetland Conservation Fund to provide assistance to developing countries, upon official request from a competent national authority, for activities in furtherance of the purposes of the Convention.⁵²⁶ In the Fourth Meeting of the Conference of the Contracting Parties, it was decided that a token budgetary allocation of ten thousand Swiss francs should be made to the Fund from the Convention's budget each year in the 1991-1993 triennium and that this allocation was 'to be augmented by substantial voluntary contributions'.⁵²⁷ Some Contracting Parties,⁵²⁸ non-governmental organizations⁵²⁹ and individuals made voluntary contributions to the Fund since the Fourth Meeting.⁵³⁰ However, in the context of the convention, there is no provision for financing the implementation of the Convention.

In brief, member states, NGOs and private sector contribute to implementation of the Ramsar Convention financially.

(i) member states

⁵²² Matthews G.V.T, The Ramsar Convention on Wetlands: Its History and Development (Ramsar Convention Bureau, 1993) P 5-7

⁵²³ *ibid*

⁵²⁴ Ramsar, Resolution VIII.27, 'Financial and budgetary matters' (Ramsar.org 2002) <

https://www.ramsar.org/sites/default/files/documents/pdf/res/key_res_viii_27_e.pdf > Accessed 24 Feb 2017

⁵²⁵ Ramsar Secretariat, 'Working for Wetlands - the Ramsar Small Grants Fund; A global funding mechanism supporting the conservation and wise use of wetlands' <

https://www.ramsar.org/sites/default/files/documents/library/sgf_portfolio_2008.pdf > Accessed 06 Oct 2016

⁵²⁶ Resolution 5.8: Future funding and operation of the Ramsar Wetland Conservation Fund, 5th Meeting of the Conference of the Contracting Parties(Ramsar.org

1993)<http://www.ciesin.columbia.edu/repository/entri/docs/cop/Ramsar_COP05_009.pdf > Accessed 04 Feb 2019

⁵²⁷ *ibid*

⁵²⁸ Austria, Canada, Denmark, France, Germany, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom, and the United States of America.

⁵²⁹ Soroptimist International of Kushiro and WWF

⁵³⁰ Resolution 5.8: Future funding and operation of the Ramsar Wetland Conservation Fund, 5th Meeting of the Conference of the Contracting Parties(Ramsar.org

1993)<http://www.ciesin.columbia.edu/repository/entri/docs/cop/Ramsar_COP05_009.pdf > Accessed 04 Feb 2019

The Small Grants Fund (SGF) for wetland conservation and wise use was established by the COP in 1990. As described, SGF provides financial assistance in the form of small grants (maximum Swiss francs 40,000 per project) for projects in developing countries and countries with economies in transition.⁵³¹ At present, funding is provided for activities related to the implementation of the Convention's Strategic Plan 2003-2008, including requests for emergency assistance. From 1990 through 2006, some 198 projects have been funded in about 87 countries, for a total amount of about 7.5 million Swiss francs. The Fund relies entirely upon voluntary contributions by member States.⁵³² In recent years, voluntary financial contributions have been made to the SGF by the governments of Austria, Belgium, Denmark, France, Germany, Iceland, Ireland, Japan, Monaco, the Netherlands, Spain, Sweden, the UK, and the USA.⁵³³

(ii) NGOs

The Convention works very closely with six global NGOs which were discussed in section 3 of the present chapter. They were confirmed in the formal status of International Organization Partners (IOPs) of the Convention.⁵³⁴ The IOPs provide invaluable support for the work of the Ramsar Convention, by providing expert technical advice, field level implementation assistance, and financial support, both from their headquarters units and from their national and regional offices and affiliates and from their expert networks.⁵³⁵

(iii) private sector

Ramsar - Danone Evian fund is an example of private sector involvement. Within the framework of this agreement the Danone Group established the Danone-Evian Fund for Water and the Danone Fund for Nature to support the Convention's work to raise awareness and promote the sustainable use and management of wetlands as a source of water.⁵³⁶

⁵³¹ Ramsar Convention Secretariat, 'Ramsar small grants project assistance programmes' (ramsar.org e.g. 2005) < <https://www.ramsar.org/sites/default/files/documents/library/info2007-08-e.pdf> > accessed 17 Jun 2017

⁵³² *ibid*

⁵³³ *ibid*

⁵³⁴ Ramsar Convention Secretariat, 'The International Organization Partners' (ramsar.org) < <https://www.ramsar.org/about/the-international-organization-partners> > accessed 24 Sep 2017

⁵³⁵ *ibid*

⁵³⁶ Ramsar Convention, 'The Danone Group' (ramsar.org) < <https://www.ramsar.org/about/the-danone-group> > accessed 24 Sep 2017

Finally, the International Institute for Sustainable Development (IISD) report on COP 13(2018) raised concerns regarding financial support.⁵³⁷ Jordan lamented a decrease in financial assistance, asking for more international cooperation.⁵³⁸ Armenia expressed concern about a decline in the number of projects supported by the Convention's small grants fund⁵³⁹ and in the final resolution of the COP13 the COP adopts a budget with a 0% increase. The COP noted with concern the situation with voluntary contributions, and encouraged parties and others to increase such contributions;⁵⁴⁰ the European Union (EU) called for securing external or public financial support and suggested publishing documents in all official languages in national websites, linking them with the Ramsar website to allow for additional flexibility.⁵⁴¹

4.8. Intergovernmental cooperation

As mentioned above, the Ramsar Convention is an international treaty in nature as wetlands can span over the territories of more than one Contracting Party or a water system could be shared by Contracting Parties.⁵⁴² In Article 5 of the Convention, the Contracting Parties are instructed to consult with each other about implementing obligations in the case of a wetland extending over the territories of more than one Contracting Party or where a water system is shared by Contracting Parties.⁵⁴³ They are also instructed at the same time to coordinate and support present and future policies and regulations concerning the conservation of wetlands and their flora and fauna.⁵⁴⁴ To have effective intergovernmental cooperation in case of the transboundary areas, such areas need to be defined first. IUCN has used the following definition for transboundary protected areas⁵⁴⁵:

⁵³⁷ International Institute for Sustainable Development (IISD), 'Summary of the Thirteenth Meeting of the Conference of the Parties to the Ramsar Convention on Wetlands' (iisd.org Nov 2018) <<http://enb.iisd.org/vol17/enb1748e.html>> accessed 11 Dec 2018

⁵³⁸ Earth Negotiations Bulletin (ENB), 'Summary of the Thirteenth Meeting of the Conference of the Parties to the Ramsar Convention on Wetlands' (iisd.org, Nov 2018) <<http://enb.iisd.org/download/pdf/enb1748e.pdf>> accessed 11 Dec 2018

⁵³⁹ *ibid*

⁵⁴⁰ *ibid*

⁵⁴¹ *ibid*

⁵⁴² André Nollkaemper, Ilias Plakokefalos, Jessica Schechinger and Jann K. Kleffner, 'The Practice of Shared Responsibility in International Law' (1st, Cambridge University Press, Cambridge Feb 2017) 997-999

⁵⁴³ Ramsar Convention, 'Resolution 4.4: Implementation of Article 5 of the Convention' (Ramsar.org July 1990) <https://www.ramsar.org/sites/default/files/documents/pdf/res/key_res_4.4e.pdf> Accessed 06 Mar 2017

⁵⁴⁴ *ibid*

⁵⁴⁵ Thymio Papayannis, 'Shared catchments and wetlands – increasing transboundary cooperation' (5th European Regional Meeting on the implementation and effectiveness of the Ramsar Convention, Yerevan, Dec 2004) <https://www.ramsar.org/sites/default/files/documents/library/mtg_reg_europe2004_docs1d1.pdf> accessed 15 Feb 2017

‘An area of land and/or sea that straddles one or more borders between states, sub national units such as provinces and regions, autonomous areas and/or areas beyond the limit of national sovereignty or jurisdiction, whose constituent parts are especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed cooperatively through legal or other effective means’.⁵⁴⁶

This definition could be adapted to transboundary wetlands by retaining its main elements, which are: ‘transcending administrative boundaries, and in particular national borders between sovereign states; dedication to the conservation of the natural and cultural heritage; cooperative and effective management.’⁵⁴⁷ Furthermore, the following additional aspect should be considered: ‘taking into account equitably the needs and wellbeing of people on both sides of the frontier.’⁵⁴⁸

The term Transboundary Ramsar Site (TRS) refers to a situation where an ecologically coherent wetland system extends across national borders and the CPs on both or all sides of the border have formally agreed to collaborate in its management, and they have notified the Secretariat of that intent.⁵⁴⁹ Effective management of TRS is merely in need of a cooperative management arrangement.⁵⁵⁰ No distinct legal status for TRS is involved and no additional obligation of any kind is imposed and the Ramsar Secretariat is not required to investigate, judge, or monitor individual entries on the TRS list.⁵⁵¹ The first TRS was designated in 2001 by notifications from Hungary and Slovakia joining the Baradla Cave System and Domica Ramsar Sites in a collaborative management relationship.⁵⁵² As at January 2010, a total of twelve TRSs have been notified; and interest among Parties continues to grow.⁵⁵³

⁵⁴⁶ These may include: peatbogs, water-logged forests and wet meadows, such as Polesie (Poland, Belarus and Ukraine), with the Bug and Prypiat river valleys, which includes many bogs, wet grasslands and forests (Ramsar Sites in part); transboundary underground water systems in karst areas, such as the Scocjan Caves (Slovenia) and the Reka River (Italy). Of great interest also is the cave system consisting of Aggletek Biosphere Reserve (Hungary) and the SlovenskyKras (Slovakia).

⁵⁴⁷ *ibid*

⁵⁴⁸ *ibid*

⁵⁴⁹ Ramsar Convention Secretariat, *Designating Ramsar Sites: Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (4th, Ramsar Publications, Gland, Switzerland 2010) 25-26

⁵⁵⁰ *ibid*

⁵⁵¹ *ibid*

⁵⁵² Ramsar Convention Secretariat, ‘The evolution of the Transboundary Ramsar Sites initiative’ (10th Meeting of the Conference of the Parties to the Convention on Wetlands Ramsar, Iran, 1971, Changwon, Nov 2008)<<https://www.ramsar.org/categories/transboundary-ramsar-sites>> accessed 19 May 2018

⁵⁵³ Ramsar Convention Secretariat, *Designating Ramsar Sites: Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (4th, Ramsar Publications, Gland, Switzerland 2010) 25-26

The objectives of the Transboundary Ramsar Sites initiative are two-fold.⁵⁵⁴ First, for the Parties involved, the participating authorities are making a formal statement of their commitment to supporting Article 5 of the Convention, which says that “the Contracting Parties shall consult with each other about implementing obligations arising from the Convention especially in the case of a wetland extending over the territories of more than one Contracting Party or where a water system is shared by Contracting Parties.” Second, for the Convention as a whole, the listing of Transboundary Ramsar Sites provides the opportunity to highlight wetland management arrangements that involve constructive collaborative relationships amongst Parties. Participating Parties may wish to forward to the Secretariat materials such as texts of their collaborative agreements, legal declarations, joint management plans, reports of their joint meetings, etc., for possible use on the Ramsar Web site as news items or as best-practice examples for the possible use of other Parties.⁵⁵⁵

However, it should be noted that not very many shared wetlands are listed in Ramsar Convention as ‘countries designate Ramsar sites with particular characteristics, quite a few of them are found across borders.’⁵⁵⁶ This could be because, according to IUCN, shared wetlands are special wetland sites⁵⁵⁷ and the type of cooperation on them may vary considerably on the basis of a number of parameters, which include political, administrative and substantial aspects. In addition, cooperation initiatives are usually dynamic and evolve with time. According to Papayannis, a few of them never acquire sufficient momentum and wither, but many mature and tend to become more legally binding, to develop the necessary cooperation mechanisms and to carry out gradually substantial joint work.⁵⁵⁸ Papayannis believes that, transboundary co-operation cannot develop without an appropriate rigid intergovernmental approval. In many cases though, it starts with catalytic initiatives either by the NGO sector or by local authorities.⁵⁵⁹ The trans-boundary initiatives may vary from a

⁵⁵⁴ *ibid*

⁵⁵⁵ *ibid*

⁵⁵⁶ Thymio Papayannis, ‘*Shared catchments and wetlands – increasing transboundary cooperation*’ (5th European Regional Meeting on the implementation and effectiveness of the Ramsar Convention, Yerevan, Dec 2004) <https://www.ramsar.org/sites/default/files/documents/library/mtg_reg_europe2004_docs1d1.pdf> accessed 15 Feb 2017

⁵⁵⁷ *ibid*

⁵⁵⁸ *ibid*

⁵⁵⁹ A good example is the trilateral Ramsar Platform established formally after former NGO cooperation in the Morava-Dyje floodplains of Austria, Czechia and Slovakia.

completely informal understanding at the level of civic society to inter-governmental treaties.⁵⁶⁰

International cooperation on wetland-related issues is a key component in wetland's wise use.⁵⁶¹ A shared water system or transboundary wetland cannot be rationally managed as a functional ecological unit without co-operation between neighbouring States. If a wetland's feed-waters come from a neighbouring country where their quality or quantity is adversely affected, the country on whose territory the wetland is located will be unable to prevent the destruction of its wetland unless its neighbour agrees to stop or alleviate the damage. Article 5 provides a clear legal basis for bilateral or multilateral cooperation to promote compatible approaches to management of shared water resources consistently with the wise use obligation. It also supports rationalised approaches to species conservation across political boundaries. Waterfowl and some other migratory species are biologically dependent on the maintenance of wetland habitats along their migration routes. As they migrate, they come successively under the sovereignty or jurisdiction of each State situated along these routes. If just one State fails to take adequate conservation measures or destroys an important migration staging post, the conservation and management efforts of the other States involved may be seriously undermined. It follows that migratory species cannot be rationally managed by one country in isolation.

Guidelines related to partnership with international/regional environment Conventions and agencies are provided under Resolution VII of the Ramsar Convention. According to section C on the international cooperation:⁵⁶²

‘At the national level, Contracting Parties should ensure that the implementation of environment conventions is harmonized wherever possible. This will allow each to take a more integrated approach to meeting its international and regional cooperation obligations.’⁵⁶³

Other water related treaties (e.g., CBD) dealt with intergovernmental cooperation which could have lessons for Ramsar Convention. Shine and de Klemm suggested that the CBD goes beyond Ramsar ‘by laying down, for the first time in a binding environmental instrument of

⁵⁶⁰ For example, Informal collaboration, usually promoted by the NGO sector; Co-operation agreed at the local or regional authority level; Inter-governmental agreement; Formal inter-governmental treaty

⁵⁶¹ Shine, Cyrille de Klemm, *Wetlands, Water and the Law: Using Law to Advance Wetland Conservation and Wise Use* (IUCN 1999) P 30

⁵⁶² Ramsar Convention Secretariat, 'Guidelines for international cooperation under the Ramsar Convention' (ramsar.org May 1999) < https://www.ramsar.org/sites/default/files/documents/library/key_res_vii.19e.pdf> accessed 26 Feb 2017

⁵⁶³ *ibid*

global application, the customary law rule that national sovereignty over natural resources is qualified by the obligation not to cause transboundary environmental harm'.⁵⁶⁴

Article 3 of the CBD stated that:

'States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction'.⁵⁶⁵

This principle is of fundamental importance to wetlands and water systems because more than 200 major river basins and many groundwater aquifers cross national boundaries: 'damaging activities upstream frequently degrade the inland or coastal waters of downstream states.'⁵⁶⁶ The intergovernmental cooperation principle is more emphasised in CBD by Article 4, which specifies that the CBD's provisions apply not only to components of biological diversity within the limits of each Party's jurisdiction but also to processes and activities under a Party's jurisdiction or control, wherever the effects of such processes and activities occur.⁵⁶⁷

The principle of common but differentiated responsibilities (CBDR) illustrates how States have common and at the same time differentiated responsibilities.⁵⁶⁸ It describes that in the development, application and interpretation of international environmental laws, the specific needs of the developing countries should be taken into consideration. For example, in the Principle 7 of the Rio Declaration, it is stated that:

'States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities.'⁵⁶⁹

⁵⁶⁴ Shine, Cyrille de Klemm, *Wetlands, Water and the Law: Using Law to Advance Wetland Conservation and Wise Use* (IUCN 1999) P 38

⁵⁶⁵ Robert Charles Elliot, *Institutional Issues Involving Ethics And Justice - Volume III* (1st, Eolss Publishing, Oxford Oct 2009) 333

⁵⁶⁶ Shine, Cyrille de Klemm, *Wetlands, Water and the Law: Using Law to Advance Wetland Conservation and Wise Use* (IUCN 1999) P 38

⁵⁶⁷ Doris König, Peter-Tobias Stoll, Volker Röben and Nele Matz-Lück, *International Law Today: New Challenges and the Need for Reform?* (1st, Springer Science, New York Oct 2007) 153-155

⁵⁶⁸ S.P. Subedi, *International economic law- Section A: Evolution and principles of international economic law* (Published by the University of London Press 2007) 233-236

⁵⁶⁹ Fisher E, Lange B and Escotford E, 'Environmental Law: Text, Cases & Materials' (Oxford University Press 2013) 403

The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.⁵⁷⁰ The 1992 Climate Change Convention is another international treaty in which the common but differentiated responsibilities of states are emphasised. It demonstrates that,

‘The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities.’⁵⁷¹

The CBDR principle considers two important elements.⁵⁷² The first one concerns the common responsibility of States for preserving and protecting the environment at their national levels and the second one concerns the differing circumstances in relation to each State’s contribution to particular environmental problem and its ability to prevent, reduce and control the threat. The principle of common but differentiated responsibility has two noticeable consequences. The first one is that it entitles all States to participate in an integrated response in addressing the environmental problems. The second one is that it leads to environmental standards that impose differing obligations on States.⁵⁷³ The two concepts of common and differentiated responsibility will be explained here.

- Common responsibility

Environmental issues have global dimensions. Hence, it necessitates the cooperation of different states all around the world to work together to take effective action for prevention of adverse climatic effects caused by industrial and developmental activities. Along the same lines, principles 22 and 24 of the Stockholm Declaration and principle 27 of the Rio Declaration ensures commitment to such cooperation.⁵⁷⁴ In this regard, internationally important wetlands should not only be protected by the States in which those wetlands are

⁵⁷⁰ S.P. Subedi, *International economic law- Section A: Evolution and principles of international economic law* (Published by the University of London Press 2007) 233-236

Please also see:

United Nations, Rio Declaration on Environment and Development 1992 (unesco.org 1992)

<<http://www.jus.uio.no/lm/environmental.development.rio.declaration.1992/portrait.a4.pdf>> Accessed 31 Jan 2018

⁵⁷¹ United Nations, ‘United Nations Framework Convention on Climate Change’ (UN Publications, Rio de Janeiro 1992) <<https://unfccc.int/resource/docs/convkp/conveng.pdf>> Accessed 1 Feb 2018

⁵⁷² SalimiTorkamani H, ' Investigation of the environmental problem of Lake Urmia from the perspective of international environmental law' [2011] (Raahbord quarterly journal 177, 202

⁵⁷³ *ibid*

⁵⁷⁴ *ibid*

located, but also such protection should be ensured and guaranteed by other countries.⁵⁷⁵ One of the main steps in this regard is the financial and technical assistance of developed countries to developing countries facing environmental problems. The fact is that, developing countries should receive the financial assistance from the developed countries for the purpose of implementation of developmental projects in order to: A) avoid damaging the environment and B) take some concepts such as intergenerational equity to practice.⁵⁷⁶ Principles 12 and 20 of the Stockholm Declaration consider providing international technical assistance for developing countries with the aim of promoting sustainable development.⁵⁷⁷ Moreover, Under Article 5 of the Ramsar Convention, all Contracting parties need to consult and cooperate in order to fulfil the obligations of the Convention. Consequently, in accordance with the provisions of this article and the general principles of the international environmental law as some of which have been mentioned, contracting parties of the Ramsar Convention are requested to cooperate with Iran in order to solve the environmental crisis of the Urmia wetland.⁵⁷⁸

- Differentiated responsibility

The differentiated responsibility takes into account components such as specific conditions and requirements and future economical development of developing countries in environmental problems. Along with their abilities and experiences, developed countries should present suggestions and plans for solving environmental problems of developing countries.⁵⁷⁹

4.9. NGO participation

Articles 7 and 8 of the Convention mainly deal with the provisions of the NGO participation. In Article 8, it is also explained that the IUCN is in charge of the continuing bureau duties until such time as another organization or government is appointed by a majority of two-thirds of all Contracting Parties were included.⁵⁸⁰ These duties consist of: to assist in the convening

⁵⁷⁵ Alexandre S. Timoshenko, 'Protection of Wetlands by International Law' [1988] PELR 463, 470

⁵⁷⁶ S.P. Subedi, *International economic law- Section A: Evolution and principles of international economic law* (Published by the University of London Press 2007) 21-34

⁵⁷⁷ SalimiTorkamani H, ' Investigation of the environmental problem of Lake Urmia from the perspective of international environmental law' [2011] (Raahbord quarterly journal 177, 202

⁵⁷⁸ *ibid*

⁵⁷⁹ *ibid*

⁵⁸⁰ Article 8 of Ramsar Convention

Ramsar Convention Secretariat, ' Convention on Wetlands of International Importance especially as Waterfowl Habitat' (ramsar.org Jul 1994) <

and organizing of conferences; to maintain the List of Wetlands of International Importance and to be informed by the Contracting Parties of any additions, extensions, deletions or restrictions concerning wetlands included in the List; to be informed by the Contracting Parties of any changes in the ecological character of wetlands included in the List; to forward notification of any alterations to the List, or changes in character of wetlands included therein, to all Contracting Parties and to arrange for these matters to be discussed at the next Conference.⁵⁸¹

As previously stated, Ramsar Convention is an international intergovernmental treaty. Hence, it is expected that the governments themselves take control of wise use of wetlands within their borders. However, NGOs are assisting the implementation of Ramsar convention in different ways, such as:

- i. NGOs support and collaborate with Ramsar secretariat to implement the Ramsar Convention.

As discussed earlier, the six global NGOs, which were confirmed in the formal status of IOPs of the Convention, provide invaluable support for the work of the Ramsar Convention, by providing expert technical advice and financial support.⁵⁸² For example, IUCN and the IWRB have been helping the implementation of the Convention.⁵⁸³ Both IUCN and the IWRB benefited from financial support provided by WWF, with its international headquarters in Gland and national organizations in many countries. They are serving the Ramsar Convention by assist the Ramsar Bureau in developing the Ramsar Convention; yet the Bureau is independent of the IUCN and is solely responsible to the convention's parties.⁵⁸⁴

- ii. NGOs work with Ramsar and other secretariats such as CBD, CMS, UNCCD and with UNEP.

Besides Ramsar, NGOs work with other secretariats. For example:

https://www.ramsar.org/sites/default/files/documents/library/current_convention_text_e.pdf> accessed 1 Jul 2016

⁵⁸¹ ibid

⁵⁸² Section 4.7 chapter 3

⁵⁸³ IUCN, 'Cooperation between IUCN and the Ramsar Convention' (iucn.org Jan 1994) <https://portals.iucn.org/library/sites/library/files/resrecfiles/GA_19_REC_011_Cooperation_between_IUCN_and_the_Ram.pdf> accessed 27 Aug 2016

⁵⁸⁴ Patrick J. Dugan, 'Wetland Conservation: A Review of Current Issues and Required Action' (IUCN 1990) P 80

-NGOs shape policy development by being active participants in the CBD regime.⁵⁸⁵ NGOs have worked tirelessly to translate the ideas and innovations of the CBD into practical projects at the local, national and international levels.⁵⁸⁶

-Wildlife NGOs have been part of the fabric and culture of CMS since the agreement was originally negotiated.⁵⁸⁷ Wildlife NGOs have demonstrated a considerable commitment to the CMS Family, and to the continuation of its work.⁵⁸⁸

-Collaborating with UNCCD secretariat, NGOs and Civil Society Organizations (CSOs) are actively involved in the implementation of the UNCCD at all levels.⁵⁸⁹ Representatives from NGOs and CSOs that are accredited to the COP may directly participate in the UNCCD secretariat's sessions. At these sessions CSOs are consulted on United Nations policy and programme matters.⁵⁹⁰

-NGOs can get directly involved with UNEP by applying for Accreditation to the United Nations Environment Assembly (UNEA) of UNEP, which grants them observer status to UNEA.⁵⁹¹ UNEP strives to ensure an effective, inclusive and balanced participation of NGOs as it is believed that NGOs play a central role in providing expertise and scientific knowledge and informing governments of local needs and opinions.⁵⁹²

-Besides UNEP, Convention on Biological Diversity (CBD) secretariat; Conservation of Migratory Species (CMS) secretariat; United Nations Convention to Combat Desertification (UNCCD) secretariat,⁵⁹³ United Nations Framework Convention on Climate Change (UNFCCC) secretariat are other examples of intergovernmental organisations which have joint work plan with the Ramsar secretariat.

iii. NGOs work on specific wetlands projects

⁵⁸⁵ Convention on Biological Diversity, 'Getting Involved' (cbd.int) <
<https://www.cbd.int/ngo/gettinginvolved.shtml>> accessed 23 Dec 2016

⁵⁸⁶ *ibid*

⁵⁸⁷ Margi Prideaux, 'Wildlife NGOs and the CMS Family: Untapped Potential for Collaborative Governance' [Dec 2014] J. Int'l Wildlife L. & Pol'y 254, 274

⁵⁸⁸ *ibid*

⁵⁸⁹ United Nations Convention to Combat Desertification, 'Civil society organizations' (unccd.int) <
<https://www.unccd.int/convention/civil-society-organizations>> accessed 2 Jan 2017

⁵⁹⁰ *ibid*

⁵⁹¹ UN environment programme, 'List of accredited organizations' (unenvironment.org October 2019) <
<https://www.unenvironment.org/civil-society-engagement/accreditation/list-accredited-organizations>> accessed 03 Nov 2019

⁵⁹² UN environment programme, 'Accreditation with UN Environment Programme' (unenvironment.org October 2019) <
<https://www.unenvironment.org/civil-society-engagement/accreditation>> accessed 03 Nov 2019

⁵⁹³ Ramsar Convention, 'The fourteenth session of the Conference of the Parties to the UN Convention to Combat Desertification (UNCCD COP 14)' (ramsar.org Oct 2019) <
<https://www.ramsar.org/news/ramsar-convention-at-the-unccd-cop-14>> accessed 19 Nov 2019

For example, the Wildfowl and Wetlands Trust (WWT) is an international wildfowl and wetland conservation charity in the United Kingdom.⁵⁹⁴ WWT try to conserve, restore and create wetlands, save wetland wildlife, and inspire everyone to value the amazing things healthy wetlands achieve for people and nature.⁵⁹⁵ WWT works across the UK and the world to conserve wetlands for wildlife and people. As pressure increases on the world's natural resources, WWT is taking action to save wetlands for wildlife and people. Their conservation projects strengthen the link between wetlands, wildlife and people, in the UK and beyond.⁵⁹⁶ Restoring lost farmland ponds, Slough's urban wetlands, Saving Cambodia's wetlands are some of their projects.⁵⁹⁷

iv. NGOs assist the secretariat to monitor at the national level and submit information.

As delegates from Asian governments, NGOs and scientific communities gather at regional wetlands talks in Siem Reap in 2014; environmental NGOs in Cambodia warn that fast infrastructure development could reverse years of wetlands management and conservation success while threatening the progress of sustainable development and poverty reduction in Cambodia, and in the region.⁵⁹⁸

It arose from the need for NGOs to maintain contact with each other at and between Ramsar meetings, but also helps with information exchange, sharing of best practice and lobbying on specific wetland issues.⁵⁹⁹ Previous Ramsar meetings also saw wetland NGOs working on this, and WWN is a direct result of their efforts. WWN enables smaller NGOs to arrive at Ramsar meetings well prepared and enables them to participate more effectively. The network supports members in their broader wetland conservation activities, making a positive contribution to delivery of the Ramsar Convention.⁶⁰⁰

⁵⁹⁴ Ian Wellby, Ash Girdler and Robin Welcomme, *Fisheries Management: A Manual for Still-Water Coarse Fisheries* (1st, John Wiley & Sons, Oxford 2010) 377-379

⁵⁹⁵ Wildfowl and Wetlands Trust, 'WWT STRATEGY 2017 – 2022' (www.wwt.org) < <https://www.wwt.org.uk/uploads/documents/2019-01-22/1548165011-wwt-strategy-2017-2022.pdf> > accessed 2 Apr 2017

⁵⁹⁶ WWT, 'Our projects' (www.wwt.org.uk) < <https://www.wwt.org.uk/our-work/projects> > accessed 8 Jan 2017

⁵⁹⁷ *ibid*

⁵⁹⁸ World Wide Fund for Nature, 'Mekong Region's Wetlands at Risk from Mega Infrastructure Projects, Environmental Groups Warn Delegates to Ramsar Meeting' (www.wwf.org Oct 2014) < <http://www.wwf.org.kh/?232130/environmental-groups-warn-delegates-to-ramsar-meeting> > accessed 16 Feb 2017

⁵⁹⁹ Margi Prideaux, Chris Rostron and Louise Duff, 'Ramsar and Wetland NGOs: A Report of the World Wetland Network for Ramsar CoP12' (worldwetnet.org 2015) < http://www.worldwetnet.org/docs/RamsarNGOs_Final.pdf > accessed 22 Sep 2019

⁶⁰⁰ Margi Prideaux, Chris Rostron and Louise Duff, 'Ramsar and Wetland NGOs: A Report of the World Wetland Network for Ramsar CoP12' (worldwetnet.org 2015) < http://www.worldwetnet.org/docs/RamsarNGOs_Final.pdf > accessed 22 Sep 2019

However, more broadly, NGOs are invited to attend Ramsar COP meetings, and are usually present in small numbers, often from the host country/region.⁶⁰¹ They are not given a formal role but are invited to participate by working through the IOPs or Ramsar Parties. This allows some limited recognition of their role.⁶⁰² As a matter of fact, formal engagement of NGOs in Ramsar policy development remains more limited than with other conventions; for example, Ramsar Convention has not moved as far as the UNEP, CBD and CMS in articulating broader participation of NGOs in the policy work of the convention and its Parties.⁶⁰³ The intent of the UNEP, CBD and CMS decisions is greater than merely ensuring information is available. The decisions in these bodies are calling for active and tangible participation in the policy work of the conventions.⁶⁰⁴ International NGOs have the chance to participate in the Ramsar conferences. However, as mentioned in Article 7 paragraph 2, they have no voting right. In fact, every decision in the Ramsar Conferences is made by the consensus of the contracting parties.⁶⁰⁵

5. Conclusion

Ramsar Convention aims at preserving the wetlands and halt wetlands loss worldwide. Lake Urmia as an internationally important wetland is drying out. It is the aim of this study to evaluate the implementation of Ramsar Convention in Iran. However, it is first important to explore the purposes, provisions, and legal status of the Ramsar Convention. Chapter three aims at responding the first question of this research study:

What are the purposes, provisions, and legal status of the 1971 Ramsar Convention?

Ramsar Convention has two-fold objectives: the conservation and sustainable utilization of wetlands; and to stop the encroachment and loss of wetlands. When a country joins the Ramsar Convention, it gets itself listed into the international effort for the conservation and wise use of wetlands. Once a country has joined, the major provisions of the convention need to be fulfilled as obligations. The provisions of the convention were investigated under nine key provisions each of which has been debated in some ways:

⁶⁰¹ *ibid*

⁶⁰² *ibid*

⁶⁰³ *ibid*

⁶⁰⁴ *ibid*

⁶⁰⁵ Margi Prideaux, Chris Rostron and Louise Duff, 'Ramsar and Wetland NGOs: A Report of the World Wetland Network for Ramsar CoP12' P 11 (worldwetnet.org 2015) <http://www.worldwetnet.org/docs/RamsarNGOs_Final.pdf> accessed 22 Sep 2019,

- i. First, the **definition of wetlands** in Ramsar Convention is too broad and vague and this affects wetlands management in member states. It is therefore essential to establish a precise definition of the wetlands to which a given law applies, so that all parties concerned are well informed of their rights and obligations and disputes over the scope of these obligations are minimised as much as possible. It should again be emphasised that all permit systems depend on the existence of a clear definition of wetlands. Owners or occupiers need to know whether the law applies to their wetlands and when to apply for permits if they intend to undertake activities that will alter or destroy those wetlands. This certainty can be achieved by incorporating precise definitions and delineation criteria into legislation, making accurate maps, a notification system or any combination of these methods.
- ii. Second, the key feature in the criticisms over the **listing approach** of the Convention is the narrow definition of the internationally important wetlands. It is suggested that the principle is vague and hence has led to some confusions for CPs with regards to designating wetlands for the Ramsar List. Consequently, some wetlands though claimed to be covered under the Convention's definition of the wetlands, they are less presented in the Ramsar List. Wetlands vulnerable to climate change or dam constructions are examples of less presented wetlands in the Convention. Moreover, the Convention does not bound the CPs to designate all sites meeting the current criteria hence some wetlands are left out and are not covered by the Convention.
- iii. Third, the relationship between national **sovereignty** and wetlands protection is debatable. The principle of permanent sovereignty over natural resources, and the freedom endowed to the States to exploit such resources located on their territory as they see fit, may seem irreconcilable with a general duty of nature preservation which restricts the State's right to exploit national resources. The precise legal implications of the concept of common concern of humankind remain in need of clarification, in particular as regards its relationship with state responsibility.
- iv. Fourth, **wise use** is a very vague provision in Ramsar Convention. The concept of wise use is not defined anywhere in the Convention and consequently the promotion of wise use as it is required in Article 3 of the Convention still remains vague. What is interpreted in literature is that wise use has the *conservation and sustainable use of wetlands* for the *benefit of present and future generations* at its heart. However, none of these concepts have been clearly defined. Moreover, the Convention's approach is

segmented in its approach to the landscapes so it is limited. The Convention focuses narrowly on land and water use within wetlands rather than the broader catchment of which they are an intimate part.

- v. Fifth, the concepts of **ecological character** and changes in the ecological character and subsequently the commitment of the contracting parties to report changes in the ecological character have been criticised in the literature. There is no accurate definition for these terms and CPs are left uncertain *when* to report *what changes* to Ramsar Secretariat.
- vi. Sixth, the provision of **information exchange** in Ramsar Convention does not provide an efficient mechanism of legal measures that would ensure its implementation. Although NGOs, international and local communities are effective tools for improving delivery of Ramsar wetland conservation goals, a CP can fail to exchange information without any form of sanctioning.
- vii. Seventh, although member states, NGOs and private sector contribute to implementation of the Ramsar Convention financially, in the context of the convention, there is no provision for **financing** the implementation of the Convention. this has raised concerns regarding financial support.
- viii. Eighth, the provision of **intergovernmental cooperation** is a further commitment of CPs to Ramsar Convention. the criticism over this provision is that although a shared water system or transboundary wetland cannot be rationally managed as a functional ecological unit without co-operation between neighbouring States, there is no distinct legal status for TRS and no additional obligation of any kind is imposed and the Ramsar Secretariat is not required to investigate, judge, or monitor individual entries on the TRS list. In this regard, the contribution of the principle of CBDR is highlighted.
- ix. Ninth, **NGOs** effectively participate in implementation of Ramsar Convention making a positive contribution to delivery of the Convention. However, NGOs face challenges. For example, they are invited to attend Ramsar COP meetings, but they are not given a formal role and this allows some limited recognition of their role. The formal engagement of NGOs in Ramsar policy development remains more limited than with other conventions; for example, Ramsar Convention has not moved as far as the UNEP, CBD and CMS in articulating broader participation of NGOs in the policy work of the convention and its Parties.

The general criticism over the content of the Convention, according to Ferrajolo, is that the state obligations under the Ramsar Convention are very general in nature.⁶⁰⁶ Moreover, the substantive norms from which these obligations derive are drafted in somewhat vague terms, which have given rise to problems of interpretation.⁶⁰⁷ According to Bowman, the sequence of deliberations which the convention had as their primary purpose was the protection of migratory wildfowl and that, however desirable this objective, it undoubtedly gave the Convention an emphasis which may not have been wholly to its advantage.⁶⁰⁸

However, the final words of this section is that as Bowman believes, 'in common with most international treaties, the prospects for the achievement of Ramsar's aims lie in achieving a successful blend and balance between action at the national and international levels.'⁶⁰⁹ Hence, having come up with the major provisions of the Ramsar Convention and the commitment it brought for the contracting parties, the next chapter will look deeply into how the Convention is being applied in Iran and how successful it has been in preserving the Lake Urmia, in particular. Chapter three built a robust framework for evaluating the implementation of the Ramsar Convention in Iran and with regards to the Lake Urmia, specifically. Using this framework, Chapter 4 will investigate the implementation of the Convention in Iran.

⁶⁰⁶ Ornella Ferrajolo, 'State Obligations and Non-Compliance in the Ramsar System' [2011] *Journal of International Wildlife Law & Policy* 243, 243

⁶⁰⁷ Ibid

⁶⁰⁸ M. J. Bowman, 'The Ramsar Convention Comes of Age' [1995] *Netherlands International Law Review*, Page 1-52

⁶⁰⁹ Michael Bowman, 'The Ramsar Convention on Wetlands: Has it Made a Difference?' in Olav Schram Stokke, Oystein B. Thommessen (eds), *Yearbook of International Cooperation on Environment and Development 2002/03* (1st, Earthscan, London, UK 2013).

Chapter Four

Legal framework for wetlands management and the challenges of the implementation of the legal provisions in Iran

1. Introduction

The objectives and commitments of the Ramsar Convention have been analysed in Chapter 3. Chapter 4 will analyse the legal framework for wetlands management in the context of Iran and the challenges for the implementation of the legal provisions. Chapter 3 mapped a framework containing the provisions of the Ramsar Convention. Chapter 4 will follow the same framework to analyse the implementation of the Convention in the context of Iran. Hence, chapter 4 will conceptually investigate how the Ramsar Convention works and how it is applied in practice in Iran. Also, the nationally ratified laws (national laws) of Iran independent of the Ramsar Convention will be evaluated to see how effective they are with regards to preserving wetlands particularly in relation to Lake Urmia in Iran. The strengths and weaknesses of national laws will be assessed in chapter 4 as they directly and/ or indirectly affect wetlands. In sum, the aim of the chapter is to answer the second research question of the study: ‘How effective are the international and national legal frameworks implemented in Iran for the purposes of preserving Lake Urmia?’

1.1. Different types of laws in the Legal system of Iran

Before evaluating the legal implementation of Ramsar Convention in Iran, different types of laws in the Iranian legal system will be introduced. The aim is to familiarise the different kinds of laws that exist in Iran and their hierarchy of power. In the Iranian legal system, there are three categories of rules and regulations which in hierarchal order are: ⁶¹⁰

- i. Constitution: ‘The constitution of the Islamic Republic of Iran is a declaration of the social, cultural, political, and economic foundations of the Iranian society based on Islamic principles and norms that reflect the heartfelt desire of the Islamic community.’ ⁶¹¹ The Constitution reflects the general aims set for the society.

⁶¹⁰ Nasser Katouzian, *Introduction to Science of law and Study in the Iranian Legal System* (1st, GanjeDanesh, Tehran 2019) 24-26

⁶¹¹ Jahangir Mansour, *Constitution of the Islamic Republic of Iran* (12st, Didar Publications, Tehran 2019) 3-127

According to the Constitution, the Islamic Republic of Iran is a republic with separation of powers among the executive, legislative, and judicial branches.⁶¹²

According to Article 57 of Constitutional Law of Iran, the governing powers in the Islamic Republic of Iran consist of the legislative, the executive, and the judiciary branches. They operate under the supervision of the supreme leader in Iran (Ayat Allah Khamenei) and these branches are independent of one another.⁶¹³

The legislative branch: according to Article 58 of the Constitutional Law of Iran, the legislative power operates through the Islamic Consultative Assembly that consists of the elected representatives of the people. Its legislatures, after going through legal stages are communicated for enforcement to the executive and judiciary powers. Furthermore, based on Article 59 of the Constitution, in considering vital economic, political, social, and cultural issues, it is possible that the legislative power be exercised through referendum or reference to direct public vote. The request to appeal to public votes must be approved by two-thirds of the entire representatives of the Assembly.

The executive branch: according to Article 60 of the Constitution, the executive branch is exercised by the President of the Republic and the ministers, except in affairs that are directly delegated to the leadership by this law.⁶¹⁴

Judicial branch: according to Article 61, the judiciary power is exercised by the courts of justice that must be formed according to Islamic criteria. The courts must attend to the evaluation and settlement of complaints, the preservation of public rights, and the expansion and administration of justice.⁶¹⁵

- ii. General rules: any regulation which is ratified by the Iranian Legislation System (Islamic Republic Parliament) including Civil law, Criminal Procedure Act, Criminal law and Trade law, Law of the Protection and Improvement of the Environment, etc.⁶¹⁶
- iii. Bylaws: regulations which are approved by the executive branch of the country (including ministries)

⁶¹² Firoozeh Papan-Matin, 'The Constitution of the Islamic Republic of Iran (1989 ed)' [Sep 2013] Iranian Studies Journal 159, 200

⁶¹³ *ibid*

⁶¹⁴ World Intellectual Property Organization, 'Constitution of the Islamic Republic of Iran' (wipo.int 2014) <<https://www.wipo.int/edocs/lexdocs/laws/en/ir/ir001en.pdf>> accessed 10 Mar 2017

⁶¹⁵ *ibid*

⁶¹⁶ Nasser Katouzian, *Introduction to Science of law and Study in the Iranian Legal System* (1st, GanjeDanesh, Tehran 2019) 24-26

2. Ramsar Convention in Iran

International treaties will not come into practice in Iran unless ratified by the Iranian Parliament. Once they are ratified, they will turn into general rules and are approved and passed by the parliament to secure the implementation of the treaty at national level.⁶¹⁷ Ramsar Convention (officially known as the Convention of International Wetlands and Aquatic Birds' Habitat Wetlands in Iran)⁶¹⁸ was approved by the Iranian Parliament and became a general law on 19 March 1974.⁶¹⁹ The Iranian Parliament ratified the executive bylaw⁶²⁰ on the Convention (known as bylaw on the protection, restoration and management methods of the country's wetlands) on 04 June 1985 to enforce the Convention.⁶²¹ Then the content of the Ramsar Convention was translated into Farsi and came into force.⁶²² Hence, there was a gap of 11 years from 1974 to 1985 when the convention officially came into effect. As previously stated, this section will be dealing with strengths and weaknesses in the implementation of Ramsar Convention in Iran following the concepts and provisions examined in chapter 3. The implementation of the Ramsar Convention in the context of Iran is investigated in this chapter.

1. Definition of the wetlands (Articles 1 and 2)
2. Listing approach (Article 2)
3. Exclusive sovereign right (Article 2)
4. Wise use (Article 3)
5. Ecological character of wetlands (Article 3)
6. Information exchange (Article 4)

⁶¹⁷ According to article 9 of the Iranian Civil Code; all international treaties between the Government of Iran and other governments which have been agreed in accordance with the Islamic Republic Constitution must be considered alike as general laws.

Jahangir Mansour, *Civil Law* (1st, Didar Publications, Tehran 2012) 47-247

Please also see; Islamic Parliament Research Centre of the Islamic Republic of Iran, ' Civil Law ' (majlis.ir May 1928)<<https://rc.majlis.ir/fa/law/show/97937>> accessed 7 May 2017

⁶¹⁸ Islamic Parliament Research Centre of the Islamic Republic of Iran, Law of Convention on International Wetlands and Waterfowl Habitat<<http://rc.majlis.ir/fa/law/show/97049>> Accessed 1 May 2017

⁶¹⁹ *ibid*

⁶²⁰ Government of Islamic Republic of Iran, ' Bylaw on protection, restoration and management methods of the country's wetlands' (dolat.ir Jul 2015) < <http://dolat.ir/detail/265032>> accessed 11 Jul 2017

⁶²¹ Islamic Parliament Research Centre of the Islamic Republic of Iran, ' Law of accession to the Protocol to amend the Convention on wetlands of international Importance' (majlis.ir Jun 1985) < <http://rc.majlis.ir/fa/law/show/91080>> accessed 30 Apr 2017

⁶²² FarhadDabiri , BorhanRiyazi and Faranak Taheri Yazdi, 'The State of Implementation Ramsar Convention in Iran' [2014] Journal of Sustainability, Development and Environment 39, 49

7. Financial resources (Article 6)

8. NGO participation (Articles 7 and 8)

2.1. Definition of the wetland

As chapter 3 discussed, the definition of wetland is stated in Article 1 of the Convention. it was discussed that the definition of wetlands has been criticized in literature as being too wide and general.⁶²³ In fact, two arguments can be discussed with regards to the implementation of the Convention about definition of wetlands in Iran.

--The first argument is about the priority and role of bodies in taking control over and exploiting the wetlands in Iran. The *environmental protection* and *economic development* conflictions and that the latter has been given the priority is described here. In the Convention, the wetlands are split into three broad categories of marine and coastal wetlands, inland wetlands, and man- made wetlands.⁶²⁴ Under the Ramsar Convention, man-made wetlands are included in the definition of wetlands and are protected by the Convention.⁶²⁵ In Iran, according to the Articles 1, 6, 9 and 16 of the Law of the Protection and Improvement of the Environment⁶²⁶, the Environmental Protection Agency (EPA) is in charge of protecting and restoring the country's wetlands.⁶²⁷ As a matter of fact, EPA is assigned to be in charge of implementation of the Ramsar Convention in Iran and is assigned to take the control over national wetlands. However, in practice the Ministry of Energy is in charge of the management and exploitation of waters behind dams (man-made wetlands) and the EPA is not in charge of them.⁶²⁸ In the case of Lake Urmia, in terms of legislation, the Ministry of Energy is actually in charge of the exploitation of waters behind 67 dams in the Lake Urmia

⁶²³ Chapter 3 section 4.2

⁶²⁴ *ibid*

⁶²⁵ Michael Bowman, ' The Ramsar Convention on Wetlands: Has it Made a Difference?' in Olav Schram Stokke and Oystein B. Thommessen (eds), *Yearbook of International Cooperation on Environment and Development 2002-03* (1st, earthscan publishing, London, UK Nov 2013).

⁶²⁶ As described in section 2 of the present chapter. This law falls under the second category of the rules and regulations in the Iranian legal system
Nasser Katouzian, *Introduction to Science of law and Study in the Iranian Legal System* (1st, GanjeDanesh, Tehran 2019) 24-26

Please also see article 9 of the Iranian Civil Code; Islamic Parliament Research Centre of the Islamic Republic of Iran, ' Civil Law ' (majlis.ir May 1928)< <https://rc.majlis.ir/fa/law/show/97937>> accessed 7 May 2017

⁶²⁷ FarhadDabiri , BorhanRiyazi and Faranak Taheri Yazdi, 'The State of Implementation Ramsar Convention in Iran' [2014] *Journal of Sustainability, Development and Environment* 39, 49

⁶²⁸ Environmental Protection Agency, *According to Ramsar Convention all waters behind dams and river basins are wetlands* (doe.ir Aug 2015) < <https://www.doe.ir/portal/home/?news/486115/487258/480074/>> Accessed 14 Oct 2017

Basin.⁶²⁹ Bookan, Simineh, Hasanloo, Baarandooz, Nazloo, rozeh Chai and Zoolachai are some of dams over the rivers feeding the Lake Urmia over which the Ministry of Energy has the authority.⁶³⁰ The devastating influence of constructing dams over rivers in changing the ecosystem of lake was explained in chapter 2.⁶³¹

So, the first argument is the priority and role of Ministry. The key problem is environmental protection (wetlands management) versus economic development (energy security; and presumably agriculture) and that priority is being given to energy production. Indeed, comparing the major focus of EPA and the Ministry of Energy, it is obvious that the main responsibility entrusted to EPA in Iran is protecting the environment and controlling and pursuing any activity which destructs the environment including wetlands.⁶³² However, the Ministry of Energy was primarily established in 1936 to provide electricity.⁶³³ Later after the Iranian revolution in 1979, following some parliamentary changes in the duties of the ministry, the duty of water management, and fair distribution of water resources were made part of the Ministry of Energy.⁶³⁴ The main purpose of this ministry is to supply and distribute the desired quality water supply, which is one of the most vital needs of the community.⁶³⁵ Hence, the argument here is that the major focuses of the two bodies are different. The main responsibility of the Ministry of Energy is to provide energy for the country. Constructing dams over rivers is the major way of providing energy by the Ministry of Energy. This is in contrast with the sustainable use of wetlands as dams blocks the natural flow of water and result in destroying the wetland. According to a MP in the Iranian Parliament, 22 provinces suffer from dam constructions in Iran.⁶³⁶ In the current situation of Iran, having different bodies in charge of wetlands, EPA faces some issues with regards to the interaction between ministries in preserving wetlands and implementing the Convention. The major challenges that EPA faces for implementation of the Ramsar Convention in Iran will be discussed in chapter 5.⁶³⁷

⁶²⁹Yasi M, 'Management of Rivers and Dams in Supplying and Delivering Water to Lake Urmia' [2017] Strategic Research Journal of Agricultural Sciences and Natural Resources 59, 74

⁶³⁰ *ibid*

⁶³¹ Chapter 2, section 4

⁶³²Mir M.Hosseini, 'Foundation of The Ministry of Energy' (Fouman.com, 26 January 2014) <http://www.fouman.com/Y/Get_Iranian_History_Today.php?artid=1334#1334> Accessed 04 Jan 2019

⁶³³ *ibid*

⁶³⁴ *ibid*

⁶³⁵ Ministry of Energy, 'Major Objectives' (moe.gov <<http://www.moe.gov.ir/اهداف-کلان>> 04 Nov 2018

⁶³⁶Khabbaz S, 'Ministry of Energy dominance over the country's water resources must be withdrawn' (Fars news.com, 03 Jul 2018)< <https://www.farsnews.com/news/13970409000332/>>Accesse 01 Feb 2019

⁶³⁷Chapter 5 Section 3

The second argument is about allocation of water among users such as agriculture users, domestic user, industrial users and the water right for the Lake itself. An Iranian MP insisted that, ‘We need to draw the control of water from the Ministry of Energy.’⁶³⁸ He argued that an organisation with the primary duty of preserving water not utilising water should decide on how to use and *share the rights of the water* in the country.⁶³⁹ Also, within the framework of the Convention, Resolution VIII.1 on water management laws and regulations to maintain the ecological function of wetlands and their environmental Water Share right has been signed at the 8th Conference of the Contracting Parties in Spain.⁶⁴⁰ This resolution is the only resolution in the framework of the Ramsar Convention which is explicitly and directly deals with the Water Share Right of the aquatic ecosystems and called on all members to implement this set of rules in their country's policies and programmes. In fact, the allocation of water in the implementation of the Convention has been neglected in the country. According to the report by Integrated Management Plan for Lake Urmia Basin, agricultural, industrial and residential developments increasingly compete with water allocation to the wetlands and the Lake.⁶⁴¹ Urmia Lake Restoration Programme which was also set to preserve and save the Lake Urmia and it was one of the purposes of Urmia Lake Restoration Programme to set the water right to save the Urmia Lake but it didn't effectively came into practice.⁶⁴² The Urmia Lake Restoration Programme purposes along with the success and failure will be discussed in this chapter.

2.2. Listing approach

A further concept highlighted in Ramsar Convention is the requisite criteria for the wetlands to be considered as internationally important and consequently be listed in the Ramsar Convention.⁶⁴³ It was explained that the site must be internationally important in terms of ‘ecology, botany, zoology, limnology, or hydrology’ in order to be included in the List of

⁶³⁸ *ibid*

⁶³⁹ *ibid*

⁶⁴⁰ Sanaeepour S and Ramazani GhavaamAbbaadi M.H, ' Legal Evaluation of Iran's' adherence to wise use of Lake Urmia with emphasis on Ramsar Convention' [2014] journal of Legal studies of Shiraz University 109, 140

⁶⁴¹ Ramsar Convention Secretariat, 'Integrated Management Plan for Lake Urmia Basin' (Ramsar.org 2010) < <https://www.ramsar.org/sites/default/files/documents/library/lakeurmiamanagementplan-i.r.iran2010.pdf>> accessed 18 Jul 2019

The UNDP/ Global Environment Facility (GEF) Department of Environment (DOE) Conservation of Iranian Wetlands Project is working with the provinces of West and East Azerbaijan and Kordistan to develop an integrated management plan for Lake Urmia, based upon international best practice.

⁶⁴² Sanaeepour S and Ramazani GhavaamAbbaadi M.H, ' Legal Evaluation of Iran's' adherence to wise use of Lake Urmia with emphasis on Ramsar Convention' [2014] journal of Legal studies of Shiraz University 109, 140

⁶⁴³ Chapter 3 section 4.2

Convention and that any country has to have at least one internationally important wetland to be accepted as a contracting party.⁶⁴⁴ The criticism over the vagueness of the criteria was discussed in chapter 3. it was discussed that the vague definition of internationally important wetlands has led to some high-priority wetlands in Iran (for example, Lake SabalanNoshar wetland, Haft Barm Lake, Langoor wetland, Ganjgah wetland Ghooch Lake, Pasab-e Yazd wetland)⁶⁴⁵ not be included in the List of Ramsar Convention.⁶⁴⁶ Indeed, the Islamic Republic of Iran currently has 25 sites designated as Wetlands of International Importance (or Ramsar Sites), with a surface area of 1,488,624 hectares.⁶⁴⁷ Lake Urmia was listed in the Ramsar list of internationally important wetlands on 23rd of June in 1975.⁶⁴⁸ However, no systematic approach for designating a wetland of international importance and nominating the sites for Ramsar List is reported in the literature.

Ramsar site nominations may be initiated by the State governments, NGO, community entities, trusts, traditional owners, individuals, private landowners or a company.⁶⁴⁹ In the national report on the implementation of the Ramsar Convention on wetlands which was submitted to the 13th COP, to designate new Ramsar sites and update Ramsar Information Sheet (RIS) was introduced to be the third priority of Iran for future implementation of the Convention.⁶⁵⁰ However, Iran has not yet publicised any systematic approach it adopts when nominating a wetland for Ramsar List.⁶⁵¹ Australia takes a systematic approach to identify candidate Ramsar sites.⁶⁵² Australia undertakes initial assessment against Ramsar criteria

⁶⁴⁴ John G. Sprankling, *The International Law of Property* (Oxford University Press 2014) 141-143

⁶⁴⁵ Hamgardi, 'Comprehensive list of Wetlands in Iran' <<https://hamgardi.com/fa/List/ایران-تالاب-های>> Accessed 01 Mar 2019

⁶⁴⁶ Bagherzadeh Karimi M, "Introducing the ecological, economical and social functions of Iranian wetlands along with their values and issues" (Iran Wetlands, 4 Jan 2009) <<http://www.iranwetland.blogfa.com/post/4>> Accessed 19 Dec 2018

⁶⁴⁷ Ramsar Convention, 'Iran (Islamic Republic of)' (Ramsar.org) <<https://www.ramsar.org/wetland/iran-islamic-republic-of>> accessed 9 Aug 2018

⁶⁴⁸ Ramsar Convention, 'Lake Urmia' (Ramsar.org) <<https://rsis.ramsar.org/ris/38>> Accessed 26 Jul 2016

⁶⁴⁹ Australian Government Department of Sustainability, Environment, Water, Population and Communities, 'Australian Ramsar Site Nomination Guidelines Module 4 of the National Guidelines for Ramsar Wetlands—Implementing the Ramsar Convention in Australia' (1st, Department of Sustainability, Environment, Water, Population and Communities, CANBERRA 2012) 10-11

⁶⁵⁰ Ramsar Convention Secretariat, 'National Report on the Implementation of the Ramsar Convention on Wetlands' (Ramsar.org 2018) <https://www.ramsar.org/sites/default/files/documents/importftp/COP13NR_IRIran_e.pdf> accessed 11 Nov 2019

⁶⁵¹ Sanaeepour S and Ramazani GhavaamAbbaadi M.H, 'Legal Evaluation of Iran's' adherence to wise use of Lake Urmia with emphasis on Ramsar Convention' [2014] journal of Legal studies of Shiraz University 109, 140

⁶⁵² Australian Government Department of Sustainability, Environment, Water, Population and Communities, 'Australian Ramsar Site Nomination Guidelines Module 4 of the National Guidelines for Ramsar Wetlands—Implementing the Ramsar Convention in Australia' (1st, Department of Sustainability, Environment, Water, Population and Communities, CANBERRA 2012) 10-11

before nominating the site to Ramsar. The initial assessment is to be informed whether the site meets any of the Ramsar criteria.⁶⁵³ Australia undertakes more detailed assessment during the development of the nomination documents but the listing cannot proceed unless the site meets at least one criterion.⁶⁵⁴ Ramsar handbook provides nine criteria for identifying Wetlands of International Importance.⁶⁵⁵ Following the same criteria, Australia moves forward with a systematic approach (intent to nominate and landowners support; broader consultation about owner consent and objections/grievances; develop supporting documents i.e., preparing the RIS, Listing criteria, Ramsar site boundary description and map determine the boundaries of the site, ecological character description and management plan or management system, jurisdiction review and finally submission of proposed nomination).⁶⁵⁶ Beilfuss emphasised the need for a strategic approach for Ramsar nominations. She argues that a strategic approach to nominating Ramsar sites will be essential to helping wetlands realize the many benefits that a Ramsar designation provides.⁶⁵⁷ Beilfuss claimed that the US is missing ‘an important and underutilized opportunity to conserve wetlands in this country by failing to designate more Wetlands of International Importance.’⁶⁵⁸ A strategic approach will be essential to taking advantage of the meaning and prestige of the Ramsar designation, including the benefits it brings for wetland protection, management, and public education.⁶⁵⁹

2.3. Exclusive sovereign right

Based on the provision of ‘sovereign right of contracting parties’ in Article 2 of the Ramsar Convention the contracting parties have comprehensive authority over wetlands within their territory.⁶⁶⁰ They are given the right to delete or restrict the boundaries of wetlands included in the Ramsar List due to their urgent national interests.⁶⁶¹ The debates over the sovereign right of CPs over their wetlands were discussed in chapter 3. Pros and cons views towards the

⁶⁵³ *ibid*

⁶⁵⁴ *ibid*

⁶⁵⁵ Ramsar Convention, 'The Ramsar Sites Criteria The nine criteria for identifying Wetlands of International Importance' (ramsar.org) <
https://www.ramsar.org/sites/default/files/documents/library/ramsarsites_criteria_eng.pdf> accessed 11 Nov 2019

⁶⁵⁶ Australian Government Department of Sustainability, Environment, Water, Population and Communities, ‘Australian Ramsar Site Nomination Guidelines Module 4 of the National Guidelines for Ramsar Wetlands—Implementing the Ramsar Convention in Australia’ (1st, Department of Sustainability, Environment, Water, Population and Communities, CANBERRA 2012) 10-18

⁶⁵⁷ Katie Beilfuss, 'U.S. Wetlands Need a Strategic Approach for Ramsar Nominations' (aswm.org 2012) <
https://www.aswm.org/state_meeting/2015/nwn_sept_oct_2012_ramsar.pdf> accessed 12 Nov 2019

⁶⁵⁸ *ibid*

⁶⁵⁹ *ibid*

⁶⁶⁰ Chapter 4 section 4.3

⁶⁶¹ *ibid*

sovereign right in Ramsar Convention were described. One found the Ramsar Convention to be the only treaty which restrains the States from unthinking and selfish exploitation of their sovereign natural patrimony.⁶⁶² Others found this claim as an overstatement.⁶⁶³ Some believed that wetland management transcend national boundaries and could cause environmental issues and granting comprehensive sovereign right over natural resources could cause conflicts between wetland conservation and sovereignty.⁶⁶⁴

To explain the scope of sovereignty over natural resources and wetlands in Iran, Article 45 of the Iranian Constitution worth explaining here. According to Article 45 of the Iranian Constitution, the following are under the control of the Islamic government of Iran:

‘wastelands and public wealth, abandoned or unclaimed land of deceased owners, mines, seas, lakes, rivers, and other public bodies of water, mountains, valleys, forests, marshlands, natural prairies, unrestricted pastures, inheritance without any heir, wealth without any identified owner, and public wealth that is confiscated from the usurpers. The Islamic government will treat these in accordance with the public interest. The law shall determine the detail and manner of utilization of each of them.’⁶⁶⁵

Based on the *Environmental Protection and Improvement Law* article 16, all natural resources possessed by the government shall be authorised to EPA and the EPA shall operate in the wetlands except that EPA has no right to transfer them.⁶⁶⁶

However, each right including the sovereignty has corresponding duties and obligations. As a part of sovereign right, the CPs are required to promote wetland conservation by establishing nature reserves in wetlands and providing adequately for their wardening.⁶⁶⁷ As it was

⁶⁶²Matthews G.V.T, *The Ramsar Convention on Wetlands: Its History and Development* (Ramsar Convention Bureau, 1993) P 4-6

⁶⁶³ David Farrier, L Tucker, ' Wise use of wetlands under the Ramsar Convention: a challenge for meaningful implementation of international law ' [2000] *Journal of Environmental Law* Pages 21

⁶⁶⁴ Virginie Barral, 'National sovereignty over natural resources: Environmental challenges and sustainable development' in Elisa Morgera and Kati Kulovesi (eds), *Research Handbook on International Law and Natural Resources* (1st, Edward Elgar Publishing, Cheltenham 2016).

⁶⁶⁵Firoozeh Papan-Matin, ' The Constitution of the Islamic Republic of Iran (1989 ed)' [Sep 2013] *Iranian Studies Journal* 159, 200

As discussed earlier in this chapter, Iranian constitution is the main body of law which defines the role, powers, and structure of different entities in the country, namely, the executive, the parliament or legislature, and the judiciary;

General national laws (such as here Environmental Protection and Improvement Law) of the country are set based on the Iranian Constitution.

⁶⁶⁶ Islamic Parliament Research Centre of the Islamic Republic of Iran, *Law on the Protection and Improvement of the Environment* <<http://rc.majlis.ir/fa/law/show/97090>> Accessed 15 Apr 2017

⁶⁶⁷Shine, Cyrille de Klemm, *Wetlands, Water and the Law: Using Law to Advance Wetland Conservation and Wise Use* (IUCN 1999) P 99

discussed in chapter 3 these obligations are extremely general and leave Parties considerable discretion in the extent to which they implement their commitments.⁶⁶⁸ One measure in wardening wetlands could be to pass information on ecological changes without delay to the Ramsar Secretariat.⁶⁶⁹ In fact, the Ramsar sites facing problems in maintaining their ecological character need to be placed by the country concerned on the special list of the Montreux Record.⁶⁷⁰ In fact, the contracting parties in the Ramsar Convention are required to report to Montreux record if wetlands within their territory are changing ecologically. The Montreux Record is a register of wetland sites on the List of Wetlands of International Importance that keeps record if changes in ecological character have occurred, are occurring, or are likely to occur as a result of technological developments, pollution or other human interference. It is maintained as part of the Ramsar List.⁶⁷¹ Lake Urmia is in danger of drying up and the country should have reported the ecological changes to the Montreux Record. However, the lake is not reported to the Montreux record.⁶⁷² Though at the first step, the sovereign right was given to the contracting parties with the purpose of attracting their interest towards joining the Convention,⁶⁷³ it does not bind the Contracting Parties to record the ecological changes of the wetlands to the Montreux report. As stated earlier the provision of sovereignty is left at States' discretion. In the case of Lake Urmia, Iran has no legally binding obligation to report the problems facing the lake to the Montreux Record for further observation and advice.

2.4. Wise use

The 'wise use' commitment of contracting parties and the criticisms over the provision were discussed in chapter 3.⁶⁷⁴ It was explained that the Ramsar Convention in Article 3(1), committed the contracting parties to formulate and implement their national planning in order to promote the conservation of wetlands within their territory which is interpreted as 'wise

⁶⁶⁸ Hence, the national law in this respect will be evaluated after the Ramsar implementation in this chapter. Shine, Cyrille de Klemm, *Wetlands, Water and the Law: Using Law to Advance Wetland Conservation and Wise Use* (IUCN 1999) P 99

⁶⁶⁹ Ramsar Convention Secretariat, *An Introduction to the Convention on Wetlands Ramsar handbooks* (Ramsar Convention Secretariat, 5th edition, Switzerland 2016) 14

⁶⁷⁰ Gerhard Glahn and James Taulbee, *Law among Nations: an Introduction to Public International Law* (Routledge, 10th edn, 2016) 529-530

⁶⁷¹ Ramsar Convention Secretariat, 'An Introduction to the Convention on Wetlands Ramsar handbooks' (Ramsar Convention Secretariat, 5th edition, Switzerland 2016) P 48

⁶⁷² Javad Aminmansour, 'From Ramsar to Urmia: International Dimensions of the Lake Urmia Crisis' [2014] Quarterly Journal of Foreign Policy 389, 410

⁶⁷³ Chapter 3, section 4.5

⁶⁷⁴ Chapter 3, section 4.4

use' in the text of the Convention.⁶⁷⁵ It was also argued that the concept of 'wise use' was not defined in the Ramsar Convention so it was not clear how to precisely wise use wetlands, but based on the interpretations of wise use which were discussed in chapter 3, it was concluded that wise use had at its heart the *conservation and sustainable use* of wetlands and their resources, for the *benefit of humankind* in a way that the ecological character is maintained.⁶⁷⁶ In this section firstly the Iranian national plan (i.e., Urmia Lake Restoration Programme ULRP), for saving the Lake Urmia along with Iran's commitment to Ramsar Convention will be discussed and secondly the implementation of the Ramsar Convention in Iran with respect to the two wise use elements of *conservation and sustainable use of wetlands* and their *benefits for present and future generations* will be investigated in case of Lake Urmia.

As chapter 2 discussed, Lake Urmia has been shrinking very quickly and the Lake is now at risk of drying.⁶⁷⁷ The causes and consequences of drying of the Lake Urmia were discussed as well.⁶⁷⁸ Worsening condition of Urmia Lake on the one hand and Iran's commitment to Ramsar Convention on the other hand resulted in the Iranian government to approve the Lake Urmia Restoration Programme (ULRP) with the aim of saving the Lake Urmia in 2013.⁶⁷⁹ After that, at the first meeting of the cabinet of the Ministers, July 2013, a national committee for the sake of saving the Lake called Urmia Lake Restoration National Committee (ULRNC) was constituted.⁶⁸⁰ ULRPNC included representatives from Ministry of Jihad Agriculture, Ministry of Energy and the EPA.⁶⁸¹ ULRPNC started its activity to develop a roadmap and action plan for ULRP by establishing a Planning and Resource Mobilization Unit (PRMU) at Sharif University of Technology and in collaboration with Tabriz and Urmia universities and professionals from other universities, national specialized organizations, local and international experts.⁶⁸² At the first step, PRMU set up 6 technical Committees and 20 work

⁶⁷⁵ Chapter 3 section 4.4

⁶⁷⁶ It was discussed in chapter 3 that different sources have interpreted the concept of 'wise use'. Different interpretations of wise use from different resources of World Conservation Strategy, Bowman (2013), Sands and Peel (2012) and Matthews (1993) were reviewed in chap 3 section 4.4.

⁶⁷⁷ Chapter 2 section 2

⁶⁷⁸ Chapter 2 section 5 and 6

Please also see;

Urmia Lake Restoration Program and Sharif University of Technology, *Lake Urmia Restoration Program Brief Report and Projects Outline* (1st, ULRP, Oct 2015) 11-12

⁶⁷⁹ *ibid* P13-14

⁶⁸⁰ *ibid*

⁶⁸¹ *ibid* 21

⁶⁸² Urmia Lake Restoration Program, 'Foundation' (ulrp.ir 2013) < <http://www.ulrp.ir/en/foundation/>> accessed 12 Jan 2017

teams and then survey on similar lakes of the world was conducted. Also, 19 programs⁶⁸³, road map and action plan prepared by pervious national team were reviewed. The road map was discussed and approved in two meetings of ULRNC.⁶⁸⁴ Then, the necessary orders were issued to start implementation of approved action plan by president. ULRNC decided that the entire projects will be implemented by the concerned institutions and organizations (ULRPNC members) and ULRNC (the concerned ministries and organisation's representatives) undertakes monitoring and evaluation. To do monitoring and evaluation continuously, ULRP head office (Minister of Energy⁶⁸⁵) and two provincial sub-offices (East- Azerbaijan and West-Azerbaijan) were established.⁶⁸⁶ ULRP took initiative to establish local Socio-cultural councils and utilized scientific and technical capacities of universities, especially University of Urmia and University of Tabriz located in Urmia Lake Basin.⁶⁸⁷ According to the roadmap and timetable, ULRP was approved as a ten-year program including three phases i.e. i) stabilizing the current status, ii) restoration and iii) sustainable restoration. The programme intended to revive the Lake within ten years.⁶⁸⁸ ULRP has faced some challenges with regards to the interaction between the organisations and ministries involved in the implementation of the programme which will be studied in chapter 5. Finally, the road map was approved by the involved ministries and organisations and was announced in 6 packages as follows:⁶⁸⁹

1. Control and reduction of water consumption in agricultural sector⁶⁹⁰

⁶⁸³ The Ministry of Energy following the establishment of the programme by the government held various professional and technical sessions and workshops, as well as, professional meetings on executive strategies to save Lake Urmia with the collaboration of Tehran University and prioritised 19 projects to save the Lake Urmia in 2013. These 19 projects were approved by the Iranian Parliament and the Minister of Energy took the responsibility to coordinate and lead the execution of ULRP.

Urmia Lake Restoration Program and Sharif University of Technology, *Lake Urmia Restoration Program Brief Report and Projects Outline* (1st, ULRP, Oct 2015) 11-12

⁶⁸⁴ Ibid

The first meeting was headed by First Vice President and second one was headed by President Dr Hassan Rouhani.

⁶⁸⁵ Urmia Lake Restoration Program and Sharif University of Technology, *Lake Urmia Restoration Program Brief Report and Projects Outline* (1st, ULRP, Oct 2015) 11-12

⁶⁸⁶ Urmia Lake Restoration Program, 'Foundation' (ulrp.ir 2013) < <http://www.ulrp.ir/en/foundation/> > accessed 12 Jan 2017

⁶⁸⁷ Ibid

⁶⁸⁸ Ibid

⁶⁸⁹ Urmia Lake Restoration Program and Sharif University of Technology, *Lake Urmia Restoration Program Brief Report and Projects Outline* (1st, ULRP, Oct 2015) 15

⁶⁹⁰ in this section some important measures under each package is footnoted.

e.g., Reduction of 40% allocated ground and surface water to the farmers through direct purchasing system by Ministry of Energy in five-year period.

- Planning for enhancing the productivity of the 60% left water in agriculture sector by Ministry of Jihad-e-Agriculture.

- Allocating funds and supplying required technologies by government to increase efficiency of remained water usage.

2. Control and reduction withdrawal of surface and groundwater resources in Urmia Lake Basin⁶⁹¹
3. Initiatives on protection and mitigation of negative impacts⁶⁹²
4. Studies and software measures⁶⁹³
5. Facilitate and increase of the water volume entering to the Lake throughout structural measures⁶⁹⁴
6. Supply from new water resources⁶⁹⁵

The LURP has had some positive effects in preserving the Lake. For example,

- The further development of agriculture in the Lake Urmia's watershed area was prohibited with the aim of preventing extensive exploitation of water resources in this region.⁶⁹⁶
- 400 billion Rials was allocated to implement the new irrigation methods for the currently under cultivated areas.
- A share for agriculture sector in the region was determined during the drought periods.
- Also, dredging the rivers leading to the lake and the plan for insemination of clouds were further measures to control the crisis in the Lake area.⁶⁹⁷

However, whether the ULRP could serve the conservation and sustainable use of Lake Urmia could be a matter of question. Some researchers didn't find the programme as successful in

⁶⁹¹ e.g., Prevention of increasing water consumption and new projects development, especially in agricultural sector

- Prevention of unauthorized surface water withdrawal
- No new dam construction projects (except Cheraghveis and Shahid Madani dams), no

⁶⁹² e.g., Identification of dust source and stabilizing them

- Studying and implementation of ecological protection program in Urmia National Park following environmental concerns

- Identifying effective factors on feeding major rivers leading to the lake through watershed management in order to increase recharge rate from rivers to the lake

⁶⁹³ e.g., development and implementation of comprehensive training program, capacity building, awareness, and getting public and local community participation in order to illustrating the consequences of the current critical situation and the necessity of reviving Lake Urmia.

⁶⁹⁴ e.g., Water transfer from rivers to the lake

- Water transfer from Hasanloo Dam to islands and wetlands located in borders of Lake Urmia and opening the path of waterways feeding southern wetlands.

⁶⁹⁵ e.g., Appropriation of required funds and acceleration of transferring water from Zab river to the Lake basin-study of water transfer project from Caspian Sea to the Lake Urmia

⁶⁹⁶ Sanaeepour S and Ramazani GhavaamAbbaadi M.H, ' Legal Evaluation of Iran's' adherence to wise use of Lake Urmia with emphasis on Ramsar Convention' [2014] journal of Legal studies of Shiraz University 109, 140

⁶⁹⁷ ibid

promoting wise use of the Lake as it meant to be.⁶⁹⁸ They suggested that the programme couldn't reach the primary goal to stabilize the current condition of the Lake and prevent its further shrinking.⁶⁹⁹ They also mentioned that the restoration plans so far have had multimillion dollars expenses for the government but implementation process is slow and the efficiency of them in restoration of the lake's water level is a matter of question.⁷⁰⁰ For example, transferring of water from other basins to Urmia Lake, because of long distance between two basins have had much more expenses, and also would cause problems for the water balance and ecosystem of other basins. Thus, inter basin water transfer plans are expensive and time consuming, and at least cannot be considered as a short-term solution.⁷⁰¹ The non-legal solutions such as transferring water from other resources to the Lake Urmia to save the Lake which were proposed in ULRP will be investigated along with their strengths and weaknesses in chapter 6.

The implementation of ULRP has been evaluated by researchers. For example, according to the ULRP, prior to initiation of any construction in the region, Environmental Impact Assessment (EIA) was supposed to be conducted in order to assess the likely negative environmental impacts of the prospective construction and identify options to minimise environmental damage.⁷⁰² EIA is conducted to inform decision makers of the likely impacts

⁶⁹⁸Somayeh Shadkam, 'Preserving Urmia in a Changing World: Reconciling anthropogenic and climate drivers by hydrological modelling and policy assessment' (PhD thesis, Wageningen University, Netherlands, 2017)
And

Mina Soudi, Hojjat Ahmadi, Mehdi Yasi and Sajad A Hamidi, 'Sustainable restoration of the Urmia Lake: History, threats, opportunities and challenges' [2017] E.W. Publications 341, 347
and

Tabnak Professional News Agency, 'New idea to revive Lake Urmia funded by the future government!' < (tabnak.ir December 2017) < <http://www.tabnak.ir/fa/news/752387/>> accessed 28 Feb 2018

Please also see also; Cheshmandaz Analytical New Agency, 'One step to full drying of the Lake Urmia' (1404.ir Oct 2017) < <http://1404.ir/news/5267/>> accessed 12 Feb 2018

⁶⁹⁹Mina Soudi, Hojjat Ahmadi, Mehdi Yasi and Sajad A Hamidi, 'Sustainable restoration of the Urmia Lake: History, threats, opportunities and challenges' [2017] E.W. Publications 341, 347
and

Tabnak Professional News Agency, 'New idea to revive Lake Urmia funded by the future government!' < (tabnak.ir December 2017) < <http://www.tabnak.ir/fa/news/752387/>> accessed 28 Feb 2018

Please also see also; Cheshmandaz Analytical New Agency, 'One step to full drying of the Lake Urmia' (1404.ir Oct 2017) < <http://1404.ir/news/5267/>> accessed 12 Feb 2018

⁷⁰⁰ Mina Soudi, Hojjat Ahmadi, Mehdi Yasi and Sajad A Hamidi, 'Sustainable restoration of the Urmia Lake: History, threats, opportunities and challenges' [2017] E.W. Publications 341, 347

⁷⁰¹ ibid

⁷⁰²Urmia Lake Restoration Program and Sharif University of Technology, *Lake Urmia Restoration Program Brief Report and Projects Outline* (1st, ULRP, Oct 2015) 16-21
and

Tabnak Professional News Agency, 'New idea to revive Lake Urmia funded by the future government!' < (tabnak.ir December 2017) < <http://www.tabnak.ir/fa/news/752387/>> accessed 28 Feb 2018

Please also see also; Cheshmandaz Analytical New Agency, 'One step to full drying of the Lake Urmia' (1404.ir Oct 2017) < <http://1404.ir/news/5267/>> accessed 12 Feb 2018

of a proposal before a decision is made.⁷⁰³ However, increasing constructions (i.e., dam construction and Shahid Kalantari Highway) in the Urmia region is an issue which impeded the conservation and sustainable use of the Lake and put the benefits of wetland for present and future generations at risk. The construction of Shahid Kalantari Highway and dam constructions in the Urmia region are discussed in this section.

Construction of Shahid Kalantari Highway has had detrimental influence on the ecosystem of the Lake.⁷⁰⁴ Shahid Kalantari Highway was constructed by the Iranian government in 2008. Shahid Kalantari Bridge is located on the Lake Urmia and is part of the Shahid Kalantari Highway.⁷⁰⁵ The bridge connects the two provinces of East Azerbaijan and West Azerbaijan in northwestern Iran.⁷⁰⁶ The bridge is 1709 meters long 1276 meters of which is built in the Lake Urmia.⁷⁰⁷ The most part of the bridge was built by constructing a levee in the Lake.⁷⁰⁸ In fact, due to the higher cost of constructing the air bridge, the construction of the bridge was carried out in most of the embankment-based and semi-laced route.⁷⁰⁹ Shahid Kalantari Bridge is the longest bridge built over the Lake and reduced the distance between the cities of Tabriz and Urmia to 135 kilometers. This construction has caused the splitting of water into two basins and the increase of evaporation and is one of the most important factors of drought in the lake.⁷¹⁰ There are many suggestions for the complete destruction of the bridge⁷¹¹ which will be investigated in chapter 6 under the solution to save the Lake Urmia. The bridge has a significant role in the development of tourism and cultural and commercial exchanges between the two provinces of East Azarbaijan and West Azarbaijan, and it saves fuel and time and reduces road accidents and depreciates cars.⁷¹² However, the construction of Shahid-Kalantary Highway is an example of weakness in the implementation of the Convention in terms of the wise use.

⁷⁰³ Stephen Tromans, *Environmental Impact Assessment* (Bloomsbury Publishing, 2edn, 2012) 1-3

⁷⁰⁴ Mohammad Bagher Ghalibaf and Zahra Moussavi, 'Development and Environment in Urmia Lake of Iran' [Oct 2014] *European Journal of Sustainable Development* 219, 226

⁷⁰⁵ Gardeshgari, 'Urmia Lake Crossing Bridge' (gardeshgari724.com) <

<https://gardeshgari724.com/attractions/2465/دریاچه-ارومیه> accessed 2 Nov 2019

⁷⁰⁶ *ibid*

⁷⁰⁷ *ibid*

⁷⁰⁸ Mohammad Bagher Ghalibaf and Zahra Moussavi, 'Development and Environment in Urmia Lake of Iran' [Oct 2014] *European Journal of Sustainable Development* 219, 226

⁷⁰⁹ *ibid*

⁷¹⁰ *ibid*

⁷¹¹ Sanaeepour S and Ramazani GhavaamAbbaadi M.H, 'Legal Evaluation of Iran's' adherence to wise use of Lake Urmia with emphasis on Ramsar Convention' [2014] *journal of Legal studies of Shiraz University* 109, 140

⁷¹² Gardeshgari, 'Urmia Lake Crossing Bridge' (gardeshgari724.com) <

<https://gardeshgari724.com/attractions/2465/دریاچه-ارومیه> accessed 2 Nov 2019

As already stated, the contracting parties under the wise use are committed to conserve and sustain wetlands and maintain the *ecological character* of wetlands to meet the needs of present and future generations. Shahid-Kalantary Highway is changing the ecological character of the Lake and violating the wise use provision as a result. Indeed, by construction of Shahid-Kalantary Highway, more than 80% of the contour between the west side and the east side of the Lake has been dried up.⁷¹³ 20% of the highway is made by iron structures and concrete foundations which are destructive to the environments.⁷¹⁴ The highway also prevents the natural rotation of the lake's water so it has caused a significant increase of salt in the northern part of the Lake.⁷¹⁵ According to studies conducted by the Water Research Institute in 2005, from 1966 to 2002, the average salinity of the Lake water was about 267 grams per liter, but now the salinity of the lake's water is over 370 grams per liter (about 380 grams in 2011).⁷¹⁶ In fact, this amount of salinity has remarkably reduced the number of *Artemia* in water and this number has decreased from 25 in a liter to one in each liter.⁷¹⁷ As a result, the ecological conditions of the Lake Urmia have transformed and biodiversity in the lake and around is in great danger.⁷¹⁸ Bagherzadeh and Rohani in their local study scientifically investigated and reported the changes in the physical and chemical characteristics of the Lake, especially precipitation of Northern and Southern regions.⁷¹⁹

Another factor violating the conservation and sustainable use of the Lake Urmia which helped drying of Lake is the construction of dams. The detrimental effects of dam construction as a significant direct driver which can change the ecosystem was discussed in chapter 2.⁷²⁰ According to Pourghahramani and Sabernejad, the Iranian environmental law investigators: 'If economic development is done appropriately, it does not make any problem for the sustainability of the environment.'⁷²¹ But, the economic development that destroys the environment and leads to the extensive use of natural resources to the detriment of future

⁷¹³ Ministry of Energy, *The Report of inspecting the progressing-projects from the Lake Restoration Programmes*(IRCOLD 2016) P11

⁷¹⁴ *ibid*

⁷¹⁵ *ibid*

⁷¹⁶ Sanaeepour S and Ramazani GhavaamAbbaadi M.H, ' Legal Evaluation of Iran's' adherence to wise use of Lake Urmia with emphasis on Ramsar Convention' [2014] *journal of Legal studies of Shiraz University* 109, 140

⁷¹⁷ *ibid*

⁷¹⁸ *ibid*

⁷¹⁹ Bagherzadeh Karimi, Roohani M and Rankoohi M, *Handbook of Iranian Wetlands Recorded in Ramsar Convention*, (Rooze No publication, Tehran 2007) 28-34

⁷²⁰ Chapter 2 section 5

⁷²¹ Babak Pourghahramani and Ali Sabernejad, 'Analysis of the Performance of Islamic Republic of Iran on the Environment of Urmia Lake in the Light of Ramsar Convention' [2015] *Indian Journal of Fundamental and Applied Life Sciences*, 1646, 1649

generations will not promote sustainable development.⁷²² As it was discussed in chapter 2, dams are mainly built to meet the agricultural and industrial needs of the Urmia region but this has led to water misbalance in the lake basin ⁷²³ threatened the benefits of present and future generations. Indeed, due to the construction of dams in this region, water entrance has been reduced from 5 billion m³ to 2.5 billion m³ between years 1990 and 2014.⁷²⁴

In sum, two concepts of wise use were investigated in the context of Iran: (i) conservation and sustainable use and (ii) the benefit of present and future generation. Obviously, the challenges such as construction of Shahid-Kalantari highway which transformed the Lake Urmia into two separate parts plus construction of dozens of dams in the Lake district and ignoring the environmental right of water share for the lake along with the subsequent droughts in the area have caused the ecological changes in the lake including drying out of a large area of the lake and converting the area into kilometers of arid salt lands.⁷²⁵ Such constructions clearly violate the conservation and sustainable use of Lake Urmia and have put the benefits of present and future generations at risk.

2.5. Ecological character of wetlands

Promoting the conservation of designated Wetlands of International Importance (Article 3.1 of the Convention text), through the *maintenance of their ecological character*, is one of the key tenets of the Ramsar Convention.⁷²⁶ The natural and human-induced factors that directly and indirectly have caused changes in the ecological character of the ecosystem of Lake Urmia were discussed as direct and indirect drivers in chapter 2.⁷²⁷ The increase of temperature about 2 degrees and decrease of precipitation by 18 percent during the last two decades plus plenty of dam constructions over 21 rivers feeding the Lake; massive over-use of feeder rivers; growth of agriculture in the region and inefficient irrigation methods, as well as

⁷²²Subedis P, International Economic law Section A Evolution and Principle of International Economic law, revised version, (University of London press, London, 2007) 29-31

⁷²³FarhadYazdandoost, ' Dams, Drought and Water Shortage in Today's Iran' [November 2016] Iranian Studies Journal 1017, 1027

⁷²⁴ Islamic republic news Agency, 'The annual loss of 2.5billion cubic meters of entrance water to the Lake Urmia '(Mar 2015) <<http://www.irna.ir/fa/News/81543992/>> Accessed 22 Oct 2015

Please also see;

Hoseinpour M, FakheriFard A and Naghili R, ' Death of Urmia Lake, a Silent Disaster Investigating of causes, results and solutions of Urmia Lake drying ' [Apr 2010] International applied Geological Congress (Iran) 700, 702

⁷²⁵Torabian, E. *Exploring social vulnerability and environmental migration in Lake Urmia in Iran: Comparative insights from the Aral Sea* (International Organization for Migration, 2015) 65-81

⁷²⁶ Ramsar Convention Secretariat, *Handbook 19 Addressing change in wetland ecological character* (4th, Ramsar Publications, Gland, Switzerland 2010) 7-8

⁷²⁷ Chapter 2 section 5

poor management of water usage, lack of dredging of water ways and illegal wells around the Lake have all converted the ecological character of the Lake. The lake has lost about 70% of its water extent within the last 14 years resulting in natural water flow diversion, water misbalance and other anthropogenic influences which were discussed in chapter 2.⁷²⁸

Under the ‘ecological character’ provision of the Ramsar Convention, Iran has some obligations. Iran likewise other CPs is committed to maintain the ‘ecological character’ of their wetlands.⁷²⁹ Under Article 3.2 of the Convention, each CP has agreed that it ‘shall arrange to be informed at the earliest possible time if the ecological character of any wetland in its territory and included in the Ramsar List has changed, is changing or is likely to change as the result of technological developments, pollution or other human interference, and to report any such change, without delay, to the [Ramsar Secretariat]’.⁷³⁰ In order to maintain the ecological character of wetlands, CPs should put in place monitoring and impact assessment programmes (Ramsar Handbook, 4th edition) for their Ramsar Sites.⁷³¹ CPs should also establish a mechanism by which the outcomes of these monitoring programmes, when they detect human-induced change or likely change in the ecological character of a site, will be reported to the national Administrative Authority responsible for the Convention.⁷³² That Authority must then report such information, without delay, to the Ramsar Secretariat.⁷³³ In brief, Iran as a CP with respect to ‘maintaining the ecological character of wetlands’ commitment is committed to:

- use an established management planning process, including undertaking an environmental impact assessment, to guide implementation of appropriate management action;⁷³⁴

Considering the importance of Lake Urmia and its wetlands as a valuable ecosystem providing rich biodiversity and great economic, social and cultural values for its basin and recognizing the dependence of this lake on climate and human activities throughout the basin, the Iranian organisation of EPA, and Ministries of Energy, Agriculture, and governors of East and West Azerbaijan and Kurdistan Province signed the Integrated Management Plan for

⁷²⁸ ibid

⁷²⁹ Chapter 3 section 4.5

⁷³⁰ Ramsar Convention article 3.2

⁷³¹ Ramsar Convention Secretariat, *Handbook 19 Addressing change in wetland ecological character* (4th, Ramsar Publications, Gland, Switzerland 2010) 10-14

⁷³² ibid

⁷³³ ibid

⁷³⁴ ibid

Lake Urmia Basin (IMPLUB) in 2010.⁷³⁵ IMPLUB was established as a 25 year vision for Lake Urmia with the overall management goal of establishing an ecosystem based management for the lake and its satellite wetlands within the context of sustainable development with effective involvement of all stakeholders including local communities.⁷³⁶ IMPLUB identified some objectives which were presumed to be essential for achieving the goal and vision.⁷³⁷ Under the objective of *sustainable management of water resources and land use*, it was emphasised ‘the strong political support for economic and social developments and the crucial requirement for sustaining the Lake and its ecological functioning require careful planning for an integrated water and land use management within the context of the Lake catchment area, and a rigorous application of (Strategic) Environmental Impact Assessment.’⁷³⁸ However, increasing constructions (i.e., dam constructions and Shahid Kalantari Highway) in Urmia region impeded the conservation and sustainable use of the Lake and have negatively influenced the ecological character of the Lake ecosystem.⁷³⁹ The effects of dam constructions and Shahid Kalantari Highway on the ecosystem of the Lake were discussed under wise use. The current state of EIA and limitations that the EIA process is facing in Iran will be evaluated later in this chapter.⁷⁴⁰

- Under the ‘ecological character’ provision of the Ramsar Convention, CPs should list the wetland, if appropriate, on the Montreux Record and requesting a Ramsar Advisory Mission (RAM) in order to bring international expertise to bear in providing advice on appropriate actions.’⁷⁴¹

⁷³⁵ Ramsar Convention Secretariat, 'Integrated Management Plan for Lake Urmia Basin' (Ramsar.org 2010) <<https://www.ramsar.org/sites/default/files/documents/library/lakeurmiamanagementplan-i.r.iran2010.pdf>> accessed 18 Jul 2019

⁷³⁶ *ibid*

⁷³⁷ *ibid*

Objective 1. To raise awareness of the values of the Lake and satellite wetlands and to enhance public participation in their management

Objective 2. Sustainable management of water resources and land use

Objective 3: Conservation of biodiversity and sustainable use of the wetland resources

⁷³⁸ Ramsar Convention Secretariat, 'Integrated Management Plan for Lake Urmia Basin' (Ramsar.org 2010) <<https://www.ramsar.org/sites/default/files/documents/library/lakeurmiamanagementplan-i.r.iran2010.pdf>> accessed 18 Jul 2019

⁷³⁹ Chapter 4, section 2

⁷⁴⁰ Chapter 4, section 6

⁷⁴¹ Ramsar Convention Secretariat, *Handbook 19 Addressing change in wetland ecological character* (4th, Ramsar Publications, Gland, Switzerland 2010) 10-14

The Montreux Record was established by Recommendation 4.8 of COP in 1990.⁷⁴² Later in Resolution 5.4 of the COP in 1993, it was determined that the Montreux Record should be employed to identify priority sites for positive national and international conservation attention. Special attention is given to assisting member States in the management and conservation of listed sites whose ecological character is threatened.⁷⁴³ This is frequently carried out through the Ramsar Advisory Mission, a technical assistance mechanism formally adopted by Recommendation 4.7 in 1990. The main objective of this mechanism is to provide assistance to developed and developing countries alike in solving the problems or threats that make inclusion in the Montreux Record necessary.⁷⁴⁴ The ecological character of Lake Urmia has been adversely changing over years. Lake is drying out because of climate change and mismanagement of water resources in the lake basin.⁷⁴⁵ However, in the 57th Meeting of the Standing Committee Gland, Switzerland, 24 – 28 June 2019, Urmia Lake was not included in the Montreux record.⁷⁴⁶ Iran has not reported the changes in the ecological character of the Lake Urmia to the Ramsar Secretariat and as a result the Lake Urmia is not included in the Montreux List.

2.6. Information exchange

As chapter 3 discussed, attempts were made internationally to raise public awareness towards the beneficial role of wetlands in order to attract public attention towards preserving wetlands.⁷⁴⁷ In Article 4 of the Convention, the contracting parties are encouraged to do further research and increase people's knowledge for preserving wetlands.⁷⁴⁸

According to Iran's report on the implementation of the Ramsar Convention (2018), annual workshops for the exchange of experiences of the country's ecosystem management secretariats have been held for Ramsar sites and other wetlands and experts from the ecosystem Management Secretariats have periodically participated in this workshop in

⁷⁴² Ramsar Convention Secretariat, ' Ramsar Information Paper no. 6The Montreux Record and the Ramsar Advisory Missions' (ramsar.org) < <https://www.ramsar.org/sites/default/files/documents/library/info2007-06-e.pdf>> accessed 4 Feb 2018

⁷⁴³ *ibid*

⁷⁴⁴ *ibid*

⁷⁴⁵ Chapter 2, section 5

⁷⁴⁶ Ramsar Convention Secretariat, ' Report and Decisions of the 57th Meeting of the Standing Committee' (Ramsar.org Jun 2019) < https://www.ramsar.org/sites/default/files/documents/library/sc57_report_decisions_e.pdf> accessed 2 Oct 2019

⁷⁴⁷ Chapter 3, Section 3.1.

Please also see;

Mattews G.V.T, The Ramsar Convention on Wetlands: Its History and Development (Ramsar Convention Bureau, 1993) 5

⁷⁴⁸ Please see chapter 3 section 4.5

Ramsar, Tehran, and Isfahan.⁷⁴⁹ Also, Iran, in its report on the Ramsar Convention implementation, claimed that in order to establish networks for knowledge sharing and training for preserving wetlands,

- i. a network of wetland ecosystem management secretariats has been established in provincial branches of EPA and training provided for all experts.
- ii. at national level there are good mechanisms for knowledge sharing of experts and managers such as in-service training courses, consulting workshops, distributing scientific reports and maps. And,
- iii. in cyberspace and social networks, it is possible to exchange information and communicate with people who work on this.⁷⁵⁰

According to Article 6, Note I of the Iranian Hunting and Fishing Law (ratified on 6.06.1967), EPA is assigned to establish and run training programs with the purpose of promoting the protection of natural resources in the country and increasing public awareness in this field.⁷⁵¹

EPA reported that the organisation is conducting the following activities in this regard.⁷⁵²

- Implementing educational programs for different sections of society, especially students of different educational levels and rural communities in order to raise the awareness and raise the level of general environmental culture of the community.
- Holding research conferences, seminars and workshops to increase environmental knowledge and vision of students and environmental NGOs.
- Holding different activities (painting, hiking and cycling) on environmental occasions.
- Holding consultations with judges on the importance of environmental status and water conservation.
- Encouraging, motivating and optimizing the efficiency, popularity and creativity of environmental organizations in achieving their organizational goals.
- Training councils and environmental partners.

⁷⁴⁹ Ramsar Convention Secretariat, 'National Report on the Implementation of the Ramsar Convention on Wetlands' (Ramsar.org 2018) <https://www.ramsar.org/sites/default/files/documents/importftp/COP13NR_IRIran_e.pdf> accessed 11 Nov 2019

⁷⁵⁰ *ibid*

⁷⁵¹ Islamic Parliament Research Centre of the Islamic Republic of Iran, 'Hunting and fishing law' <<http://rc.majlis.ir/fa/law/show/96050>> Accessed 11 Apr 2017

⁷⁵² Environmental Protection Agency of Islamic Republic of Iran, 'History of Environmental Education in Iran and the World' (doe.ir) < <https://eform.doe.ir/portal/home/?180695/>> accessed 5 Dec 2018

- Preparation and distribution of brochures and pamphlets (a brochure).
- Distribution of environmental handbooks across the provinces.

However, the performance of EPA with respect to increasing the public awareness has been criticised.⁷⁵³ Dabiri, Riazi and Taheri suggested that EPA tasks in this regard is superficial and lacks deep studies and research and the involvement of faculty members of the specialized research centres in this organization, is poor.⁷⁵⁴ Further discussions with regards to the performance of EPA in increasing public awareness are discussed in chapter 5.⁷⁵⁵

2.7. Financial resources

The financial provision of the Ramsar Convention was discussed in chapter 3 and the sources of funding (i.e., funds from member states, NGOs and private sectors) were introduced.⁷⁵⁶ In the national report on the implementation of Ramsar Convention, Iran mentioned some funding sources:

According to Iran's report on the implementation of Ramsar Convention, the private sector in Iran has undertaken activities for the conservation of wetlands within the country. In accordance with the Memorandum of Understanding (MOU) of the Omid Fund and EPA, the Omid Fund will support wetlands conservation entrepreneurship proposals that provide local communities with economic returns and helps wetland conservation.⁷⁵⁷ Omid (literally meaning hope) is an Iranian entrepreneurship fund that has allotted some 50 billion Rials (nearly \$1.5 million) with the aim of saving wetlands nationwide.⁷⁵⁸ In 2016, EPA and Omid signed a MOU to create job opportunities which can replace the current water reliant jobs such as farming for people living in the proximity of the 12 wetlands such as Urmia and Hamoun.⁷⁵⁹ EPA Chief, Masoumeh Ebtekar, expressed hope that the newly signed agreement

⁷⁵³ Farhad Dabiri, Borhan Riyazi and Faranak Taheri Yazdi, 'The State of Implementation Ramsar Convention in Iran' [2014] *Journal of Sustainability, Development and Environment* 39, 49

⁷⁵⁴ *ibid*

⁷⁵⁵ Section 4.1

⁷⁵⁶ Chapter 3, Section 4.7

⁷⁵⁷ Ramsar Convention Secretariat, 'National Report on the Implementation of the Ramsar Convention on Wetlands' (Ramsar.org 2018) <
https://www.ramsar.org/sites/default/files/documents/importftp/COP13NR_IRIran_e.pdf> accessed 11 Nov 2019

⁷⁵⁸ *Tehran Times*, 'Iranian entrepreneurship fund allots \$1.5m to save wetlands' (*tehrantimes.com* Oct 2016) <
<https://www.tehrantimes.com/news/407352/Iranian-entrepreneurship-fund-allots-1-5m-to-save-wetlands>>
accessed 1 Oct 2019

⁷⁵⁹ *ibid*

would help local people to stay in their home towns and at the same time help restore the wetlands and save them from getting drier.⁷⁶⁰

Besides private sector, Japan has funded research to inform wetland policies and plans on agriculture-wetland interactions. As a matter of fact, sustainable agricultural techniques have been implemented to reduce water consumption and chemical inputs funded by the Japanese government in 110 villages located in the Urmia Lake.⁷⁶¹ This work in the Gavkhouni wetland has not yet been officially launched however; the experience of farmers in Urmia was placed in a two-day workshop by farmers and Gavkhouni stakeholders.⁷⁶² The government of Japan provided fund for developing sustainable agriculture in Lake Urmia basin.⁷⁶³

Having mentioned the funding sources for Lake Urmia preservation in the national report on the implementation of the Convention, the Iranian government itself did not allocate financial resources to preserve the Lake Urmia in 2017 annual budget.⁷⁶⁴ A member of the Parliament believes that the only way to revitalize the wetlands is that the beneficiary ministries and organizations allocate a part of their annual budget to this purpose.⁷⁶⁵ In explaining how to provide resources for the restoration of Lake Urmia and the country's wetlands, he said, 'The government did not allocate financial resources in the year 2017 budget for the restoration of wetlands and Lake Urmia in particular.'⁷⁶⁶ Sadly, no budget was approved for this purpose.⁷⁶⁷

In fact, local legal researchers suggested that Iranian environmental taxes and revenues per se cannot fully cover costs of wetlands' protection.⁷⁶⁸ In the jurisdictional system of Iran, fines for activities which damage wetlands are very low and easily affordable; for example, Article 104 of the Law of the Third Economic, Social and Cultural Development Plan of the country

⁷⁶⁰ *ibid*

⁷⁶¹ Ramsar Convention Secretariat, 'National Report on the Implementation of the Ramsar Convention on Wetlands' (Ramsar.org 2018) <https://www.ramsar.org/sites/default/files/documents/importftp/COP13NR_IRIran_e.pdf> accessed 11 Nov 2019

⁷⁶² *ibid*

⁷⁶³ *ibid*

⁷⁶⁴ Islamic Consultative Assembly News Agency, 'Harsh financial year for Wetlands: Administrative organizations should spend their own budget to restore Wetlands and eliminate Dust Particles from the Air' (icana.ir Apr 2016) <<http://www.icana.ir/Fa/News/297394/>> accessed 20 Jan 2018

⁷⁶⁵ *ibid*

⁷⁶⁶ *ibid*

⁷⁶⁷ *ibid*

⁷⁶⁸ Ghassemi Naser, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) 42-66 Please see also; Islamic Parliament Research Centre of the Islamic Republic of Iran, *Law of the Fourth programme for Economic, Social and Cultural development of Islamic Republic of Iran* <<http://rc.majlis.ir/fa/law/show/94202>> Accessed 20 May 2017

on the environmental offenses considered very low fines for the emission of pollutants.⁷⁶⁹ Financial penalties (on harmful activities to wetlands) can be used as an income resource for preserving and restoring wetlands. Financial solutions recommended by legal researchers with regards to fixing and updating financial penalties on harmful activities in the jurisdictional system of the country will be discussed in chapter 6.

2.8. NGO participation

Hosseini, in his article, emphasised the need for NGOs to cooperate and help government programmes for preserving and protecting wetlands in Iran.⁷⁷⁰ He also emphasised that NGOs can play a significant role in protecting wetlands in particular by advertising and informing of public opinion because progress in protecting wetlands requires public awareness.⁷⁷¹

In Iran, NGOs participate in wetlands management.

i. *NGOs play a role in providing information*

During the last decade, more than 35 environmental NGOs have been established in the Lake Urmia Basin. These NGOs have participated in the management of the Lake and the satellite wetlands by providing information in order to raise environmental awareness of the values of and threats to the Lake Urmia and satellite wetlands, and to enhance public participation in their management.⁷⁷² With regards to providing information, NGOs contribute to increasing:⁷⁷³

1-Awareness of high-level policy makers and decision makers (for example, NGOs has helped with establishing a campaign supported by experts from agriculture sector and EPA to directly raise awareness of top policy/decision-makers)

2- Public awareness about the values of and threats to the Lake (for example, NGOs has helped with arranging visits and scientific tours for students or setting up campaigns of awareness through the mass media including films, news bulletins, radio broadcasts, TV advertisements and speeches)

⁷⁶⁹ Judiciary of Tehran province, *Law of the Third Economic, Social and Cultural Development Plan of the Islamic Republic of Iran* <<http://www.ghavanin.ir/detail.asp?id=12310>> Accessed 12 May 2017

⁷⁷⁰ Seyed Mohsen Hosseini, 'The feasibility of establishing NGOs to protect the environment and natural resources' [Summer 2003] *Journal of Environmental Studies* 105, 114

⁷⁷¹ *ibid*

⁷⁷² Ramsar Convention Secretariat, 'Integrated Management Plan for Lake Urmia Basin' (Ramsar.org 2010) <<https://www.ramsar.org/sites/default/files/documents/library/lakeurmiamanagementplan-i.r.iran2010.pdf>> accessed 18 Jul 2019

⁷⁷³ *ibid*

3- Participatory wetlands management and restoration projects with strong engagement of local communities (for example, NGOs has helped to establish pilot wetland management or restoration projects in each province involving and empowering other NGOs and local communities)

ii. NGOs play a role in monitoring compliance

According to the report of IMPLUB,⁷⁷⁴ attempts to preserve wetlands in Iran was being held back because of a lack of relevant information on the nature of issues facing management, the cause of the problem and the effectiveness of management procedures and actions in resolving the problem.⁷⁷⁵ IMPLUB suggested that effective monitoring programmes can help overcome such shortcomings. Monitoring is the systematic collection of data or information over time in order to ascertain the extent of compliance with a predetermined standard or position.⁷⁷⁶ IMPLUB then suggested a monitoring plan for Lake Urmia and discussed the plan in a workshop in 2008 with representatives from both West and East Azerbaijan provinces. Apart from government agencies, NGOs, local communities and universities were also well represented. According to the monitoring plan, water (i.e., water quality, water quantity, water use) and biodiversity (i.e., artemia, flamingos, pelicans, wild sheep, yellow deer, rivers, satellite wetlands) and socio-economic (i.e., tourism, sustainable livelihoods, public participation and awareness) were planned to be monitored.⁷⁷⁷ IMPLUB suggested that successful implementation of this Monitoring Plan requires close collaboration and good coordination between EPA, Water Authority, Artemia Research centres, key local communities, NGOs and research institutes.⁷⁷⁸ NGOs participated as lead agencies in the monitoring plan by IMPLUB.⁷⁷⁹

iii. NGOs play a role in capacity building at the national and local level

IMPLUB reported that the expertise for the monitoring plan was adequate but the training required for using new equipment or new techniques was not enough. IMPLUB stated that the number of experts available was far below the required level and a comprehensive training programme for implementing the Monitoring Plan was necessary. Also, capacity for

⁷⁷⁴ Integrated Management Plan for Lake Urmia Basin is discussed in chapter 4 section 2.5

⁷⁷⁵ Ramsar Convention Secretariat, 'Integrated Management Plan for Lake Urmia Basin' (Ramsar.org 2010) <<https://www.ramsar.org/sites/default/files/documents/library/lakeurmiamanagementplan-i.r.iran2010.pdf>> accessed 18 Jul 2019

⁷⁷⁶ *ibid*

⁷⁷⁷ *ibid*

⁷⁷⁸ *ibid*

⁷⁷⁹ *ibid*

interpretation of combined data and integrating them into a comprehensive analytical report needed to be acquired within the organization that is responsible for implementation of the Monitoring Plan.⁷⁸⁰ Hence, a Strategic Environmental Assessment Project was defined between UNDP and EPA.⁷⁸¹ As Iran reported in its national report on the implementation of Ramsar Convention, it is a capacity building project. Within the project a core team including representatives of different organizations, NGOs and universities are trained so that they could be source persons to develop human resources technical capacities in the country.

iv. NGOs collaborate with government and private sector to manage wetlands

EPA offices at provincial and local levels are regularly monitoring situation of Ramsar sites. In fact, NGOs in collaboration with local communities report the situation of Ramsar sites to EPA offices. Iran declared in its report of Ramsar Convention implementation that NGOs inform the negative human-induced changes or likely changes in the ecological character of Ramsar Sites to EPA offices.⁷⁸²

The NGOs' roles in providing information, monitoring compliance, capacity building and collaboration with EPA were elaborated. However, a legal expert believes that NGOs are not effectively involved in the Iranian judicial system.⁷⁸³ The Criminal Procedure Act which is a general law in the Iranian judicial system⁷⁸⁴ examines the process of prosecuting criminal cases. The process of prosecution includes the discovery of crimes, preliminary investigations, compromising between parties, pronounce a verdict, etc.⁷⁸⁵ There is no supporting role for participation of NGOs in the Criminal Procedure Act.⁷⁸⁶ The only legal right considered for NGOs is that like other citizens they can litigate (under Article 66 of Criminal Procedure Act).⁷⁸⁷ NGOs can only take the dispute to the judicial authorities and judicial authorities in order to chase their litigation, can take the necessary measures in order

⁷⁸⁰ *ibid*

⁷⁸¹ Ramsar Convention Secretariat, 'National Report on the Implementation of the Ramsar Convention on Wetlands' (Ramsar.org 2018) <
https://www.ramsar.org/sites/default/files/documents/importftp/COP13NR_IRIran_e.pdf> accessed 11 Nov 2019

⁷⁸² *ibid*

⁷⁸³ GholamhasanKooshki, 'NGOs: from Passivity to Active participation in prosecuting the Public Action (Looking at the Criminal Procedure Act)' [2013] *jclr* 65, 86

⁷⁸⁴ Different types of laws in Iran including general laws were introduced in chapter 4 section 1.1

⁷⁸⁵ SamanehSeghtchi, 'What is the Criminal Procedure Act?' (chetor.com Apr 2018) <

<https://www.chetor.com/113496-آیین-دادرسی-کیفری-> accessed 10 Dec 2019

⁷⁸⁶ Mansour J, *Criminal Procedure Code including the Law for establishment of General and Revolutionary Courts and Amendments* (Didar Publication 2016)

⁷⁸⁷ *ibid*

to discover and pursue crime if other circumstances also indicate the commitment of a crime.⁷⁸⁸

3. Wetlands management in national law: Article 50 of the Iranian Constitution

Article 50 is the main environmental protection principle in the Iranian Constitution.⁷⁸⁹ It is the national law of the country which directly addresses the protection of environment in Iran. Article 50 is officially translated as:

Article 50:

In the Islamic Republic, it is considered a public duty to preserve the environment where the present and the future generations may have an improved social life. Consequently, any activity, economic or other, that leads to the pollution of the environment or its irreparable damage will be forbidden.⁷⁹⁰

As discussed in the methodology of the present study, there is a debate in environmental law broadly between anthropocentric and ecocentric views. The idea of a human-centered nature, or anthropocentrism, holds the view that human are given dominion over nature to serve their needs. Anthropocentrism states that human are the sole bearers of intrinsic value and all other living things are there to sustain humanity's existence.⁷⁹¹ In contrast, the idea of nature-centered view or ecocentrism values all living things regardless of their usefulness to human. It is believed that the human race have the responsibility to all biological life on Earth because, aside from being the most consuming specie of all, they are capable of thinking and perceiving Earth as a whole.⁷⁹²

Washington *et al*, claimed that ecocentrism could solve human's unprecedented environmental crisis. Washington *et al* contended that a social transformation towards ecocentrism is not only an ethical but a practical imperative, and they urged support for

⁷⁸⁸ Gholamhasan Kooshki, 'The Challenges of Iranian Criminal System in the field of Environmental Crime' [2009] Quarterly Journal of Legal Notifications 88, 104

⁷⁸⁹ Types of laws in Iran including Constitution are discussed in chapter 4 section 2.

⁷⁹⁰ Mansour J, *Constitution of the Islamic Republic of Iran* (Douran Publications 2013), Please see also: Iranian Constitution, <<http://www.wipo.int/edocs/lexdocs/laws/en/ir/ir001en.pdf>> Accessed 23 Mar 2018

⁷⁹¹ Helen Kopnina, Haydn Washington, Bron Taylor and John J Piccolo, 'Anthropocentrism: More than Just a Misunderstood Problem' [Jan 2018] J Agric Environ Ethics 109, 122

⁷⁹² *ibid* 122-123

ecocentric understanding and practices.⁷⁹³ They argued the importance of ecocentric values from the following concepts:

- ethical (Ecocentrism expands the moral community from being just about ourselves;
- spiritual (ecocentric values are increasingly being fused into nature-based);
- evolutionary (i.e., we are a part of nature, not apart from nature);
- ecological (i.e., ecocentrism is adequate for conserving biodiversity);⁷⁹⁴

According to legal researchers, there are 2 concepts in Article 50.⁷⁹⁵

1. The necessity for the protection of the environment in the economic development programme of the government, and
2. The right of the present generation as well as the future generations to have a healthy environment.⁷⁹⁶

According to the content of Article 50 in the Iranian Constitution, environment should be exploited sustainably meaning that the present generation takes benefits while consider the needs of future generation.⁷⁹⁷ Article 50 defends a partly ecocentric approach, in which to preserve the environment is considered to be a public duty and present and future generations' right to healthy environment is respected and encouraged.⁷⁹⁸ Moreover, as any sort of activity that threatens the wellbeing of the environment is forbidden.⁷⁹⁹

However, Article 50 was criticised in the literature. For example, a legal researcher, GhavaamAbbaadi, suggested that the implications of future generations as well as the enforcement mechanisms for the rights of the present and future generations are unclear and

⁷⁹³ Haydn Washington, Bron Taylor, Helen Kopnina, Paul Cryer and John J Piccolo, 'Why ecocentrism is the key pathway to sustainability' (ecologicalcitizen.net 2017) <<https://www.ecologicalcitizen.net/pdfs/v01n1-08.pdf>> accessed 1 Oct 2019

⁷⁹⁴ *ibid*

⁷⁹⁵ Mansour J, *Constitution of the Islamic Republic of Iran* (Douran Publications 2013),

Please see also: Iranian Constitution, <<http://www.wipo.int/edocs/lexdocs/laws/en/ir/ir001en.pdf>> Accessed 23 Mar 2018

And

Ali babaeiMehr, ' Fundamentals of Environmental Law with a View on Article 50 of the Constitution of the Islamic Republic of Iran' [2010] Journal of Iranian Bar Association 153, 170

⁷⁹⁶ Ali babaeiMehr, ' Fundamentals of Environmental Law with a View on Article 50 of the Constitution of the Islamic Republic of Iran' [2010] Journal of Iranian Bar Association 153, 170

⁷⁹⁷ *ibid*

⁷⁹⁸ *ibid*

⁷⁹⁹ *ibid*

Constitution has not fully addressed them.⁸⁰⁰ It is also suggested that environment is not defined anywhere in the Iranian Constitution.⁸⁰¹

4. Wetlands Management and the Economic, Cultural and Social Development Plans of Iran

As a matter of fact, the sustainable development is influenced by the extent to which the environmental, economic and social policy of a country considers sustainability.⁸⁰² Before discussing and analyzing the formulation of Iran's economic, cultural and social plans and the place of wetlands management and sustainable development in the country's development plans, it is worth addressing the sustainable development in a wider context with the aim of wider analysis of the implementation of SD in Iran. In September 2015, the UN General Assembly adopted the 2030 Agenda for Sustainable Development that includes 17 Sustainable Development Goals (SDGs).⁸⁰³ The 17 SDGs is aimed at transforming the

⁸⁰⁰ Mohammad Hosein Ramezani Ghavamabadi, 'The preservation of the environment in Iran's constitution' [2013] *Judicial Law Views Quarterly* (Law Views) 93, 137

⁸⁰¹ *ibid*

⁸⁰² Naser moharamnejad and Samira Khadivi, 'Environmental management and planning in the aspect of fourth developing national master plan' [2009] *Human & Environment* 62, 66

⁸⁰³ Natalie Mossin, Natalie Mossin, Sofie Stilling, Thomas Bøjstrup, Vibeke Grupe Larsen, Annette Blegvad, Maja Lotz, Lene Rose, *AN ARCHITECTURE GUIDE to the UN 17 Sustainable Development Goals* (1st, KADK, København December, 2018) 10-151

The 17 sustainable development goals (SDGs) to transform our world:

GOAL 1: No Poverty

GOAL 2: Zero Hunger

GOAL 3: Good Health and Well-being

GOAL 4: Quality Education

GOAL 5: Gender Equality

GOAL 6: Clean Water and Sanitation

GOAL 7: Affordable and Clean Energy

GOAL 8: Decent Work and Economic Growth

GOAL 9: Industry, Innovation and Infrastructure

GOAL 10: Reduced Inequality

GOAL 11: Sustainable Cities and Communities

GOAL 12: Responsible Consumption and Production

GOAL 13: Climate Action

GOAL 14: Life Below Water

GOAL 15: Life on Land

GOAL 16: Peace and Justice Strong Institutions

GOAL 17: Partnerships to achieve the Goal

world.⁸⁰⁴ The goals are a call for action by all countries to promote prosperity while protecting the planet.⁸⁰⁵ Countries are encouraged to architect the basic ideas and proposals for regulations that make it possible to sustainably use planet. Hence, it is necessary to base the regulations on the SDGs to move forward.⁸⁰⁶ The SDGs have implications for wetlands management and sustainable development in the context of Iran and with regards to the Lake Urmia as well. In fact, the Global Wetland Outlook (2018) has acknowledged the link between wetlands and SDGs, too.⁸⁰⁷ This ensures that the benefits of wetlands contribute towards meeting the SDGs.⁸⁰⁸ Indeed, the actions for achieving the sustainability of wetlands have positive links with the SDGs related to environmental dimensions (Goals 3, 6, 13, 14, and 15) as they are mutually reinforcing each other.⁸⁰⁹

Drying the Lake Urmia has had detrimental impacts which were discussed in detail in chapter 2 towards human's health, life, work, migration, flora and fauna, social, economic and cultural aspects of society could be a barrier towards the 17 SDGs some of which are reiterated below. For instance,

Goal 3 promotes the healthy lives and wellbeing for all at all ages. With regards to the Lake Urmia and the current drying crisis, the matter of people's health and the threats drying of the Lake could have for people were addressed in chapter 2.⁸¹⁰

Goal 6 ensures availability and sustainable management of water and sanitation for all.⁸¹¹ It encourages the governments to substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and

⁸⁰⁴ Natalie Mossin, Natalie Mossin, Sofie Stilling, Thomas Bøjstrup, VibekeGrupe Larsen, Annette Blegvad, Maja Lotz, Lene Rose, *AN ARCHITECTURE GUIDE to the UN 17 Sustainable Development Goals* (1st, KADK, KøbenhavnDecember, 2018) 10-151

⁸⁰⁵ *ibid*

⁸⁰⁶ *ibid*

⁸⁰⁷ Royal C. Gardner and C. Max Finlayso, *Global Wetland Outlook: State of the World's Wetlands and their Services to People* (1st, Ramsar Convention Secretariat, Gland, Switzerland 2018) 7-14

⁸⁰⁸ *ibid*

⁸⁰⁹ Long T. Ho and Peter L. M. Goethals, ' Opportunities and Challenges for the Sustainability of Lakes and Reservoirs in Relation to the Sustainable Development Goals (SDGs)' [July 2019] mdpi 1, 7

⁸¹⁰ Chap 2 section 6.3

⁸¹¹ Long T. Ho and Peter L. M. Goethals, ' Opportunities and Challenges for the Sustainability of Lakes and Reservoirs in Relation to the Sustainable Development Goals (SDGs)' [July 2019] mdpi 1, 7

substantially reduce the number of people suffering from water scarcity.⁸¹² Besides the threats that drying of the Lake could have to human health, chapter 2 investigated the negative consequences of human migration plus the disruption of flora and fauna inhabitat as a result of drying of the Lake and water scarcity in the region.

Goal 13 encourages the urgent action to combat climate change and its impacts. The necessity to maintain the ecological character in order to preserve the Lake was discussed in chapter 4.⁸¹³ Further impacts of the Lake drying on the climate change were expressed in chapter 2.⁸¹⁴

Goal 14 highlights the necessity to conserve and sustainably use the oceans, seas and marine resources for sustainable development. Re Lake Urmia, the need to sustainably manage and protect its ecosystem to avoid significant adverse impacts plus the necessity to take action for the Lake Urmia restoration in order to achieve healthy and productive ecosystem was discussed in chapters 2 and 4.⁸¹⁵

Goal 15 encourages countries to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.⁸¹⁶

All there urge for the national laws to reflect the need for sustainable development. As discussed in section 2 of the present study, the conservation and sustainable use of natural resources for the benefit of human kind is at the heart of wise use. According to legal researchers, Moharramnejad and Khadivi, Iran in order to achieve sustainable development claimed to consider sustainability in its economic, environmental, and social plans. Iran formulated five sets of laws (each set of law to be implemented in five-year time, in total 25 years) called the Economic, Cultural and Social Development Plans of Iran. The five sets of laws are:

First set of law (1989-1993)

Second set of law (1995-1999)

Third set of law (2000-2004)

Fourth set of law (2005-2009)

⁸¹² ibid

⁸¹³ Chapter 4 section 2.5

⁸¹⁴ Chapter 2 section 6.1

⁸¹⁵ Chapter 2 section 4 and Chapter 4 section 2.4

⁸¹⁶ United Nations, 'Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss' ([un.org](https://www.un.org/development/desa/disabilities/envision2030-goal15.html)) < <https://www.un.org/development/desa/disabilities/envision2030-goal15.html> > accessed 14 Oct 2020

Fifth set of law (2011-2015)

The five sets of laws are called so because each set is supposed to be formulated by the government (executive branch) at the time for a five-year period.⁸¹⁷ They are national legal provisions with the aim of improving the country in economic, cultural and social aspects. These sets of laws have dealt with environment as well which could have implications for sustainable development of wetlands. For example, with regards to environmental protection, the first and second development plans of the country emphasized three main concepts including:

1. the sustainable development of natural resources;
2. preventing destruction of natural resources and their protection; and
3. the restoration of damaged areas from the adverse effects of the previous actions.⁸¹⁸

According to the second set of laws of developmental plan, in order to maintain, rehabilitate, develop and exploit the natural resources, the government is obliged to take the following measures:

- Oblige the users/exploiters of the natural resources to retrieve it/compensate damages.
- To assign a police sector to protect the country's forests and pastures and educate and equip them (section 81 of second set of laws on developmental plan).⁸¹⁹

With regards to environmental protection, the third and fourth sets of laws of developmental plan emphasized:

1. the integrated management of natural resources and
2. Prevention of environmental pollution.

Article 104 in the third set of laws of developmental plan could have implications for the preservation of wetlands:

Article 104 - In order to protect the environment and to make sustainable use of the natural resources of the country, the following are required:

⁸¹⁷ Vahid ShaghaghiShahri, 'Evaluation of the five sets of Laws on developmental plans of the country in order to achieve the outlook of the economic goals of this document' [Summer 2018] Journal of Parliament and Strategy 209, 234

⁸¹⁸ FarhadDabiri, Majid Abbaspour, Bitazadbakht and Reza Maknoon , 'The place of environment in Iran Post Revolution laws on developmental plans' [2007] JEST 87, 99

⁸¹⁹ Islamic Parliament Research Centre of The Islamic Republic Of IRAN, Law of second pentad Economical, social and cultural developmental plan of the Islamic Republic of Iran <<http://rc.majlis.ir/fa/law/show/92488>> accessed 21 Apr 2017

The exploitation of natural resources of the country should be based on the capacity of resources. For this purpose, the government is obligated to maintain the progress of production and sustainable exploitation of the resources by protecting fundamental resources, coordination in integrated resource management, and encouraging participation of people in planning, decision making and implementation in a way to preserve the balance of the environment.⁸²⁰

With regards to preventing the environmental pollution, paragraph C of Article 104 states that:

Paragraph (C)-In order to reduce the environmental contaminants, especially in relation to natural resources and water resources of the country, production units are required to comply with the environmental specifications and reduce pollution. The costs incurred in this case are considered as allowable expenses⁸²¹ for the unit. Units that refuse to do so and their activities cause contamination and degradation to the environment, the fine will be proportional to the damage incurred and the general income will be deductible.⁸²²

According to the third and fourth sets of laws of developmental plans, close and effective cooperation between EPA and other relevant organizations is required to estimate the economic value of natural and environmental resources as well as the costs of pollution and environmental degradation in the development **process and then to specify the necessary action.**⁸²³ However, the cooperation between EPA and relevant organizations have not been practically effective on development projects (for example dam construction projects)⁸²⁴ in the Lake Urmia area.⁸²⁵ The inconsistencies in the cooperation between EPA and ministries and organisations will be discussed in chapter 5. In general, economic experts believe that because the developmental plans are very general in nature, the results are departed from the

⁸²⁰ Islamic Parliament Research Centre of The Islamic Republic of Iran, *Law of the Third Economical, social and cultural developmental plan of the Islamic Republic of Iran* (majlis.ir 2000)
<<http://rc.majlis.ir/fa/law/show/93301>> accessed 19 Apr 2018

⁸²¹ Allowable expenses are essential costs that keep the business running properly. They are tax deductible, which means you do not pay tax on the money you have spent.

⁸²² Islamic Parliament Research Centre of The Islamic Republic of Iran, *Law of the Third Economical, social and cultural developmental plan of the Islamic Republic of Iran* (majlis.ir 2000)
<<http://rc.majlis.ir/fa/law/show/93301>> accessed 19 Apr 2018

⁸²³ FarhadDabiri, Majid Abbaspour, Bitazadbakht and Reza Maknoon , 'The place of environment in Iran Post Revolution laws on developmental plans' [2007] JEST 87, 95

⁸²⁴ Dam constructions around Lake Urmia were discussed in chapter 2.

⁸²⁵ FarhadDabiri, Majid Abbaspour, Bitazadbakht and Reza Maknoon , 'The place of environment in Iran Post Revolution laws on developmental plans' [2007] JEST 87, 91

predicted goals.⁸²⁶ They suggested that the developmental plans would be more effective if they were project-based with a focus on the implementation of huge and small projects. So, the results would be closer to predictions.⁸²⁷ Iranian researchers believe that the developmental plans are too general and the government tends to prioritize the macro-economic variables such as economic inflation, economic growth and investment, currency, etc. Consequently, in the social, cultural and environment sectors developmental plans are not pursued very seriously.⁸²⁸ A counterpart example of this plan in the context of wetlands is the huge number of constructions (Shahid Kalantari Highway and dam constructions over 21 rivers feeding the Lake).

5. Attempts to pass a wetland-specific law in the country

The Iranian national legal provision which directly addresses wetlands is the Law of Conservation, Restoration and Management of the country's wetlands which was adopted in May 2017 by the Iranian parliament.⁸²⁹ It is believed that for decades, the absence of a rule which specifically addresses wetlands in Iran has led inland wetlands and even some coastal wetlands within the country to be destroyed.⁸³⁰

A few abortive attempts were made before a wetland specific law was successfully ratified. The attempts go back to July 2011 when eventually the danger of drying the Lake Urmia did come to the attention of members of the Parliament after many years of warnings by environmental experts. At first, the draft of a plan called 'Water Transfer' plan with the aim of rescuing Lake Urmia was discussed in the Parliament in 2011 but was not approved by the Parliament due to lack of technical, social and economical justification.⁸³¹ Later, the draft of another plan called 'the Proposed Plan for the Management of Wetlands with Emphasis on Lake Urmia' was prepared and submitted in the same year (2011) to the executive committee of the Iranian Parliament by the Islamic Parliament Research Centre of the Islamic Republic

⁸²⁶ *ibid*

Please also see; Afshin Barmaki, *The Risk assessment of Developmental Plans of Iran's Islamic Post Revolution* (1st, Strategic Planning and Supervision, Tehran 2014) 2-26

⁸²⁷ *ibid*

⁸²⁸ *ibid*

⁸²⁹ Law on Conservation, Restoration and Management of Iran's Wetlands in 2017 (Islamic Republic of Iran) Please see; Islamic Parliament Research Centre of the Islamic Republic of Iran, 'Law on Conservation, Restoration and Management of Iran's Wetlands' <<https://rc.majlis.ir/fa/law/show/1021128>> accessed 20 Nov 2018

⁸³⁰ Zistboom, *A critique on the Law of conservation, restoration and management of the country's wetlands adopted on 1 May 2017* <<http://zistboom.com/fa/news/34819/AA-96>> Accessed 02 March 2018

⁸³¹ Abdoos Amir, *A critique on the law of conservation, restoration and management of the country's wetlands*, MehrNewsagency, 09 Aug 2017 <<http://www.mehrnews.com/news/4054546/>> Accessed 16 Nov 2017

of Iran with the participation of the EPA experts and the International Project for the Protection of Wetlands.⁸³² This legislation was proposed at the end of the eighth government in Iran and ran out of parliamentary time.⁸³³ Hence, it did not receive enough consideration and ultimately was rejected.⁸³⁴ A further attempt was the draft of another legislation which was called the "Plan for the Rescue and Restoration of Lakes and Wetlands of the Country". The draft of legislation was prepared by the EPA and had one article and two notes. The draft of legislation was discussed in the Parliament in November 2012 and was rejected because as it was claimed was not prepared in detail.⁸³⁵

The first successful step for ratification of a wetland specific law in Iran was the *Bylaw on Conservation, Restoration and Management of Wetlands* which was adopted by the cabinet of ministers on the 23rd of June 2015.⁸³⁶ The bylaws are made by the Executive Branch of the country and do not require any formalities.⁸³⁷ On the 29th of June 2015, the Executive Branch headed by President Rouhani sent this bylaw to the Parliament.⁸³⁸ It is now called the *Bill on Conservation, Restoration and Management of Wetlands*. Bills are draft legislations which are submitted by the Executive Branch to the Parliament to be considered as a law.⁸³⁹ Eventually, the Parliament accepted the bill after two years of delay and ratified it as the *Law on Conservation, Restoration and Management of Wetlands* on 24th of April 2017.

In sum, the formal process of ratification of the Law on Conservation, Restoration and Management of Country's Wetlands was:

- i. Bylaw on Conservation, Restoration and Management of Wetlands adopted by the cabinet of ministers on the 23rd of June 2015
- ii. Bill on Conservation, Restoration and Management of Wetlands suggested by the Executive Branch to the Parliament on the 29th of June 2015
- iii. Law on Conservation, Restoration and Management of Wetlands ratified by the Parliament on 24th of April 2017

⁸³²ibid

⁸³³ ibid

⁸³⁴ ibid

⁸³⁵Abdoos Amir, *A critique on the law of conservation, restoration and management of the country's wetlands*, MehrNewsagency, 09 Aug 2017<<http://www.mehrnews.com/news/4054546/>> Accessed 16 Nov 2017

⁸³⁶ ibid

⁸³⁷<https://www.ksymg.com/differences-between-law-and-regulations-and-approval-of-letter/>

Information about different branches of power in Iran are given in chapter 4 section 1.1.

⁸³⁸Abdoos Amir, *A critique on the law of conservation, restoration and management of the country's wetlands*, MehrNewsagency, 09 Aug 2017<<http://www.mehrnews.com/news/4054546/>> Accessed 16 Nov 2017

⁸³⁹Representative body of the Supreme Leader, 'Definition of the Bylaw, Bill and parliamentary law' (porseman.com Jul 2010)<<https://www.porseman.com/article/9187/>> لا یحه طرح و - لا یحه قوانین - مجلس accessed 21 Dec 2017

5.1. Evaluation of the Bylaw on Conservation, Restoration and Management of Wetlands

In the text of the Bylaw on Conservation, Restoration and Management of Wetlands, the legal bodies (for example, EPA, Ministry of Energy, etc.) are required to prepare the following information:

A) to specify the wetlands' bed within 2 years. The Ministry of Energy is in charge to do the preparation and measurements which must be approved by the Cabinet of Ministers (according to Article 3 of the Bylaw).⁸⁴⁰

B) to determine how to allocate a proper **water share** for wetlands from the upstream rivers. This must be done in regular bases. Again, it is the responsibility of the Ministry of Energy and it should be approved by the High Council for Water (according to Article 3 of the Bylaw).⁸⁴¹

C) to determine the required water to revive the **ecological characteristics** of wetlands with critical and/or damaged condition. Also, designation of upstream rivers feeding these wetlands with one year deadline that was supposed to be prepared by the EPA with cooperation of the Ministry of Energy (according to Note of the Article 3)⁸⁴²

D) Determination of required water to retain **ecological characteristics** of wetlands with normal condition (not endanger). This supposed to be done within 2 years period by the EPA with cooperation of the Ministry of Energy (according to Note of the Article 3)

E) Strategies and National Action Plan for **Protection and Restoration** of Wetlands with a six-month respite. The EPA is in charge to fulfil this section in collaboration with the Ministry of Energy and Ministry of Agricultural Jihad which must be approved by the Cabinet of Ministers (according to Article 4 of the Bylaw).⁸⁴³

⁸⁴⁰ Zistboom, *A critique on the Law of conservation, restoration and management of the country's wetlands adopted on 1 May 2017* <<http://zistboom.com/fa/news/34819/AA-96>> accessed 02 March 2018

⁸⁴¹ *ibid*

⁸⁴² Council of Ministers, Bylaw on Conservation techniques, Restoration and Management of the Country's Wetlands <<http://extwprlegs1.fao.org/docs/pdf/ira165132.pdf>> Accessed 25 Nov 2017

⁸⁴³ *ibid*

F) Plan for management of wetlands ecosystem with priority for **damaged/critical** wetlands. In fact, the deadline of two years for the adoption of the above strategies and policies has been considered (according to Article 5 of the Bylaw).⁸⁴⁴

G) Providing the critical and damaged **wetlands list**. Six-month deadline and revision after two years have been considered under the authority of the EPA (according to Note 2, Article 5 of the Code).⁸⁴⁵

H) Sustainable agricultural program which is **eco-friendly** in catchment areas of critical/damaged wetlands with the target of two years under the authority of the Ministry of Agriculture Jihad (according to Article 6 of the Code).⁸⁴⁶

As already stated, the Bylaw was adopted by the Cabinet of Ministers in 2015. A two-year deadline was given to the legal bodies to provide the required information. The Law was ratified in 2017. There is a confusion regarding the determination of required water to maintain *ecological characteristics* of country's wetlands.⁸⁴⁷ According to the Note of Article 3 of the Bylaw, a two-year deadline was given to the EPA to determine the required water of the wetlands within the country with the cooperation of Ministry of Energy.⁸⁴⁸ It means that at the time of the adoption of the Law on Conservation, Restoration and Management of Iran's Wetlands in 2017, it was expected that the required water to retain the ecological character for all wetlands within the country should have been determined, listed and referred in the Law. However, the required information was not provided. Hence, this important issue has been postponed to be determined by the EPA but this time without considering any right for the Ministry of Energy to get involve in decision making process of the *water share right* for wetlands. In fact, the Ministry of Energy merely has been obliged to *allocate* and provide water.⁸⁴⁹ The fact is that there is an ambiguity with regards to the implementation of Water Share Right in wetlands basin.

⁸⁴⁴ *ibid*

⁸⁴⁵ *ibid*

⁸⁴⁶ *ibid*

⁸⁴⁷ Abdoos Amir, *A critique on the law of conservation, restoration and management of the country's wetlands*, MehrNewsagency, 09 Aug 2017 <<http://www.mehrnews.com/news/4054546/>> Accessed 16 Nov 2017

⁸⁴⁸ Law on Conservation, Restoration and Management of Iran's Wetlands in 2017 (Islamic Republic of Iran) Please see; Islamic Parliament Research Centre of the Islamic Republic of Iran, 'Law on Conservation, Restoration and Management of Iran's Wetlands' <<https://rc.majlis.ir/fa/law/show/1021128>> accessed 20 Nov 2018

ibid

⁸⁴⁹ Abdoos Amir, *A critique on the law of conservation, restoration and management of the country's wetlands*, (Mehr News agency, Aug 2017) <<http://www.mehrnews.com/news/4054546/>> accessed 16 Nov 2017

Moreover, scientific and field information to determine required water of wetlands is not and has never been available for decision making authority(s) for the purpose of establishment of this right.

5.2. Evaluation of the bill on Conservation, Restoration and Management of Wetlands

The bill suggested by the Executive Branch (which is the government) to the Parliament was criticised. Article 1 of the bill prohibited any type of exploitation and action including civil, mineral, industrial, agricultural and economical exploitation in wetlands' *bed* which threatens the sustainability of the wetlands. The bill only targeted the wetlands' *bed*.⁸⁵⁰ The bill was criticised that it only had covered the wetlands' *bed*. Barbar, a legal environmentalist, claimed that this had greatly diminished the effectiveness of the bill in protecting, restoring and managing wetlands.⁸⁵¹ He argued that the main problem of the country's wetlands is the constructions such as dams constructed in the *watershed* area of the wetlands.⁸⁵² Another problem with the bill was that it did not even provide a clear *definition for wetlands*.⁸⁵³ hence, it is not clear what exactly will be covered as wetlands. Following these criticisms, based on the viewpoints of the Iranian Islamic Parliament Research Centre and experienced experts, changes were applied to the bill. Article 1 was amended and it prohibits any action as distinguished by the EPA that leads to the destruction and pollution of wetlands (not just at the wetlands' *bed*). So, the bill now covers wetlands' watershed as well⁸⁵⁴ and the amended version of the bill included 11 articles and 9 notes. Finally, the law on Conservation Restoration and Management of Iran's Wetlands was ratified on 24th of Apr 2017 by the Parliament of the Islamic Republic of Iran.⁸⁵⁵ The ratified law included five articles and three notes. There is no clear explanation about the reduction of articles by the Parliament.

⁸⁵⁰Zistboom, *A critique on the Law of conservation, restoration and management of the country's wetlands adopted on 1 May 2017* <<http://zistboom.com/fa/news/34819/AA-96>> Accessed 02 March 2018

Please also see; Massood Barbar, Evaluation of the Law on the Protection, Restoration and Management of Country's Wetlands' (mehrnews.com 2017) <<https://www.mehrnews.com/news/4054546/>> نقدی بر قانون حفاظت- <مدیریت تالابهای کشور> accessed 1 Apr 2018

⁸⁵¹ibid

⁸⁵²ibid

⁸⁵³ibid

⁸⁵⁴ibid

⁸⁵⁵ibid

5.3. Evaluation of the law on Conservation, Restoration and Management of Wetlands

The Law of Conservation, Restoration and Management of Iran's wetlands entails five articles:

Article 1- Any exploitation and action that results in the destruction or irreparable pollution of wetlands is prohibited. The Environmental Damage and Pollution Recognition Authority is the EPA.

Article 2-EPA is responsible for determining the water requirements of the wetlands and the Ministry of Energy is obligated to develop and implement the program.

Article 3- Importation of non-local plant and animal species harmful to wetlands is prohibited. The list of species should be published and reviewed by EPA every two year.

Article 4- Natural and legal persons violating this law and regulation will be litigated by EPA and will be obliged to stop the work and compensate the damages. Moreover, according to the judicial authority, they will be obliged to pay a fine of three to five times the amount of damages incurred and, if repeated, in addition to compensate for damages, they will be penalized at a rate of six to eight times the amount of damages.

Article 5-The government is required to anticipate the funds needed to implement the plans to meet the objectives of this law in the annual budgets of relevant organizations.

The law on Conservation, Restoration and Management of Wetlands has advantages in wetlands management. Article 4 can be pointed as the strength of this regulation.⁸⁵⁶This Article encompasses legal enforcement for compensation over the destruction of wetlands and the *criminal enforcement* such as setting fine up to three to five times of the damages to the wetlands and in case of recurrence, the *penalty* can escalate from six to eight times of the damage caused. Meanwhile, according to the Note to this Article, the National Environmental

⁸⁵⁶ Law on Conservation, Restoration and Management of Iran's Wetlands in 2017 (Islamic Republic of Iran) Please see; Islamic Parliament Research Centre of the Islamic Republic of Iran, 'Law on Conservation, Restoration and Management of Iran's Wetlands' <<https://rc.majlis.ir/fa/law/show/1021128>> accessed 20 Nov 2018
ibid

Fund has been allocated to receive *funds* and revenues. Moreover, these funds according to the Note must be spent to conserve, revive and manage wetlands and to compensate the damages to wetlands within the country as well.⁸⁵⁷ However, the law on Conservation, Restoration and Management of Wetlands must wait for preparation and approval of three bylaws and instructions. Barbar criticised that the Law just remained on the paper without actually being practised.⁸⁵⁸

Firstly, according to the Note of Article 1:

Regulations on prevention of irreparable destruction and pollution of wetlands shall be prepared by EPA within a maximum period of six months from the date of notification of this law and shall be approved by the Cabinet of Ministers in order to provide the basis for the operation of the EPA and all relevant authorities.

Secondly, according to Article 2:

EPA should determine the water requirements of the wetlands.

Thirdly, according to Article 3:

EPA should provide the list of non-local plant and animal species harmful to wetlands.

The key argument with regards to this wetland-specific law in the country is that it is still not implementing in practice because the points (described under first, second, third above) is not completed yet and no deadline has been set by the legislator for the completion of the requirements.⁸⁵⁹

6. EIA and Wetlands management

In order to achieve the sustainable development, the accurate enforcement of EIA is needed. However, constructions in Urmia wetlands have been done without properly assessing the threats towards environment.⁸⁶⁰ The major challenge to retain the ecological characters of Lake Urmia in Iran would be the necessity of proper EIA and risk assessment for the projects that are conducted in and around the wetland. This section first presents a definition for EIA,

⁸⁵⁷ *ibid*

⁸⁵⁸ Massood Barbar, Evaluation of the Law on the Protection, Restoration and Management of Country's Wetlands' (mehrnews.com 2017) <<https://www.mehrnews.com/news/4054546/>> نقدي-بر-قانون-حفاظت-احياء-و-مديريت- <<https://www.mehrnews.com/news/4054546/>> accessed 1 Apr 2018

⁸⁵⁹ Abdoos Amir, *A critique on the law of conservation, restoration and management of the country's wetlands*, (Mehr News agency, Aug 2017) <<http://www.mehrnews.com/news/4054546/>> accessed 16 Nov 2017

⁸⁶⁰ Chapter 4 section 2.3

discusses the criticism on the application of EIA in general and then evaluates the current state of EIA in Iran and discusses limitations that the EIA process is facing with regards to wetlands management in the country.

EIA is a decision-making tool aiming to achieve the balance and to ensure that project options under consideration are environmentally sound and sustainable.⁸⁶¹ EIA assesses if any action (consisting of projects, developments, or activities) is likely to have adverse effects on the wetlands.⁸⁶² According to Sands and Peel (2015), a broad range of international instruments now establishes obligations requiring prior environmental assessment of projects which may cause environmental harm.⁸⁶³ In addition, most multilateral development banks now require some form of EIA and are required by international law also to assess the environmental consequences of potentially damaging projects into which they consider putting financial resources.⁸⁶⁴ However, Sands and Peel (2015) believe that in respect of projects, the critical issues regarding the EIA remain as: the scope of the impact to be assessed, the type of project to be covered, the availability of information to the public and their participation in the process, and the requirement that the statement be taken into account before authorisation is granted.⁸⁶⁵ As a matter of urgency, what is needed for EIA now is a set of generally acceptable guidelines which specify the content of any assessment that is to be carried out prior to any project that might cause harm to environment.⁸⁶⁶ According to the UNEP report on EIA (2004), many developing countries face financial, structural and resource constraints on introducing and instituting EIA arrangements as follows:

- limited public involvement in political decision-making;
- little awareness of the importance of environmental management and sustainable development amongst government sectors and the public;
- inadequate institutional and legal framework
- weak enforcement of laws and regulations; and

⁸⁶¹ Hossein Moradi, 'Biodiversity climate change and environmental impact assessment' (PhD thesis, University of Zurich 2009)

⁸⁶² Chapter 4 section 2.3

⁸⁶³ Sands P and Peel J, '*Principles of International Environmental Law*' (3rd ed, Cambridge University Press 2018) P 622

⁸⁶⁴ *ibid*

⁸⁶⁵ *ibid*

⁸⁶⁶ *ibid*

- poor coordination between agencies at the national level and between national and local levels⁸⁶⁷

EIA was introduced in Iran in 1994. Then, Note 82 of the law for the second five-year of the Economic, Cultural and Social Development Plans of Iran (Iran's Developmental Plan) in 1995⁸⁶⁸ and ULRP in 2013⁸⁶⁹ necessitate EIA application. EIA consists of various stages: screening, scoping, impact assessment and evaluation, reporting, review, decision-making, and monitoring/enforcement.⁸⁷⁰ Following the EIA stages developed by Wood, Moradi evaluated EIA in Iran. The important issues in evaluating an EIA in Iran are:

- i. The coverage of EIA in Iran: Woods suggested that the objective of an EIA is to ensure that prior to implementation; all the environmental impacts of significant actions are assessed.⁸⁷¹ Projects in Iran that may have significant impacts on the environment, e.g. dams constructions, power plants, steel melting manufacturers as well as oil and gas pipelines, require an EIA.⁸⁷² However, Moradi claims that the direct and cumulative impacts are not explicitly considered in Iran and practitioners often consider the socio-economic impacts only. He argued that the investigation of the likely impacts of a given project on other existing projects is required but the impact types are not clarified.⁸⁷³
- ii. Screening: In Iran, 51 project types are subject to EIA.⁸⁷⁴ Moradi suggested that there is only one list released by the EPA containing the projects for which the EIA is necessary (in case of wetlands, only Dams with height more than 15 m or related structures that have an area larger than 40 ha or water reservoir that has an area larger than 400 ha). However, he suggested that EIA needs to be conducted at different levels and some projects require additional full EIA.⁸⁷⁵ Moradi suggested that it will help to have a better definition of primary and full EIA and reduce financial costs and time requirements.⁸⁷⁶

⁸⁶⁷ Hussein Abaza, Ron Bisset and Barry Sadler, *Environmental Impact Assessment and Strategic Environmental Assessment : Towards an Integrated Approach* (1st, UNEP, Geneva 2004) 15-16

⁸⁶⁸ Chapter 4 section 4

⁸⁶⁹ Chapter 4 section 2.3

⁸⁷⁰ Roel Slootweg, 'Environmental Impact Assessment for Wetlands: Overview' [Oct 2014] Springer 1, 8

⁸⁷¹ Wood 2003

⁸⁷² Hossein Moradi, Biodiversity, 'climate change and environmental impact assessment' (PhD thesis, University of Zurich 2009)

⁸⁷³ *ibid*

⁸⁷⁴ Hossein Moradi, 'Biodiversity climate change and environmental impact assessment' (PhD thesis, University of Zurich 2009) 104

⁸⁷⁵ *ibid*

⁸⁷⁶ *ibid*

- iii. Scoping: Scoping is the process of deciding which impacts are the significant ones among all project's impacts.⁸⁷⁷ In Iran, at the scoping stage often pollution-related impacts are considered, rather than addressing the full range of potential environmental impacts from a proposed development.⁸⁷⁸ Moradi argues that in Iran like some developing countries, practitioners are often under pressure not to hinder development of economically vital projects by undertaking of significant environmental impacts into assessment.⁸⁷⁹
- iv. EIA decision making committee members are:
 - Head of Deputy of Human Environment (committee president),
 - Head of EIA Bureau (committee Secretary),
 - Related expert from EIA Bureau,
 - Representative of Deputy for Natural Environment and biodiversity,
 - Academic expert,
 - Representative of NGOs,
 - Head of related provincial office,
 - Representative of Planning and Management Organization and
 - Representative of proponent. However, NGOs have no voting right.⁸⁸⁰
- v. In an EIA, it is important to mitigation measures. In other words, activities and measures need to be evaluated during the operation in order to avoid, minimize or remedy the adverse impacts and monitoring actions for controlling the condition of the project during the operation.⁸⁸¹ Moradi claimed that in Iran, proposed mitigation measures are sometimes speculative and irrelevant and there is no legal enforcement to guarantee the implementation of mitigation measures and monitoring actions in the operation phase. Furthermore, inspection and supervision on proponent activities in the operational phase are not the duty of the EIA Bureau or the EPA but are duties of Administration and Planning Organization (APO).⁸⁸² He added that for the EIA

⁸⁷⁷ Roel Slootweg, 'Environmental Impact Assessment for Wetlands: Overview' [Oct 2014] Springer 1, 8

⁸⁷⁸ *ibid*

⁸⁷⁹ LeyliBektashi and AlegCherp , ' Evolution and current state of environmental assessment in Azerbaijan' [Feb 2012] Impact Assessment and Project Appraisal, 252, 257

⁸⁸⁰ Hossein Moradi, Biodiversity, 'climate change and environmental impact assessment' (PhD thesis, University of Zurich 2009) 104

⁸⁸¹ *ibid*

⁸⁸² Fereydoon Ghodoosi, Ahad Sotouteh, An emphasis on the need for systematic review of the environmental impact assessment process in Iran (3rd National Conference on Environmental Impact Assessment, Tehran 2006)

practitioners cost-effectiveness is prior to the environmental measures in the mitigation plan.⁸⁸³

Finally, as Slootweg suggested the effectiveness of EIA in any country is influenced by capacity of the organizations responsible for its implementation.⁸⁸⁴ As a matter of fact, this capacity varies in relation to the political and governance context of different countries.⁸⁸⁵ Moradi claimed that in Iran, **EIA is not based on a specific and clear legal provision**. He claimed that there is no specific and independent law regularizing the EIA process.⁸⁸⁶ As a matter of fact, in Iran, **EIA is lacking a legal definition** and even the contents of EIA are not clearly defined. Even with regards to Iran's Developmental Plan, Moradi suggested that each set of law needs to be ratified by the parliament before each next 5-year period starts. So, the content of the law depends on the situation to date and there is no guarantee that EIA be always a part of it.⁸⁸⁷ A further shortcoming is that **EIA is not enforced** by any legal provision. Indeed, the EPA has not imposed a clear sanctions and penalties for any deficiencies. Indeed, **by-passing of the EIA requirements** is another problem that the EIA system in Iran is suffering.⁸⁸⁸ The EPA lacks legal administrative power because it operates as an organisation and not a ministry and in the legal system of Iran, only ministries have got administrative legal power. For example, some duplication of efforts and potential conflicts is occurring between the EPA, Ministry of Jihad and Ministry of Energy which are involved in wetlands management in Iran. A further example of the lack of coordination can be found between the EPA and Environment Protection Council (EPC). By virtue of Article 1 of the Law on the Protection and Improvement of Environment, the EPA should be operated and managed under the direct supervision of the Environmental Protection Council.⁸⁸⁹ Although the purpose of the Council is to try to consolidate the environmental protection in the development process of the country, in practice the Council has caused the Environmental protection management to be a very long process.⁸⁹⁰ Basically, the first draft of all decisions

⁸⁸³ Ibid

⁸⁸⁴ Ibid

⁸⁸⁵ Ibid

⁸⁸⁶ Hossein Moradi, Biodiversity, 'climate change and environmental impact assessment' (PhD thesis, University of Zurich 2009) 93

⁸⁸⁷ Ibid

⁸⁸⁸ Fereydoon Ghodoosi, Ahad Sotouteh, An emphasis on the need for systematic review of the environmental impact assessment process in Iran (3rd National Conference on Environmental Impact Assessment, Tehran 2006)

⁸⁸⁹ Atefeh Zahedi, Collection of Environmental Rules and Regulations (*Javedaneh Publication 2012*) 13-23; Please also see: Islamic Parliament Research Centre of the Islamic Republic of Iran, Article 1, Law on the Protection and Improvement of the Environment <<http://rc.majlis.ir/fa/law/show/97090>> Accessed 15 Apr 2017

⁸⁹⁰ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] *Environmental Sciences* 143, 153

are prepared by the EPA, then those decisions must be approved by the EPC and also in important cases final approval must be done by Council of Ministers.⁸⁹¹ In the decision making processes by the EPC, it is not clear how the Council reconciles inconsistencies between environmental protection issues and other issues such as economic development of the country.⁸⁹² The modern approach in wetland management is based on the prediction and prevention of degradation.⁸⁹³ This approach however requires the EPA to utilize accurate inspection and control mechanisms in all areas of the country. Hence, EPA employed environmental guards to watch the environment and protect and control the country's natural and wildlife.⁸⁹⁴ Abdollahi and Faryadi argued that although the environmental guards play an effective role in inspecting the environment in Iran, their operation realm is limited to natural protected areas and inspection of particular sites with the EPA's order.⁸⁹⁵ The problem with the legal system of Iran in this respect is that the EPA has no authority to inspect and supervise the observance and compliance of the environmental regulations by other institutions and actually the EPA is not able to take any action until the actual damage to the wetlands occurs and a report or complaint regarding the issue would be sent to the EPA, then the EPA can take the case to Iran's Islamic Court and the Penal Code will choose penalties that is proportionate to the severity of crimes committed.⁸⁹⁶ Iran's Penal Code and the EAP challenges will be discussed in detail in chapter 5.

In general, EIA globally is still far from being perfect.⁸⁹⁷ There is a need of more clarity in the legal definitions of EIA and of the contents of EIA. A crucial point in EIA is a quantitatively **limited human resource** capacity for reviewing the EIA reports.⁸⁹⁸ Moradi suggested that 'a higher consideration of alternatives of projects, enhanced effective public participation, more

⁸⁹¹ ibid

⁸⁹² ibid

⁸⁹³ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] *Environmental Sciences* 143, 153

⁸⁹⁴ EPA, 'Environmental Guards, the caring guardians of the nature' (doe.ir 2019) < <https://www.doe.ir/portal/home/?news/171104/109922/484608/> > accessed 11 Sep 2019

⁸⁹⁵ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] *Environmental Sciences* 143, 157

⁸⁹⁶ ibid

⁸⁹⁷ William Laurance and David Salt, 'OPINION: Environmental impact assessments aren't protecting the environment' (ensia.com 2018) < <https://ensia.com/voices/environmental-impact-assessment/> > accessed 2 Feb 2020

⁸⁹⁸ Hossein Moradi, Biodiversity, 'climate change and environmental impact assessment' (PhD thesis, University of Zurich 2009) 93-99

effective legal enforcement to enact the EIA report contents and more rigorous procedures to analyze the EIA data would help to conserve the rich biological heritage of Iran.⁸⁹⁹

The importance of EIA for wetlands is recognized by important international conventions such as the Convention on Biological Diversity (CBD) and the Ramsar Convention on Wetlands.⁹⁰⁰ The Ramsar Convention has long recognized the importance of applying impact assessment techniques to situations where the ecological character of Ramsar sites and other wetlands may be threatened by developments or broader policies and strategies.⁹⁰¹ This requires complex technical assessments and significant effort. In fact, the concept of risk assessment has been developed in order to assist contracting parties with predicting and assessing changes in ecological character of the sites included in the List of Wetlands of International Importance.⁹⁰² Risk assessment provides guidance on how to go about predicting and assessing change in the ecological character of wetlands and promotes, in particular, the usefulness of early warning systems.⁹⁰³ The *Wetland Risk Assessment Framework* is presented as an integral component of the management planning processes for wetlands.⁹⁰⁴

The guidelines for risk assessment include six steps that are as follows:⁹⁰⁵

- Step 1 - Identification of the problem
- Step 2 - Identification of the adverse effects
- Step 3 - Identification of the extent of the problem
- Step 4 - Identification of the risk
- Step 5 - Risk management and reduction
- Step 6 – Monitoring

A comprehensive elaboration on the risk assessment steps and the demanding effort required to perform risk assessment is described hereafter. However, the reason for discussing EIA and risk assessment as a challenge with regards to retaining the ecological character of the Lake Urmia is that the constructions in the Urmia wetland (Shaid Kalantari Highway and dam constructions) have been carried out regardless of the EIA and risk assessment considerations.

⁸⁹⁹ *ibid* 82

⁹⁰⁰ *ibid*

⁹⁰¹ Ramsar Convention Secretariat, *Handbook 16: Impact assessment: Guidelines on biodiversity-inclusive environmental impact assessment and strategic environmental assessment* (4th, Ramsar Publications, Gland, Switzerland 2010) 5-7

⁹⁰² Secretariat of the Ramsar Convention, Ramsar Resolution VII.10, *Wetland Risk Assessment Framework* (Costa Rica, May 1999) <<http://archive.ramsar.org/pdf/guide/guide-risk-e.pdf>> Accessed 30 Nov 2017

⁹⁰³ *ibid*

⁹⁰⁴ *ibid*

⁹⁰⁵ *ibid*

Step 1 - Identification of the problem:

Step 1 requires the identification of the problem in order to plan the risk assessment for the crisis based on the available information. In the first step, the objectives of the plan and scope of the crisis need to be defined. For example, with regards to the scope of the crisis, information about the characteristics (for example, properties, known toxicity, etc.) and source of the chemical, what is likely to be affected, and how is it likely to be affected and what is to be protected should be obtained precisely.⁹⁰⁶

Step 2 - Identification of the adverse effects:

When the nature of the crisis is evaluated, it is needed to identify and evaluate the likely extent of adverse change or impact on the wetlands. Field studies are necessary for identifying the adverse effects as 'field data are more appropriate for assessments of multiple impacts, such as occur on many wetlands.'⁹⁰⁷ Depending on the extent of adverse change and available resources, such studies can range from quantitative field experiments to qualitative observational studies.⁹⁰⁸

Step 3 - Identification of the extent of the problem:⁹⁰⁹

This step estimates the likely extent of the problem affecting the wetland of concern by using information gathered about its behaviour and extent of occurrence elsewhere.⁹¹⁰ 'While field surveys most likely represent the ideal approach, use of historical records, simulation modelling, and field and/or laboratory experimental studies all represent alternative or complementary methods of characterising the extent of the problem.'⁹¹¹

Step 4 - Identification of the risk:

⁹⁰⁶ Secretariat of the Ramsar Convention, Ramsar Resolution VII.10, *Wetland Risk Assessment Framework* (Costa Rica, May 1999) <<http://archive.ramsar.org/pdf/guide/guide-risk-e.pdf>> accessed 30 Nov 2017

⁹⁰⁷ *ibid*

⁹⁰⁸ *Ibid*- for chemical impacts, on-site ecotoxicological bioassays constitute appropriate approaches, whereas for changes caused by weeds or feral animals, on-site observation and mapping may be all that is required.

⁹⁰⁹ Secretariat of the Ramsar Convention, Ramsar Resolution VII.10, *Wetland Risk Assessment Framework* (Costa Rica, May 1999) <<http://archive.ramsar.org/pdf/guide/guide-risk-e.pdf>> Accessed 30 Nov 2017

⁹¹⁰ *Ibid*- In the case of a chemical impact, this includes information on processes such as transport, dilution, partitioning, persistence, degradation, and transformation, in addition to general chemical properties and data on rates of chemical input into the environment. In the case of an invasive weed, it might include detailed information on its entry into an ecosystem, rate of spread and habitat preferences.

⁹¹¹ *ibid*

Based on the information gathered from the 2 previous steps (i.e., assessment of the likely effects and assessment of the likely extent of the problem), the likely level of adverse ecological change on the wetland is identified.⁹¹²

Step 5 - Risk management and reduction:⁹¹³

This is the final decision-making process and uses the information obtained from the assessment processes described above. This step attempts to minimize the risks without compromising other societal, community or environmental values. In the context of the Ramsar Convention, risk management must also consider the concept of *wise use* and the potential effects of management decisions on this.⁹¹⁴ Risk assessment is not the only factor that affects wetland's management. Political, social, economic, and engineering/ technical factors should be taken into consideration.⁹¹⁵ It is a multidisciplinary task which requires communication between site managers and experts in relevant disciplines.⁹¹⁶

Step 6 – Monitoring:

Monitoring is the last step in the risk assessment process. This last step verifies the effectiveness of the risk management decisions. 'It should incorporate components that function as a reliable early warning system, detecting the failure or poor performance of risk management decisions prior to serious environmental harm occurring.'⁹¹⁷ The risk assessment will be of little value if effective monitoring is not undertaken.

7. Wetlands Management and Environmental Crimes

The Penal Code of Iran which contains the punishments in the legal system of Iran will be discussed in chapter 5 as the enforcement tool to implement the Ramsar Convention.

⁹¹² Ibid

A range of techniques exist for estimating risks, often depending on the type and quality of the likely effects and their extent. A potentially useful technique for characterising risks in wetlands is via a GIS-based framework, whereby the results of the various assessments are overlaid onto a map of the region of interest in order to link effects to impact. In addition to estimating risks, such an approach would also serve to focus future assessments and/or monitoring on identified problem areas.

⁹¹³ Ibid

⁹¹⁴ Charnley G., *Framework for Environmental Health Risk Management/Risk Assessment and Risk Management* (DIANE Publishing, 1997) 52-54

⁹¹⁵ Compton P, Devuyst D, Hens L, Nath B, *Environmental Management in Practice: Vol 1: Instruments for Environmental Management* (Routledge, London 1998) 485-487

⁹¹⁶ Secretariat of the Ramsar Convention, Ramsar Resolution VII.10, *Wetland Risk Assessment Framework* (Costa Rica, May 1999) <<http://archive.ramsar.org/pdf/guide/guide-risk-e.pdf>> Accessed 30 Nov 2017

⁹¹⁷ The choice of endpoints to measure in the monitoring process is critical. Further, a GIS-based approach will most likely be a useful technique for wetland risk assessment, as it incorporates a spatial dimension that is useful for monitoring adverse impacts on wetlands.

However, the laws which directly and indirectly address crimes that could have implications for wetlands are reviewed here. The aim is to see if wetlands are addressed in any of the environmental crimes specifically and that there is a need to impose punishments for wetland-related crimes. As a matter of fact, there are some scattered rules in the legal system of the country.

Environmental crimes directly dealing with wetlands management

1. Illegal hunting and fishing:

- Articles 10 to 13 of Law of fishing and hunting (ratified on 06/Jun/1967),
- Article 13 of Protection of Seas and boundary rivers from contamination by petroleum products Law ratified on 21 Jan 1976⁹¹⁸,
- Article 1 of punishment for illegal fishing in the Caspian Sea and the Persian Gulf Act ratified on 23 Jul 1979⁹¹⁹,
- Article 18 of The Iranian Islamic Republic Law of Marine areas in the Persian Gulf and Oman Sea ratified on 21 Mar 1993⁹²⁰,
- Article 22 of Islamic Republic of Iran the protection and exploitation of aquatic resources Act ratified on 23 Aug 1995⁹²¹,
- Article 2 of construction and use of facilities of the continental plateau and Iran's exclusive economical zone in Persian Gulf bylaw ratified on 21 Nov 1996⁹²² and also
- Articles 679, 680 and 688 of Islamic Penal code of Iran.⁹²³

⁹¹⁸ Naser Ghassemi, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) 142-150; Please also see; Islamic Parliament Research Centre of The Islamic Republic of Iran, *Protection of Seas and boundary rivers from contamination by petroleum products Law* <<http://rc.majlis.ir/fa/law/show/97381>> Accessed 12 Apr 2017

⁹¹⁹ Naser Ghassemi, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) 140-142 Please also see; Islamic Parliament Research Centre of The Islamic Republic of Iran, *Punishment for illegal fishing in the Caspian Sea and the Persian Gulf Act* <<http://rc.majlis.ir/fa/law/show/98189>> Accessed 13 Apr 2017

⁹²⁰ Naser Ghassemi, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) 135-142; see also Islamic Parliament Research Centre of the Islamic Republic of Iran, *The Iranian Islamic Republic Law of Marine areas in the Persian Gulf and Oman Sea* <<http://rc.majlis.ir/fa/law/show/92205>> Accessed 12 Apr 2017

⁹²¹ Naser Ghassemi, 'Collection of Environmental Rules and Regulations' (Behnami Publication 2007) 129-135; see also Islamic Parliament Research Centre of the Islamic Republic of Iran, *Islamic Republic of Iran the protection and exploitation of aquatic resources Act* <<http://rc.majlis.ir/fa/law/show/92543>> Accessed 13 Apr 2017

⁹²² Islamic Parliament Research Centre of the Islamic Republic of Iran, *The bylaw on the construction and use of facilities of the continental plateau and Iran's exclusive economical zone* <<http://rc.majlis.ir/fa/law/show/116611>> Accessed 10 Apr 2017

2. Demolition of Natural Resources:

- Articles 42 to 47 of the protection and utilization law of forests and meadows ratified on 23 Jul 1967⁹²⁴,
- Articles 10 to 13 of the Hunting and Fishing Law⁹²⁵,
- Articles 1 and 6 of bylaw for maintaining and expanding green zones in all cities ratified on 24 May 1980⁹²⁶,
- Articles 686, 684, 690 and 675 of Islamic Penal code of Iran.⁹²⁷

3. Water Pollution:

- article 60 of the water act and water nationalization ratified on 22 Jun 1968⁹²⁸,
- article 46 of fair distribution of water law ratified on 18 Jul 1968⁹²⁹,
- article 12 of the hunting and fishing law ratified on 22 May 1967⁹³⁰,
- Article 2 of Protection of Seas and boundary rivers from contamination by petroleum products Law ratified on 21 Jan 1976⁹³¹,
- Article 6 of Islamic Republic of Iran the protection and exploitation of aquatic resources Act ratified on 23 Aug 1395⁹³² and

⁹²³ Mansour J, *The Islamic Penal Code, the Fifth Book of The Islamic Penal Code- Tazirat and discretionary punishments* (Didar Publication 2016)

⁹²⁴ Ghassemi Naser, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) 85-122; see also Islamic Parliament Research Centre of the Islamic Republic of Iran, *Regulation for protection and exploitation of forests and meadows* <<http://rc.majlis.ir/fa/law/show/96108>> Accessed 08 Apr 2017

⁹²⁵ Ghassemi Naser, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) 18-26; see also Islamic Parliament Research Centre of the Islamic Republic of Iran, *Hunting and fishing law* <<http://rc.majlis.ir/fa/law/show/96050>> Accessed 11 Apr 2017

⁹²⁶ Islamic Parliament Research Centre of the Islamic Republic of Iran, *Bylaw for maintaining and expanding green zones in all cities* <<http://rc.majlis.ir/fa/law/show/98884>> Accessed 09 Apr 2017

⁹²⁷ Mansour J, *The Islamic Penal Code, the Fifth Book of The Islamic Penal Code- Tazirat and discretionary punishments* (Didar Publication 2016) 13-26

⁹²⁸ Islamic Parliament Research Centre of the Islamic Republic of Iran, *Water act and Water Nationalization* <<http://rc.majlis.ir/fa/law/show/96242>> Accessed 10 Apr 2017

⁹²⁹ Zahedi Atefeh, *Collection of Environmental Rules and Regulations* (Javedaneh Publication 2012) 79-89; see also Islamic Parliament Research Centre of the Islamic Republic of Iran, *law of fair distribution for water* <<http://rc.majlis.ir/fa/law/show/90679>> Accessed 13 Apr 2017

⁹³⁰ Ghassemi Naser, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) 18-26; see also Islamic Parliament Research Centre of the Islamic Republic of Iran, *Hunting and fishing law* <<http://rc.majlis.ir/fa/law/show/96050>> Accessed 11 Apr 2017

⁹³¹ Naser Ghassemi, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) 142-150; see also Islamic Parliament Research Centre of the Islamic Republic of Iran, 'Protection of Seas and boundary rivers from contamination by petroleum products Law' <<http://rc.majlis.ir/fa/law/show/97381>> Accessed 12 Apr 2017

⁹³² Naser Ghassemi, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) 129-135; see also Islamic Parliament Research Centre of the Islamic Republic of Iran, *Islamic Republic of Iran the*

<ul style="list-style-type: none"> • article 11 of the costal and constructed fields law ratified on 20 Jun 1975.⁹³³
<p style="text-align: center;">Environmental crimes indirectly dealing with wetlands management</p>
<p>1. Setting fire to properties and natural resources:</p> <ul style="list-style-type: none"> • Article 675 of the Fifth Book of the Islamic Penal Code (Tazirat and discretionary punishments, ratified on 22/May/1996).⁹³⁴ <p>2. Air pollution:</p> <ul style="list-style-type: none"> • article 2 of air pollution prevention Act ratified on 23 Apr 1995⁹³⁵, • Oil Law ratified on 29 Sep 1987⁹³⁶, • Municipal Law and amendments ratified on 3 Jul 1955⁹³⁷, • Article 6 of preventing air pollution Act and related administrative bylaw ratified on 12 Jun 2002⁹³⁸, • article 688 of the Islamic Penal Code⁹³⁹, resolution for air pollution by ministerial panel ratified on 12 Dec 1990.⁹⁴⁰

It should be noted that in these scattered laws wetlands have never been considered specifically and there are just some general environmental crimes some of which (like

protection and exploitation of aquatic resources Act <<http://rc.majlis.ir/fa/law/show/92543>> Accessed 13 Apr 2017

⁹³³ Naser Ghassemi, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) 50-156; see also Islamic Parliament Research Centre of the Islamic Republic of Iran, *The Law of costal and constructed fields* <<http://rc.majlis.ir/fa/law/show/97348>> Accessed 08 Apr 2017

⁹³⁴ Mansour J, *The Islamic Penal Code, the Fifth Book of The Islamic Penal Code- Tazirat and discretionary punishments* (Didar Publication 2016) 46-68

⁹³⁵ Zahedi A, *Collection of Environmental Rules and Regulations* (Javedaneh Publication 2012) 93-106; see also Islamic Parliament Research Centre of The Islamic Republic of Iran, *The air pollution prevention Act* <<http://rc.majlis.ir/fa/law/show/92532>> Accessed 09 Apr 2017

⁹³⁶ Ghassemi Naser, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) 159-160; Please also see: Islamic Parliament Research Centre of the Islamic Republic of Iran , *Law of Oil* <<http://rc.majlis.ir/fa/law/show/91406>> Accessed 11 Apr 2017

⁹³⁷ Islamic Parliament Research Centre of the Islamic Republic of Iran ,*Municipal Law* <<http://rc.majlis.ir/fa/law/show/94737?keyword>> Accessed 14 Apr 2017

⁹³⁸ Zahedi A, *Collection of Environmental Rules and Regulations* (Javedaneh Publication 2012) 108-114 Please also see: Islamic Parliament Research Centre of the Islamic Republic of Iran, *The administrative Bylaw of preventing air pollution Act* <<http://rc.majlis.ir/fa/law/show/122069>> Accessed 14 Apr 2017

⁹³⁹ Mansour J, *The Islamic Penal Code, the Fifth Book of The Islamic Penal Code- Tazirat and discretionary punishments* (Didar Publication 2016) 164-175

Please also see: Judiciary Branch of Islamic Republic of Iran, *The Fifth Book of The Islamic Penal Code (Tazirat and discretionary punishments)* Ratified on 21 Apr 2013 <<http://iran5050.com/?p=751>> Accessed 08 Apr 2017

⁹⁴⁰ GholamhasanKooshki, ‘ The Challenges of Iranian Criminal System in the field of Environmental Crime’ [2009] Quarterly Journal of Legal Notifications 88, 104

demolition of natural sources or water pollution crimes) can be generalised to the management of wetlands. Further discussions about the Penal Code as the enforcement tool for implementation of the Convention along with the evaluation of Penal Code will be in chapter 5.

8. Conclusion

Chapter four analysed the legal framework for wetlands management in the context of Iran to answer the research question of the study:

How international and national legal frameworks are implemented in Iran for the purposes of preserving the Lake Urmia?

The content of the Ramsar Convention was translated into Farsi and came into force after the Parliament ratification of the law. However, there are challenges with regards to the implementation of the Convention in Iran.

First, there are two arguments with respect to the **definition of wetlands** in Iran.

- (i) The first argument is the conflict between the *environmental protection* and *economic development*. Wetlands are not clearly defined in national laws and this has led to poor distribution of power. For example, according to the Articles 1, 6, 9 and 16 of the Law of the Protection and Improvement of the Environment, EPA is assigned to be in charge of implementation of the Ramsar Convention in Iran and is assigned to take the control over national wetlands. However, the control over waters behind dams (man-made wetlands) is assigned to the Ministry of Energy. Ramsar Convention categorised man-made wetlands besides marine and coastal wetlands and inland wetlands under the Convention's definition of wetlands. The two legal bodies of the EPA and the Ministry of Energy have different aims. The main responsibility of the Ministry of Energy is to provide energy for the country. Constructing dams over rivers is the major way of providing energy by the Ministry of Energy. This is in contrast with the sustainable use of wetlands as dams block the natural flow of water and result in destroying the wetland.
- (ii) The second argument is about allocation of water among users such as agriculture users, domestic user, industrial users and the water right for the Lake itself. In fact, the allocation of water in the implementation of the Convention has been neglected in the country. According to the report by Integrated Management Plan for Lake Urmia

Basin, agricultural, industrial and residential developments increasingly compete with water allocation to the wetlands and the Lake. If there was a precise definition of wetlands, water would be clearly allocated between bodies involved and the Lake itself (i.e., water right of the Lake).

Second, with regards to the **Listing approach**, Iran has not yet publicised any systematic approach it adopts for nominating a wetland for Ramsar List. It is argued that it is essential that States have got a strategic approach for nominating Ramsar sites because this will help wetlands take advantage from the benefits that a Ramsar designation provides. A strategic approach will be essential to taking advantage of the meaning and prestige of the Ramsar designation, including the benefits it brings for wetland protection, management, and public education.

Third, each right including the sovereignty has corresponding duties and obligations. As a part of **sovereign right**, the CPs are required to promote wetland conservation by establishing nature reserves in wetlands and providing adequately for their wardening. One measure in wardening wetlands would be to pass information on ecological changes without delay to the Ramsar Secretariat. Lake Urmia is in danger of completely drying up having been lost 70 to 80% of its surface water. Lake Urmia needs to be placed by Iran on the special list of the Montreux Record. Iran has not reported the site to Ramsar Secretariat yet. Though at the first step, the sovereign right was given to the contracting parties with the purpose of attracting their interest towards joining the Convention, it does not bind the Contracting Parties to record the ecological changes of the wetlands to the Montreux report. As stated earlier the provision of sovereignty is left at States' discretion. In the case of Lake Urmia, Iran has no legally binding obligation to report the problems facing the lake to the Montreux Record for further observation and advice.

Fourth, CPs are committed to formulate and implement their national planning in order to promote **wise use** within their territory. Wise use has at its heart the *conservation and sustainable use* of wetlands and their resources, for the *benefit of humankind* in a way that the ecological character is maintained. Two arguments are discussed with regards to implementation of wise use provision in Iran in case of Lake Urmia: firstly, Iran's national plan, ULRP⁹⁴¹ and secondly, the implementation of the Ramsar Convention in Iran with

⁹⁴¹ Urmia Lake Restoration Programme

respect to the two wise use elements of *conservation and sustainable use of wetlands* and their *benefits for present and future generations*:

- (i) Worsening condition of Urmia Lake plus Iran's commitment to Ramsar resulted in the Iranian government to approve the ULRP with the aim of saving the Lake Urmia in 2013. the ULRP is a ten-year programme with three phases of i) stabilizing the current status, ii) restoration and iii) sustainable use. ULRP have had some **positive effects**: i) further development of agriculture is prohibited, ii) budget for new irrigation methods is allocated, iii) some rivers are dredged, etc. ULRP is **criticised** as well: i) the condition of the Lake is not stabilised yet and it's shrinking; ii) The implementation of ULRP is slow and has cost huge expenses; iii) some plans under ULRP are inefficient and expensive, for example, transferring water from other sources to Lake Urmia, iv) EIA is not perfectly done under ULRP prior to initiation of any construction for example, Shahid Kalantari Highway and Dams over rivers feeding the Lake.
- (ii) Shahid-Kalantari Highway split the Lake Urmia into two separate parts. Construction of dozens of dams in the Lake district transformed the Lake character. These constructions have violated the environmental right of water share for the lake and its biodiversity. Moreover, the constructions resulted droughts in the area which intensify the ecological changes including drying out of a large area of the lake and converting the area into kilometers of arid salt lands. Such constructions violate the conservation and sustainable use of Lake Urmia and have put the benefits of present and future generations at risk.

Fifth, under the '**ecological character**' provision of Ramsar Convention, Iran is committed to maintain the ecological character of wetlands and shall inform the Ramsar Secretariat at the earliest possible time of any ecological changes. Lake Urmia has lost about 70 to 80% of its water and is drying out very quickly because of climate change and mismanagement of water resources in the lake basin. Iran has not reported the changes in the ecological character of the Lake Urmia to the Ramsar Secretariat and as a result the Lake Urmia is not included in the Montreux List. The latest update is the 57th Meeting of the Standing Committee Gland, Switzerland, 24 – 28 June 2019. Urmia Lake is not included in the Montreux record.

Sixth, Iran is committed to **exchange information** in order to protect wetlands. According to Iran's report on the implementation of the Ramsar Convention (2018), annual workshops for the exchange of information and experience of the country's ecosystem management

secretariats have been held for Ramsar sites and other wetlands. According to Article 6, Note I of the Iranian Hunting and Fishing Law, EPA is assigned to establish and run training programs with the purpose of promoting the protection of natural resources in the country and increasing public awareness. However, the performance of EPA with respect to increasing the public awareness has been criticised to be superficial and lacks deep studies and research and the involvement of faculty members of the specialised research centres in this organization is poor.

Seventh, Iran reported the **financial resources** for preserving wetlands which are funds from member states, NGOs and private sectors. Omid (literally meaning hope) is an Iranian entrepreneurship fund (private sector) that has allotted some 50 billion Rials (nearly \$1.5 million) with the aim of saving wetlands nationwide. Besides private sector, Japan has funded research to inform wetland policies and plans on agriculture-wetland interactions. Having mentioned the funding sources for Lake Urmia preservation in the national report on the implementation of the Convention, the Iranian government itself did not allocate financial resources to preserve the Lake Urmia in 2017 annual budget. Moreover, financial penalties (on harmful activities to wetlands) can be used as an income resource for preserving and restoring wetlands however currently the fines on wetland-related damages are very affordable and need to be updated.

Eighth, in Iran, **NGOs** participate in wetlands management. NGOs play a role in providing information. NGOs play a role in monitoring compliance. They play a role in capacity building at the national and local level. NGOs collaborate with government and private sector to manage wetlands. However, NGOs are not effectively involved in the Iranian judicial system. There is no supporting role for participation of NGOs in the Criminal Procedure Act. The only legal right considered for NGOs is that like other citizens they can litigate (under Article 66 of Criminal Procedure Act). NGOs can only take the dispute to the judicial authorities and judicial authorities in order to chase their litigation can take the necessary measures in order to discover and pursue crime if other circumstances also indicate the commitment of a crime.

Besides the implementation of Ramsar Convention, Iran has got **national laws** which directly and indirectly have implications for wetlands management.

- (i) First, **Article 50** is the main environmental protection principle in the Iranian Constitution. Article 50 holds the ecocentric view and values the environment and

forbids any activity which could damage the environment. In Article 50, to preserve the environment is considered to be a public duty and the right of present and future generations to healthy environment is respected and required. GhavaamAbbaadi criticised Article 50 and suggested that the implications of *future generations* as well as the *enforcement mechanisms* for the rights of the *present and future generations* are unclear and Constitution has not fully addressed them. It is also suggested that *environment* is not defined anywhere in the Iranian Constitution.

- (ii) Iran formulated five sets of laws (each set of law to be implemented in five-year time, in total 25 years) called the **Economic, Cultural and Social Development Plans of Iran (or Iran's Developmental Plan)** to improve the country in economic, cultural and social aspects. Environment is also dealt with in Iran's Developmental Plan which indirectly has implications for sustainable development of wetlands. For example, Iran's Developmental Plan emphasized on the sustainable development of natural resources; preventing destruction of natural resources and their protection. However, in general, the results of Iran's Developmental Plan departed from the predicted goals because the developmental plans are very general in nature. It is suggested that the developmental plans would be more effective if they were project-based with a focus on the implementation of huge and small projects. So, the results would be closer to predictions. It is claimed that environment sectors in developmental plans are not pursued very seriously.

(iii) **Law of Conservation, Restoration and Management of Iran's wetlands**

In general, the law on Conservation, Restoration and Management of Wetlands has some advantages in wetlands management as it is the first formal law to address the wetlands management and bring forward legal enforcement over wetlands crimes. Meanwhile, the bylaw was proposed to the Parliament in 2015 but the law was ratified with a two year delay in 2017. In the bylaw, the legal bodies were tasked to prepare some information required but on the time of ratification of the law, the required information was not ready and the law was ratified without accurate basis to successfully tackle the problem of endangered wetlands. For example, the EPA was tasked to propose the amount of water share required retaining the ecological character of the Lake but the information was not submitted to the Parliament on the time of ratification of the law. The key argument when discussing the law on Conservation, Restoration and Management of Wetlands is that the required information (for example, water share specification, list of non-local plant and animal species harmful

to wetlands) is still not completed and no deadline has been set by the legislator for the completion of the requirements.

Chapter five

Enforcement of Ramsar Convention in Iran

1. Introduction

Enforcement is the process of ensuring compliance with laws, regulations, rules, standards, or social norms. By enforcing laws and regulations, governments attempt to effectuate successful implementation of policies.⁹⁴² Chapter 4 investigated the national legal provisions including laws on the Ramsar Convention and laws independent of the Ramsar Convention for preserving wetlands. This chapter will review how Iran complies with and enforcing the laws for preserving wetlands. The Islamic Penal Code of Iran (hereafter will be referred to as Penal Code) deals with the enforcement power to implement the Convention. The chapter will first analyse the functions of Penal Code to see how it supports the implementation of the Convention and if it is strong enough in reaching this goal. Secondly, this chapter will be focusing on what legal enforcements are in place in relation to Lake Urmia independent of the Ramsar Convention. As previously stated, EPA is implementing the Convention in Iran however, any challenges that this organisation faces would be related to the way wetlands are managed within the country. Along the same lines, it is first important to see the challenges that EPA as the organisation officially assigned in charge of the implementation of the Convention faces. Hence, the present chapter will be discussing the challenges that EPA faces its functions, obligations as well as the weaknesses. Penal Code is a tool that EPA can use to compensate the environmental damages including damages to wetlands.⁹⁴³ In this chapter how EPA use Penal Code to preserve wetlands will also be discussed.

2. The Iranian Penal Code as an enforcement tool to deal with wetlands management

According to some researchers (e.g., Moussavi and Ghalibaf) who investigated Iran's adherence to the commitment of 'wise use' of the Lake Urmia, the current condition of the Lake is the result of developmental activities that have been accompanied by intensive

⁹⁴² OECD, Ensuring environmental compliance: trends and good practices (OECD Publications 2009) 33-43

⁹⁴³ SaaedTeymooriBilhdeh, 'The challenges of criminal law in dealing with possible environmental crimes, effective in the Lake Urmia drying' [2016] National Symposium on Green Rights emphasising the environmental challenges of the northern regions of Iran 1, 14

environmental damage.⁹⁴⁴ Some legal researchers in Iran (e.g., Sanaeepour and GhavaamAbbaadi) claim that lack of strong enforcement has left the field open for degradation and misuse of environment and wetlands in particular.⁹⁴⁵

Iran's Islamic Penal Code consists of provisions of crimes and punishments of Hudud, Qisas, Diyat, Ta'zirat, the security and correctional measures, requirements and barriers of criminal responsibility and the rules that apply to them.⁹⁴⁶ In fact, the Penal Code with its provisions gives enforcement power to executive bodies (e.g., EPA, Ministries, NGOs) for preserving environment including wetlands.⁹⁴⁷ According to Teymoori, the Penal Code does not support the environment in Iran plus the degree and quality of support is not specified for preserving environment effectively and this has led to irreparable damages of which Lake Urmia is an example.⁹⁴⁸ Chapter 5 deals with these shortcomings. The shortcomings in different aspects of law are: the environmental crimes are not clearly specified; appropriate penalties for the environmental crimes are not identified; the provisions for implementing penalties are not clearly detailed; the monitoring and training programmes are not meticulous and these have led the Lake Urmia to dry.⁹⁴⁹ Such enforcements will be discussed in detail in this chapter.

In the Islamic Penal Code of Iran, there is one general provision which is applicable to environmental crimes and that is Article 688 of the Islamic Penal Code. According to article 688 of the Islamic Penal Code:⁹⁵⁰

Anything (act or omission) which threaten public health such as contaminating drinking water or distributing polluted drinking waters, insanitary removal of human and animal

⁹⁴⁴ Mohammad Bagher Ghalibaf and Zahra Moussavi, 'Development and Environment in Urmia Lake of Iran' [Oct 2014] European Journal of Sustainable Development 219, 224

⁹⁴⁵ Sanaeepour S and Ramazani GhavaamAbbaadi M.H, 'Legal Evaluation of Iran's adherence to wise use of Lake Urmia with emphasis on Ramsar Convention' [2014] journal of Legal studies of Shiraz University 109, 140

⁹⁴⁶ UNHCR, 'Iran: Islamic Penal Code' (refworld.org Nov 1991) <<https://www.refworld.org/docid/518a19404.html>> accessed 19 Nov 2019

⁹⁴⁷ Saeed Teymoori Bilhdeh, 'The challenges of criminal law in dealing with possible environmental crimes, effective in the Lake Urmia drying' [2016] National Symposium on Green Rights emphasising the environmental challenges of the northern regions of Iran 1, 14

⁹⁴⁸ *ibid*

⁹⁴⁹ *ibid*

⁹⁵⁰ Judiciary Branch of Islamic Republic of Iran, The Fifth Book of The Islamic Penal Code (Tazirat and discretionary punishments) Ratified on 21 Apr 2013 <<http://iran5050.com/?p=751>> Accessed 08 Apr 2017 Tazir is a punishment for crime not measuring up to the strict requirements of Hudud punishments, although they are of the same nature, or those for which specific punishments have not been fixed by the *Quran*. Punishments range from the death penalty for espionage and heresy to flagellation, imprisonment, local banishment, and a variety of fines. Determination of punishment is left to the judge or chief executive, who can vary the punishment according to a number of criteria including who has inflicted the crime and upon whom. John L. Esposito, 'Tazir' (Oxford Islamic Studies Online) <<http://www.oxfordislamicstudies.com/article/opr/t125/e2363>> accessed 12 Jun 2017

wastes, throwing poisonous materials into rivers, [throwing] garbage in the streets, the illegal slaughter of animals, the illegal use of raw sewage or drained water of sewage refineries for agricultural purposes, is forbidden and the offenders, unless punishable by more severe punishments under special laws, shall be sentenced to up to one year of imprisonment.⁹⁵¹

The Notes of article 688 of the Islamic Penal Code:

Note one- It is the responsibility of the ‘Ministry of Health, Treatment and Medical Education’, ‘EPA’, and the ‘Department of Veterinary Medicine’, whichever is concerned, to determine whether or not an act is a threat to public health, or is environmental pollution or the illegal slaughter of animals and removal of animal waste, and further to file a suit.

Note two- Environmental pollution is defined as distributing or mixing external materials into water, air, soil or land to the extent that changes its physical, chemical, or biological quality and damages the lives of people or other animals and plants.⁹⁵²

Two important issues can be derived from the function of the Penal Code which are: criminal law in Iran does not include wetlands management and there is a limited recognition of criminal liability of legal persons for environmental crimes.

(i) Criminal law in Iran does not include wetlands management

Under the Penal Code, the environment has been addressed very general. There is no mention of the wetlands management support in the Penal Code of Iran which is a subject of criticism by itself. One of such flaws is the limited recognition of criminal liability of legal persons in environmental crimes.

(ii) Partial and limited recognition of criminal liability of legal persons for environmental crimes

⁹⁵¹ Ahmad Talebi and Seyedeh Masoumeh Mousavi, 'Iran's Penal Policy against Oil Pollution Crime' [2015] European Online Journal of Natural and Social Sciences 2320, 2327

⁹⁵² Abolfazl Alishahi Ghalehjoughi, Pardisshariaty and BiBi Zeinab Hosseini, 'Air Pollution according to Islam and Iranian Law', International Symposium on Environment and Morality [Sakarya University 2016] 916-927 <http://i-sem.info/PastConferences/ISEM2016/ISEM2016/ISEM2016_Proceeding%20Book.pdf> Accessed 10 Jan 2018

With regards to liability concept in the Penal Code, two issues worth discussing. One issue is the criminal liability of individuals and another issue is the criminal liability of legal persons. Basically, in legal meaning, an individual is a person that is a natural person and has its own legal personality. As opposed to individual, a legal person may be a private (i.e., business entity, factories, companies, NGOs, etc.) or public (i.e., government) organisation.⁹⁵³ Under the Penal Code, there is a consensus regarding the civil liability of legal persons⁹⁵⁴ but regarding the criminal liability of legal persons there are major discrepancies. The reason for highlighting the criminal liability of legal persons here is because the majority of environmental damages are committed by factories, workshops, companies, governmental institutions and etc.⁹⁵⁵ Most lawyers believe that under the Penal Code, legal persons are not held accountable.⁹⁵⁶ According to Mirazim, the liability of legal persons is not established precisely under the Penal Code. This is while the damages to wetlands are mostly caused by legal persons.⁹⁵⁷

An example of lack of criminalisation for legal person under the Penal Code can be found in terms of the Lake Urmia. As stated earlier, one of the most irreparable damages to the Lake Urmia is the construction of Shahid Kalantari highway by the Ministry of Roads and Urban Development (which is a legal person). In fact, there is no clear provision with regards to the liability of legal person in charge and the penalties to compensate the damage that this construction has imposed to the Lake Urmia. As a matter of fact, the limited recognition of criminal liability of legal persons for environmental crimes and damages to wetlands in particular is a gap in the Penal Code of the country.⁹⁵⁸ It is necessary to consider the criminal liability under the Penal Code. Kooshki suggested that Iranian Islamic Penal Code must be amended.⁹⁵⁹ He suggested that the legislators must specify criminal liability for legal persons and penalties must be considered depending on the crime and the harm it causes.⁹⁶⁰

⁹⁵³NaaderBoogari , ' Criminal Responsibility of the Government in Environmental Pollutions' [Summer 2016] Human Sciences Research Journal 67, 84

⁹⁵⁴GholamhasanKooshki, ' The Challenges of Iranian Criminal System in the field of Environmental Crime' [2009] Quarterly Journal of Legal Notifications 88, 104

⁹⁵⁵NaaderBoogari , ' Criminal Responsibility of the Government in Environmental Pollutions' [Summer 2016] Human Sciences Research Journal 67, 84

⁹⁵⁶MirazimGh, *Environmental Protection against Crime* (Iran environmental protection agency 1996) 99

⁹⁵⁷ ibid

⁹⁵⁸ Mohsen Abdollahi, ' The Criminal Protection of Environment: A Reflection on the Requirements of the Criminal Environmental Law' [Autumn 2007] Environmental Sciences 97, 111

⁹⁵⁹ GholamhasanKooshki, ' The Challenges of Iranian Criminal System in the field of Environmental Crime' [2009] Quarterly Journal of Legal Notifications 88, 104

⁹⁶⁰ ibid

3. Penal Code responses to environmental crimes

The necessities for accurate and appropriate penalties to control environmental crimes are obvious - otherwise the criminal justice system would fail to achieve its main goals.⁹⁶¹ Abdollahi, in his reflection on the requirements of the criminal environmental law to protect environment from crimes in Iran stated that the criminal law's response to environmental crimes can be studied from two different dimensions:

First, how to choose penalties that is proportionate to the severity of crimes committed and Second, how judicial officers investigate and prosecute environmental crimes envisaged by the criminal law and in accordance with different principles of criminal law.⁹⁶²

Hence, the following section will discuss first the penalties for environmental crimes (i.e., imprisonment, fines and confiscation) and then how judicial officers investigate and prosecute environmental crimes.

3.1. Penalties

3.1.1. Imprisonment

One of the most common type of punishments in the Iranian penal systems is imprisonment.⁹⁶³ Here are some examples of this legal type of punishments against environmental crimes in Iran:

1) Article 47 of the Protection and Utilization Law of Forests and Meadows ratified on 23 Jul 1967 which says: Anyone who sets fire deliberately in forests will be sentenced to imprisonment period of three to ten years.⁹⁶⁴

2) Pursuant to Article 55 of Law of Amendments to Regulations for Protection and Exploitation of Forests and Meadow: if anyone illegally possesses nationalized resources of

⁹⁶¹Valsamis Mitsilegas, Malgosia Fitzmaurice and Elena Fasoli, '*Fighting Environmental Crime in the UK: A Country Report- study in the framework of the EFFACE research project*' (1st, Queen Mary University, London 2015) 9-15

⁹⁶²Mohsen Abdollahi, 'The Criminal Protection of Environment: A Reflection on the Requirements of the Criminal Environmental Law' [Autumn 2007] *Environmental Sciences* 97, 111

⁹⁶³Newman G.R, *Crime and Punishment around the World* (ABC-CLIO, 2010) 295-296

⁹⁶⁴Naser Ghassemi, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) P85-122; see also Islamic Parliament Research Centre of the Islamic Republic of Iran, *Regulation for protection and exploitation of forests and meadows*<<http://rc.majlis.ir/fa/law/show/96108>> Accessed 08 Apr 2017

the country (in this case country's forests) will be sentenced to imprisonment between one and three years.⁹⁶⁵

3) According to article 688 of the Islamic Penal Code, if anyone poses a threat to public health such as contaminating drinking waters or distributing polluted drinking waters or in any other cases foreseen in this Article, could be sentenced to imprisonment up to one year. This would happen when according to other certain rules there would be no prescribed stricter punishment.⁹⁶⁶

4) According to Article 675 of the Penal Code: if anyone set fire in nature and natural resources and properties mentioned in this article will be sentenced to imprisonment from two to five years.⁹⁶⁷

The reason for listing these punishments from the legal system of Iran is the emphasis on the fact wetlands are not directly mentioned in the aforementioned environment- related penalties and the crimes against wetlands are not specifically specified. However, the Iranian Parliament on 4th of April 2012 in examining the details of the country's Comprehensive Natural Resources and Watershed Bill, defined natural resources as forests, rangelands, natural trees, forest lands, lawns, shrubs, lawns and wetlands.⁹⁶⁸ Hence, the aforementioned general punishments can be applied to the context of wetlands management. Recently, financial punishments are replacing imprisonment for environmental crimes in Iran⁹⁶⁹ though some legal investigators believe that in certain circumstances, it is necessary to take appropriate and even severe reactions against the environmental crimes and use harsh punishments such as imprisonment.⁹⁷⁰

⁹⁶⁵ Islamic Parliament Research Centre of the Islamic Republic of Iran, '*Law of amendments to Regulation for protection and exploitation of forests and meadow*' <<http://rc.majlis.ir/fa/law/show/96327>> Accessed 19 Apr 2017

Also, it is important to note that all forests in Iran are nationalised resources.

⁹⁶⁶ Judiciary Branch of Islamic Republic of Iran, The Fifth Book of The Islamic Penal Code (Tazirat and discretionary punishments) Ratified on 21 Apr 2013 <<http://iran5050.com/?p=751>> Accessed 08 Apr 2017

⁹⁶⁷ Mansour J, The Islamic Penal Code, the Fifth Book of The Islamic Penal Code- Tazirat and discretionary punishments (Didar Publication 2016) 9-29

⁹⁶⁸ Fars News Agency, 'What places are counted as natural resources?' (Farsnews.com Apr 2012) <<https://www.farsnews.com/news/13910116000337/>> accessed 20 Dec 2017

⁹⁶⁹ Ashouri M, *Alternatives for imprisonment or intermingled penalties* (Gerayesh Publications, Tehran 2004) 30-33

⁹⁷⁰ GholamhasanKooshki, 'The Challenges of Iranian Criminal System in the field of Environmental Crime' [2009] Quarterly Journal of Legal Notifications 88-104

3.1.2. Financial punishments (fines)

The support of the environment by Penal Code is necessary to ensure the achievement of an integrated and sustainable management of the environment in Iran.⁹⁷¹ Besides imprisonment, financial punishments established by the government are a response to environmental crimes in Iran. However, there are some major weaknesses in this regard in the Iranian criminal justice system.⁹⁷²

Firstly, according to Kooshki, punishments for environmental crimes are one of the most lenient punishments in the Iranian criminal system.⁹⁷³ It should be noted that there is no specific punishment for wetlands' loss and degradation⁹⁷⁴ but only minor financial punishments for environmental offenses in general are set by the legislator.⁹⁷⁵ The fines set for the environmental offences are very affordable to pay in Iran. Kooshki suggested that, due to the affordable penalties for environmental offences, the number of environmental crimes is high in Iran. Indeed, the imposition of a cash penalty is not proportional to the value of the degraded environment at all.⁹⁷⁶

Secondly, a further disadvantage with regards to financial penalties in Iran is that they are affected by fluctuations of currency value.⁹⁷⁷ Kooshki suggested that the legislator should adjust the amount of fines from time to time to keep them compatible with the economic situation of the country. Bearing in mind that legislative process needs time to be prepared, considered and ratified, this practically decrease the efficiency of financial penalties.⁹⁷⁸ Heydarzadeh suggested that the legislator based on economic conditions of the country and the severity of crimes, determine the appropriate fines (financial penalty) and allow the judicial branch of the country to increase the amount of fine according to the annual inflation rate announcement by the Central Bank of the Islamic Republic of Iran.⁹⁷⁹ Reviewing the rules and regulations it is not difficult to realize that because the existing environmental laws are quite old and the set fines are quite low, they lack the necessary and appropriate impact.

⁹⁷¹ *ibid*

⁹⁷² *ibid*

⁹⁷³ Gholamhasan Kooshki, 'The Challenges of Iranian Criminal System in the field of Environmental Crime' [2009] Quarterly Journal of Legal Notifications 88-101

⁹⁷⁴ *ibid*

⁹⁷⁵ *ibid*

⁹⁷⁶ *ibid*

⁹⁷⁷ *ibid*

⁹⁷⁸ *ibid*

⁹⁷⁹ Elham Heydarzadeh and Sajjad Mozaffari Zadeh, 'Prevention of environmental offenses' [Spring 2013] Journal of Bioethics 163, 189

The amounts of fines for environmental offences are varied between five hundred Rials (11 pence) to five million Rials (111 Pound) which needs serious revision by Iranian legislator.⁹⁸⁰ According to Article 68 of the law on Adjustment of Government Financial Regulations ratified on 16 Feb 2002, the government is able to change the amount of financial penalties, if necessary, every three years.⁹⁸¹ However, EsmailKashkoulia, Abbas Sheikholeslami and Mahdi Naghavisuggested that this provision has not been satisfactory⁹⁸² because the amount of fines must be regulated on the basis of factuality and in collaboration with experts. In article 68⁹⁸³ of the law on Adjustment of Government Financial Regulations, the government has been obliged not to determine the amount of fines only based on the annual inflation rate of the country. The problem is that the government has a broad space to manoeuvre and inflation could be considered as one of the criteria. Nejat and Dabiri suggested that the period of three years should be decreased as the currency fluctuates quite a lot.⁹⁸⁴ The followings are some good examples of financial punishments for environmental crimes:

1) Article 13 of Law on the protection and improvement of environment⁹⁸⁵ and amendments (ratified on 25/Nov/1992)⁹⁸⁶ which express: Those who violate the rules, bylaws and regulations mentioned in article 10 of this rules, according to each case will be fined from fifty thousand Rials (40 pence) to five hundred Rials (less than a penny).

2) Article 29 of Air Pollution Prevention Act which express: Owners and administrators of polluting factories and workshops who act against articles 14, 16 and 17 of this law for the

⁹⁸⁰ *ibid*

⁹⁸¹ Islamic Parliament Research Centre of the Islamic Republic of Iran, *law on adjusting part of the government's financial regulations* <<http://rc.majlis.ir/fa/law/show/93730>> Accessed 20 Apr 2017

⁹⁸² The GholamhasanKooshki, 'The Challenges of Iranian Criminal System in the field of Environmental Crime' [2009] Quarterly Journal of Legal Notifications 88, 100

Please also see;

EsmailKashkoulia, Abbas Sheikholeslami and Mahdi Naghavi, 'Environmental Crimes and Preventive Strategies' [Jun 2019] Bioethics Journal 101, 106

⁹⁸³ Article 68 express that : The government (executive branch) is authorized by cooperation and suggestion of Management and Planning Organization of State to act in accordance with factors such as reducing government's general costs caused by the reform of the administrative structure and the reduction of manpower and inflation, to increase or decrease the amounts set out in the laws and regulations every three years in the field of crime, tariffs and services, salaries, state pensions and similar titles in compliance with the provisions of economic, social and cultural developments of Islamic Republic of Iran.

⁹⁸⁴ Seyed Amin Nejat and FarhadDabiri, 'Criminal Challenges Caused by the Implementation of Article 688 of the Islamic Penal Code of Iran' [Summer 2013] JLS 173, 193

⁹⁸⁵ Atefeh Zahedi, *Collection of Environmental Rules and Regulations (Javedaneh Publication 2012) 13-23*; Please see also; Islamic Parliament Research Centre of the Islamic Republic of Iran, *Law on the Protection and Improvement of the Environment* <<http://rc.majlis.ir/fa/law/show/97090>> Accessed 15 Apr 2017

⁹⁸⁶ Islamic Parliament Research Centre of the Islamic Republic of Iran, *Law of amendments to the Protection and Improvement of the Environment Act* <<http://rc.majlis.ir/fa/law/show/92109>> Accessed 22 Apr 2017

first time will be fined from five hundred thousand Rials (4 pounds sterling) to one million Rials (8 pounds sterling).⁹⁸⁷

Thirdly, a further problem with regards to financial penalties is that there is no intensity by the legislator when dealing with some environmental criminals. For instance, the environmental damages which do not have an individual complainants (in Iran, they are called private victims)⁹⁸⁸ and are committed to meet individual and/or collective economic needs (providing food and fuel) are not punished severely.⁹⁸⁹ Appendix 5.1 lists the environmental offenses and their related punishments under the current Penal Code.

The weaknesses in the application of financial penalties in Iran could have implications in wetlands management. Firstly, there is no financial penalty directly applied to wetlands. Indeed, reviewing the list of environmental offenses and their legal punishments, it can be seen that wetlands are not mentioned in the list in particular and no punishment for damages to wetlands has exclusively been considered either. Moreover, the very low and affordable financial penalties for environmental crimes and the fluctuations in the currency value of the country lose any deterrent effect.⁹⁹⁰

3.1.3. Confiscation of property

The third punishment in the penal system of the country is confiscation. Confiscation is a further response along with imprisonment and financial penalties in the Penal system which is considered for environmental crimes very generally. Confiscation has been considered directly for crimes such as illegal fishery and hunting but provisions for wetlands destruction have been neglected.

For example, in paragraph C of Article 22 of the Protection and Exploitation of Aquatic Resources Law of the Islamic Republic of Iran,⁹⁹¹ it is declared that the Iranian Fisheries Organization should refer illegal fishermen to the court. As a result, the competent court

⁹⁸⁷ Atefeh Zahedi, *Collection of Environmental Rules and Regulations (Javedaneh Publication 2012) P93-106*; see also Islamic Parliament Research Centre of The Islamic Republic of Iran, *The air pollution prevention Act* <<http://rc.majlis.ir/fa/law/show/92532>> Accessed 09 Apr 2017

⁹⁸⁸ *ibid*

⁹⁸⁹ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] *Environmental Sciences* 143, 156

⁹⁹⁰ Mohsen Abdollahi, 'The Criminal Protection of Environment: A Reflection on the Requirements of the Criminal Environmental Law' [Autumn 2007] *Environmental Sciences* 97, 111

⁹⁹¹ Salari-Shahrabaki M, *The protection and exploitation of aquatic resources Act and its executive bylaw* (Noorbakhsh Publication 2000); see also Islamic Parliament Research Centre of the Islamic Republic of Iran, *Islamic Republic of Iran the protection and exploitation of aquatic resources Act* <<http://rc.majlis.ir/fa/law/show/92543>> Accessed 13 Apr 2017

considers the severity and degree of the crime/crimes and confiscates fishery products along with fines for the fishermen.⁹⁹² Confiscation punishment has been applied in other environmental crimes, for example, the confiscation of the 'Green Garden' property in Tehran (located in Dr Hessabi Street, Fereshteh neighbourhood). The 'Green Garden' property was confiscated in favour of the public by the government because the owner of the property cut down the old trees of the garden.⁹⁹³

Wetlands destructions are not addressed directly in the penal code responses to environmental crimes. Confiscation like imprisonment and fine is not set for damages to wetlands specifically which is a subject of criticism as the Penal Code as an enforcement of the international treaties including Ramsar Convention must cover crimes of damaging wetlands. However, the greater use of alternative means of punishment like confiscation, imprisonment and financial penalty could be used as a tool to reduce the wetlands harms. Heydarzade and Mozafarizade found the use of alternative punishments to prevent environmental crimes effective⁹⁹⁴ but the application of such punishments in further areas for which legislator has missed setting a punishment is in need of investigation. Heydarzade and Mozafarizade argued that there is not a comprehensive study on the potential aspects in which penal system could be of support.⁹⁹⁵ One of such aspects could be wetlands destructions. The application of different punishments could be used as a tool to prevent the crimes.

3.2. Special judicial officers to investigate and prosecute environmental crimes

As discussed earlier under section 3, besides the Penal Code penalties, criminal law's response to environmental crimes can be studied from the aspect of how judicial officers confront environmental crimes in Iran.

In Iran, judicial officers are divided into two different categories based on the type of the crime they pursue, nature of the job they are responsible for and level of authority they have.

⁹⁹² Elham Heydarzadeh and Sajjad Mozaffari Zadeh, 'Prevention of environmental offenses' [Spring 2013] *Journal of Bioethics* 163, 189

and

Gholamhasan Kooshki, 'The Challenges of Iranian Criminal System in the field of Environmental Crime' [2009] *Quarterly Journal of Legal Notifications* 88, 96

⁹⁹³ Public Relations of Tehran City Council, *Collection of reports and news from Department of Urban Development and Architecture* (Feb 2017)

<<http://shahrsazi.tehran.ir/Portals/0/Documents/bulletinday/bulletin23bahman95.pdf.pdf?timestamp=1487065324139>> Accessed 21 Oct 2017

⁹⁹⁴ Elham Heydarzadeh and Sajjad Mozaffari Zadeh, 'Prevention of environmental offenses' [Spring 2013] *Journal of Bioethics* 163, 189

⁹⁹⁵ *ibid*

The categories are; general officers and specific officers.⁹⁹⁶ General officers are able to discover and investigate all types of crimes unless the legislator has made exceptions. On the other hand, specific officers are not qualified to detect and investigate any crime unless lawmaker has specifically determined that they are able to do.⁹⁹⁷ Based on article 15⁹⁹⁸ of the Criminal Procedure Code for General and Revolutionary Courts ratified on 19 Sep 1999, Islamic Republic of Iran Police Force is considered as general officers.⁹⁹⁹ Other judicial officers for instance chiefs and deputies of prisons are considered as special judicial officers.¹⁰⁰⁰

According to Article 15 of the Law on the Protection and Improvement of the Environment:

The EPA officers who are assigned by EPA to discover and prosecute environmental crimes shall act like legal officers if they are trained about the duties of legal officers providing by the County Prosecutor.¹⁰⁰¹

Zahedi stated that it is a positive point that training about the duties of judicial officers is a requirement for EPA officers before they could act as legal officers, however, due to the key role that legal officers could play in environmental crimes, it would be much more effective if the legislator determined details of the competency of the judicial officers clearly. In addition, Zahedi believed it would be more reasonable if the authentication of capability for this role is subject to approval by the county's Attorney General.¹⁰⁰² Because, in fact, these agents in terms of detection and prosecution of crime are working directly under the authority of Attorney General so the connection between them and the Attorney General should be more organized and disciplined.¹⁰⁰³

⁹⁹⁶ibid

⁹⁹⁷ ibid

⁹⁹⁸ Article 15 – Judicial officers are working under the supervision and training of a judicial authorities and their job is: to identify crimes and consequently cooperate in commencing interrogations process, to keep the evidences of the crime safely, to prohibit an accused person/persons from hiding or/and escaping, to providing and delivering the court documents, and also to execute courts decisions according to the rules and regulations.

⁹⁹⁹ Mansour J, *Criminal Procedure Code including the Law for establishment of General and Revolutionary Courts and Amendments* (Didar Publication 2016) 21-43;

Please also see;

Islamic Parliament Research Centre of the Islamic Republic of Iran, *Criminal Procedure Code for General and Revolutionary Courts* <<http://rc.majlis.ir/fa/law/show/93219>> Accessed 24 Apr 2017

¹⁰⁰⁰ ibid

¹⁰⁰¹ Atefeh Zahedi, *Collection of Environmental Rules and Regulations* (Javedaneh Publication 2012) P13-23; see also Islamic Parliament Research Centre of the Islamic Republic of Iran, *Protection and Improvement of the Environment Act* <<http://rc.majlis.ir/fa/law/show/97090>> Accessed 22 Apr 2017

¹⁰⁰²ibid

¹⁰⁰³ Gholamhasan Kooshki, 'The Challenges of Iranian Criminal System in the field of Environmental Crime' [2009] Quarterly Journal of Legal Notifications 88, 93

Even if environmental rules and regulations are set precisely and according to the principles and aims of judicial system, the criminal justice system would not be able to achieve its goals if those in charge of implementing and enforcing them such as judicial officers and judges were not fully aware of the goals of such rules. According to Kooshki, in beliefs of the judges and the judicial officers, the ecological values did not seem so important and crucial.¹⁰⁰⁴ They were not serious about criminal punishments to solve environmental dilemmas. He suggested that this perhaps was because they believed environmental issues were not as important as other crimes.¹⁰⁰⁵ However, currently environmental crimes are getting more consideration.¹⁰⁰⁶ Along the same line, special training courses for judicial officers and judges seem necessary to help the environmental crime decrease.¹⁰⁰⁷ Kooshki claimed that criminal law would not be able to achieve its goals by just determining penalties and criminalization. Kooshki suggested that a consistent and systematic policy of the government to pursue environmental claims is highly essential as well.¹⁰⁰⁸ To make this practical, he recommended that Iran's government follow the following policies:

- environmental laws must be updated annually in order to pursuit environmental claims;
- there is a need for specialist enforcement officers in this field and these officers must receive the specialised training in regular basis;
- expert judges and courts particularly in areas where the environment is at more risk need to be developed and necessary training should be provided for judges in criminal courts to consider the sensitivity of the subject and as a result react appropriately when needed;
- methods to announce and report the environmental crimes need to be revisited; and
- the field must be open for NGOs to a play role to promote the current legal system.¹⁰⁰⁹

¹⁰⁰⁴ *ibid*

¹⁰⁰⁵ *ibid*

¹⁰⁰⁵ *ibid*

¹⁰⁰⁶ *ibid*

¹⁰⁰⁷ *ibid*

¹⁰⁰⁸ *ibid*

¹⁰⁰⁹ *ibid*

4. Challenges faced by the EPA in the implementation of the Ramsar Convention

As it was discussed earlier, EPA is assigned in charge of implementing the Ramsar Convention and preserving wetlands in Iran. Hence, any challenges that EPA faces with regards to legal administration and function would affect the way wetlands are managed in Iran. It is important to discuss the functions of EPA and its flaws in managing wetlands in the country. The present chapter is shedding lights on the challenges EPA faces and how they affect wetland management in Iran. The reason for which EPA challenges are followed by Penal Code discussion in this chapter is to see how EPA can use Penal Code as a tool to enforce and implement Ramsar Convention, sustainable wetland management and further compensate the environmental damages including damages to wetlands.

4.1. Functional challenges of EPA

According to article 16 of the Law on the Protection and Improvement of the Environment¹⁰¹⁰, all properties owned by the government in the areas mentioned in paragraph (A) of Article 3 of the same law as well as all wetlands owned by the government will be under the authority of the EPA and in exploitation process of wetlands and the aforementioned properties, the agency will be the legal authority but it does not have the right to sell these properties.¹⁰¹¹ Under Article 1 of the Law on the Protection and Improvement of the Environment, the duty of EPA is described as:

protecting and improving of the environment, preventing any form of pollution and destructive actions which may cause imbalance in environment as well as all threats related to wild animals and aquatic species in inland waters of the country.¹⁰¹²

All in all, according to articles 1, 6, 9 and 16 (as mentioned above) of the Law on the Protection and Improvement of the Environment,¹⁰¹³ EPA has an overall responsibility of monitoring the implementation of this legislation. To this end, the EPA has established the National Committee of Ramsar Convention with the aim of improving wetlands' conditions.

¹⁰¹⁰ Atefeh Zahedi, 'Collection of Environmental Rules and Regulations' (Javedaneh Publication 2012) 13-23. Please also see; Islamic Parliament Research Centre of the Islamic Republic of Iran, 'Law on the Protection and Improvement of the Environment' <<https://rc.majlis.ir/fa/law/show/97090>> Accessed 12 Jan 2020

¹⁰¹¹ Environmental Protection Agency, *Law on the Protection and Improvement of the Environment* <<http://as.doe.ir/Portal/home/?196912/>> Accessed 07 May 2017

¹⁰¹² *ibid*

¹⁰¹³ Atefeh Zahedi, 'Collection of Environmental Rules and Regulations' (Javedaneh Publication 2012) 13-23. Please also see; Islamic Parliament Research Centre of the Islamic Republic of Iran, 'Law on the Protection and Improvement of the Environment' <<https://rc.majlis.ir/fa/law/show/97090>> Accessed 12 Jan 2020

The members of the committee are the representatives of the Ministry of Science, the Ministry of Petroleum, Ministry of Foreign Affairs, Ministry of Agriculture and two representatives of the environmental NGOs to make the decisions when needed.¹⁰¹⁴ Assessing the current status of the wetlands under the Ramsar Convention is one of the main duties of this committee. The committee meetings are usually held with representatives of organizations involved to assess all ecological and non-ecological problems.¹⁰¹⁵ One of the most important plans of the Committee is to examine the conditions of the endangered wetlands.¹⁰¹⁶ To have the updated data regarding the wetlands, wetlands need to be assessed and studied in a regular basis in terms of ecological conditions. Also, identifying new wetlands to be added to the list of Ramsar Convention and fulfilling necessary pieces of research to resuscitate defunct wetlands are other responsibilities of the committee.¹⁰¹⁷ However, under the current rules and regulations there is no budget assigned for the National Committee of the Ramsar Convention and as a result the Committee has no executive power. The only function of the committee is to theoretically refer the results of their meetings (e.g., on the status of endangered wetlands, nominating new wetlands, current ecological condition of wetland) to the deputy of EPA.¹⁰¹⁸

In general, some of the major legal functions of the EPA are listed below:

- Protection and improvement of the environment and preventing the destruction of environment.
- Handling wild animals and aquatic species issues in inland waters.
- Implementation of the Supreme Council decisions regarding hunting and fishing.
- Formulation and implementation of hunting and fishing regulations.¹⁰¹⁹

For the full list of EPA's legal duties, refer to Appendix 5.2. As a matter of fact, the EPA faces some functional challenges to preserve and control wetlands in the country. As the implementation of the national and international laws with regards to the wetlands is the aim of this study and EPA is officially assigned to be in charge of the implementation of the Convention, it is important to discuss the performance of the EPA with regards to its responsibilities. The following discussion might seem more environment-related and that is

¹⁰¹⁴FarhadDabiri, BorhanRiazi Frank Taheri Yazdi, 'The State of Implementation Ramsar Convention in Iran' [Summer 2014] Journal of Sustainability, Development and Environment 39, 42

¹⁰¹⁵ ibid

¹⁰¹⁶Chapter 4.2.4

¹⁰¹⁷FarhadDabiri, BorhanRiazi Frank Taheri Yazdi, 'The State of Implementation Ramsar Convention in Iran' [Summer 2014] Journal of Sustainability, Development and Environment 39, 42

¹⁰¹⁸ ibid

¹⁰¹⁹ Atefeh Zahedi, *Collection of Environmental Rules and Regulations*(Javedaneh Publication 2012) 13-23

because the main and primary aim of the EPA was set to protect the environment. However, wetland-related policies of the EPA will be discussed wherever they are dealt with in the EPA's duties.

4. 1. 1. Lack of adequate general and professional educational programmes

Abdollahi and Faryadi suggested that the main cause of many of disruptive behaviours against the environment in general and wetlands in particular is lack of awareness regarding the consequences of environmental degradation and particularly insufficient technical information of the companies and organizations (industrial and economical).¹⁰²⁰ Obviously, the role of cultural institutions such as schools, universities and the Ministry of Culture is undeniable in this matter but the argument is that the EPA which is officially in charge of providing special trainings to improve the public awareness of environment and wetlands in particular, according to Abdollahi and Faryadi has not publicized any regular report on such activities.¹⁰²¹ Indeed, not only the identification of wetlands' problems and the consequences of their degradation is a vital issue for public but also accessibility to environmental reports and statistics is undoubtedly essential for various organizations that are involved, this would lead them to plan and coordinate their functions/operations precisely.¹⁰²² This is while in practice no regular, scheduled and accurate environmental data has been published as documentary reports by the EPA so far and the information resources on environmental grounds of the country is still provided by independent researchers, organizations, especially NGOs and international organizations such as the World Bank and United Nations Development Programme.¹⁰²³ Some examples are provided in the footnote.¹⁰²⁴

Under the Law of Protection and Improvement of Environment, the EPA is assigned to raise public awareness towards environment including wetlands.¹⁰²⁵ However, Zahedi argued that

¹⁰²⁰ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] *Environmental Sciences* 143, 156

¹⁰²¹ *ibid*

¹⁰²² *ibid*

¹⁰²³ *ibid*

¹⁰²⁴ 1) The Drying of Iran's Lake Urmia and its Environmental Consequences (UNEP, 2012)

2) Exploring social vulnerability and environmental migration in Lake Urmia in Iran: Comparative insights from the Aral Sea (International Organization for Migration, 2015)

3) The World Bank, 'Iran Economic Monitor, Spring 2017 : Oil-Driven Recovery-Special Focus on: Iran's Pension System: The Need for Reform; and Towards Water Security in Iran: Challenges and Opportunities (The World Bank, Spring 2017)

¹⁰²⁵ Atefeh Zahedi, Collection of Environmental Rules and Regulations (Javedaneh Publication 2012) P13-23; Please see also Islamic Parliament Research Centre of the Islamic Republic of Iran, Article 7, Law on the Protection and Improvement of the Environment <<http://rc.majlis.ir/fa/law/show/97090>> Accessed 15 Apr 2017

raising public awareness with the aim of learning how to benefit from environment without damaging it and how to produce environmental friendly goods and services is forgotten because low priority tasks are assigned to EPA.¹⁰²⁶ For example, Zahedi suggested that assigning the EPA to exclusively help with some of the costs of motorcycles and vehicles that are technically defective and are seeking help under section 4 Part (g) of Article 104 of Law of the Third Economic, Social and Cultural Development Plan of the Islamic Republic of Iran (ratified on 05 Apr 2000)¹⁰²⁷ hinders EPA from achieving its goals.¹⁰²⁸ Zahedi claimed that this duty is logically within the scope of the Ministry of Industries and Mines and/or the Ministry of Roads and Urban Development which are responsible. Zahedi believed that lack of appropriate distribution of power and duties can cause a functional challenge for EPA.¹⁰²⁹

4. 1. 2. Failure to provide advice for environmental protection

According to Abdollahi and Faryadi, a major duty of any environmental protection institution is to prepare applicable protection programmes for related organizations, design programmes in order to promote sustainable development and coordinate all measures of other organizations with regards to environment.¹⁰³⁰ Due to the fact that EPA and the ministries of Agricultural Jihad and Energy are jointly involved in wetlands management and that EPA is the only body which specifically aims at preserving wetlands in the country, the EPA must prepare and provide guidelines, mandatory patterns and optimal advice regarding the protection of environment and consequently send it to the various organizations as environmentally unfriendly management and administrative activities threaten the protection of wetlands. Indeed, in the EPA's approvals, just very few specific patterns or advice for the protection and preservation of wetlands can be found which was informed to the public.¹⁰³¹

4. 1. 3. Postponement of the Adoption of Regulations, Guidelines and Standards

A further functional challenges of EPA is postponement of the adoption of regulations and standards. For example, under paragraph (b) Article 6 of the Law on the Protection and

¹⁰²⁶ ibid

¹⁰²⁷ judiciary of Tehran province, '*Law of the Third Economic, Social and Cultural Development Plan of the Islamic Republic of Iran*' <<http://www.ghavanin.ir/detail.asp?id=12310>> Accessed 12 May 2017

¹⁰²⁸ ibid

¹⁰²⁹ Atefeh Zahedi, *Collection of Environmental Rules and Regulations* (Javedaneh Publication 2012) P13-23

¹⁰³⁰ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] *Environmental Sciences* 143, 156

¹⁰³¹ ibid

Improvement of the Environment,¹⁰³² one of the most important duties of the EPA is to codify environmental regulations to prevent pollution. In addition, responsibility for drafting bylaws, standards and technical regulations to protect the environment including wetlands and consequently sending these drafts for approval to the Supreme Council or the Council of Ministers have been granted to the EPA.¹⁰³³ However, in practice in different cases the approval of drafted bylaws and/or standards has been delayed for long time due to lack of efforts and chasing the subject by the EPA.¹⁰³⁴ In case of wetlands, approving bylaws with delay has led to irreparable damages one of which is the drying of the Lake Urmia.¹⁰³⁵ Some of the rules and regulations that their ratification has been delayed for a substantial period and their related legal Articles are listed below. The reason for listing these rules is that they could affect wetlands management.

- 1) Codification of guidelines to calculate the value and costs of environmental protection-referring to (Article 59, Law of the Fourth programme for Economic, Social and Cultural development of Islamic Republic of Iran¹⁰³⁶ ratified on 01 Sep 2004).
- 2) Codification of administrative bylaw for organizing the Country's Costal areas (Note 1 of article 63, Law of the Fourth programme for Economic, Social and Cultural development of Islamic Republic of Iran¹⁰³⁷, ratified on 01 Sep 2004).
- 3) Bylaw of cooperating methods among ministries and other governmental agencies with the EPA (Paragraph (d) of Article 28, Hunting and Fishing Law: ratified on 06 Jun 1967).¹⁰³⁸
- 4) Codification of administrative bylaw on increasing public awareness and achieving sustainable development (Paragraph (a) of Article 64, Law of the Fourth programme for

¹⁰³² Atefeh Zahedi, Collection of Environmental Rules and Regulations (Javedaneh Publication 2012) P13-23; see also Islamic Parliament Research Centre of the Islamic Republic of Iran, Article 1, Law on the Protection and Improvement of the Environment<<http://rc.majlis.ir/fa/law/show/97090>> Accessed 15 Apr 2017

¹⁰³³ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] Environmental Sciences 143, 156

¹⁰³⁴ *ibid*

¹⁰³⁵ *ibid*

¹⁰³⁶ Naser Ghassemi, 'Collection of Environmental Rules and Regulations' (Behnami Publication 2007) 42-66; Please also see; Islamic Parliament Research Centre of the Islamic Republic of Iran, Law of the Fourth programme for Economic, Social and Cultural development of Islamic Republic of Iran<<http://rc.majlis.ir/fa/law/show/94202>> Accessed 20 May 2017

¹⁰³⁷ *ibid*, Article 63

¹⁰³⁸ Naser Ghassemi, 'Collection of Environmental Rules and Regulations' (Behnami Publication 2007) P18-26; see also Islamic Parliament Research Centre of the Islamic Republic of Iran, 'Hunting and fishing law'<<http://rc.majlis.ir/fa/law/show/96050>> Accessed 11 Apr 2017

Economic, Social and Cultural development of Islamic Republic of Iran¹⁰³⁹, ratified on 01 Sep 2004.

5) Codification of a bylaw to support environmental NGOs (Paragraph (b) of Article 104, Law of the Fourth programme for Economic, Social and Cultural development of Islamic Republic of Iran¹⁰⁴⁰, ratified on 01 Sep 2004).

6) Codification of assessing criteria for executive plans and projects, (Article 104, Law of the Fourth programme for Economic, Social and Cultural development of Islamic Republic of Iran¹⁰⁴¹, ratified on 01 Sep 2004).

The bylaws listed here (the bylaws to support NGOs, assessing programmes for executive plans and projects and Bylaw of cooperating methods among ministries and other governmental agencies with the EPA) could specifically affect wetlands management in the country.

4.2. Legal challenges of EPA

The Iranian government started paying attention to environmental issues with the ratification of the Hunting Act on 23rd of Feb 1957.¹⁰⁴² Since 1972, environmental laws were mostly focused on wildlife conservation and monitoring hunting and fishing. In 1972, the law of restructure of governmental organizations and determination of tasks for the Ministry of Agriculture and Natural Resources was ratified by the government and the Ministry of Natural Resources was dissolved and finally the EPA was formed on the 1st of Feb, 1972.¹⁰⁴³ The main responsibility entrusted to EPA is protecting the environment and controlling and pursuing any activity which pollutes or destructs the environment.¹⁰⁴⁴ Ultimately, by ratification of the Law on the Protection and Improvement of the Environment on 18 Jun 1974,¹⁰⁴⁵ the first basis of environmental laws of the country was formed and the EPA

¹⁰³⁹ Naser Ghassemi, 'Collection of Environmental Rules and Regulations' (Behnami Publication 2007) P42-66; see also Islamic Parliament Research Centre of the Islamic Republic of Iran, 'Law of the Fourth programme for Economic, Social and Cultural development of Islamic Republic of Iran' <<http://rc.majlis.ir/fa/law/show/94202>> Accessed 20 May 2017

¹⁰⁴⁰ *ibid*, Article 104

¹⁰⁴¹ *ibid*, Article 105

¹⁰⁴² Islamic Parliament Research Centre of the Islamic Republic of Iran, *Hunting Act* <<http://rc.majlis.ir/fa/law/show/94906>> Accessed 04 May 2017

¹⁰⁴³ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] *Environmental Sciences* 143, 156

¹⁰⁴³ *ibid*

¹⁰⁴⁴ *ibid*

¹⁰⁴⁵ Atefeh Zahedi, *Collection of Environmental Rules and Regulations* (Javedaneh Publication 2012) 13-23

officially attained broader powers in controlling and protecting environment.¹⁰⁴⁶ The functional challenges of EPA were dealt with. EPA also faces legal challenges which affect its functions. The legal challenges of EPA will be discussed in this section.

4.2.1. Weak distribution of power

An argument in the EPA's legal challenges is that several institutions are involved in the management of Environment and wetlands.¹⁰⁴⁷ Besides EPA, the Ministry of Energy and the Ministry of Agricultural Jihad are jointly involved in managing environment and wetlands in Iran.¹⁰⁴⁸ However, neither of the ministries are primarily established with the aim of protecting environment specifically. Indeed, they pursue other aims. For example, the Ministry of Energy is responsible for management of supply and demand of water, electricity and energy¹⁰⁴⁹ and the Ministry of Agricultural Jihad is responsible for the oversight of Agriculture in Iran.¹⁰⁵⁰ As a matter of fact, neither of the ministries are specialist in environmental subjects and programs aimed to protect the environment and wetlands. Abdollahi and Faryadi argued that it is unclear to what extent these institutions are bound to comply with environmental considerations and how a common and consensual strategy regarding the integrated management of the environment is going to be achieved.¹⁰⁵¹ Abdollahi and Faryadi believe that the inconsistent and inappropriate cooperation and coordination of these institutions is the main cause for wasting financial and organizational resources.¹⁰⁵² Involvement of two or more institutions simultaneously eventually would lead to unresolved public matters. Normally these parallel bodies have been established with a purpose other than environmental protection and there is no clear and secure legal mechanism to ensure coordination and resolution of their disagreements in the

¹⁰⁴⁶ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] *Environmental Sciences* 143, 156

¹⁰⁴⁷ *ibid*

¹⁰⁴⁸ *ibid*

¹⁰⁴⁹ Ministry of Energy, *Ministry of Energy's Program: costs reduction and accelerating implementation, transparency and efficiency* (1st, adjutancy of planning and economic affairs, Tehran 2011) 8-9
<http://www.krec.ir/PDF/ketab_aval_vezarat_niroo.pdf> Accessed 1 Jan 2020

¹⁰⁵⁰ Ministry of Agriculture Jihad, 'Description of the tasks of the Ministry of Agriculture Jihad' (maj.ir 2017)
<https://kb.maj.ir/Index.aspx?page=_form&lang=1&sub=9&tempname=kbmain&PageID=11878> accessed 1 January 2020

¹⁰⁵¹ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] *Environmental Sciences* 143, 160

¹⁰⁵² *ibid*

legal system of Iran.¹⁰⁵³ Table 1 represents the list of ministries and organizations taking control of managing wetlands within the country.

Table 1: organizations/ministries involved in managing wetlands in Iran

Legal bodies	Role in wetland management
EPA	As Article 16 of the law on the Protection and Improvement of the Environment illustrates, EPA as the legal successor (trustee) of implementation of the Ramsar Convention is an independent organization which works under the authority of Iranian president and in fact has the responsibility for monitoring and implementing the convention. ¹⁰⁵⁴ Basically, EPA it is the only organization which is assigned to implement the Ramsar Convention in Iran.
Ministry of Energy	Ministry of Energy is the superior authority in decision making hierarchy based on the Law on the Protection, Restoration and Management of the Country's Wetlands. The purpose of the Wetlands Protection Law, which contains five articles, is to prohibit 'any exploitation and activity that leads to irreparable damage to and pollution of wetlands' (Stated in Article 1 of the Law). The new Law requires the EPA to draft regulations to protect wetlands and submit them to the Council of Ministers (the Cabinet) for approval within six months of the Law's issuance (article. 1). The measure also tasks the EPA with determining the 'water needs' of wetlands and the Ministry of Energy with securing those needs (article 2). Additionally, the Law prohibits the introduction into wetlands of harmful, non-native plants and animals, and requires the EPA to draw up a list of such harmful species and revise it every two years. ¹⁰⁵⁵ The important note to mention is that sometimes discrepancies in the decisions made by EPA and Ministry of Energy would lead to

¹⁰⁵³ ibid

¹⁰⁵⁴ Farhad Dabiri, Borhan Riazzi Frank Taheri Yazdi, 'The State of Implementation Ramsar Convention in Iran' [Summer 2014] Journal of Sustainability, Development and Environment 39, 42

¹⁰⁵⁵ Barry Lerner, 'Global Legal Monitor' (loc.gov Jul 2017) < <http://www.loc.gov/law/foreign-news/article/iran-law-to-protect-wetlands/> > accessed 20 Sep 2017

	ignoring the EPA interests only because the Ministry of Energy is a governmental ministry with the overwhelming power. ¹⁰⁵⁶
Ministry of Agricultural Jihad	In Iran, wetlands are subject to the jurisdiction of institutions other than the EPA as well but it is important to note that the main objectives for these institutions (which their amplitude of activities are also related to the environment) according to their own establishment laws are solely for exploitation of wetlands and they are not legally bound to perform minimal protection ¹⁰⁵⁷ and restoration of the wetlands where the exploitation has taken place. ¹⁰⁵⁸ Ministry of Agricultural Jihad is one of them. For example, with regards to Lake Urmia, besides the 67 dams which are

¹⁰⁵⁶ Masoud Barbar, 'All of the Heavy Burden of the Wetlands Should Not Be on the Shoulders of the Environmental Protection Organization' (MEHR NEWS Jun 2017) <
<http://www.mehrnews.com/news/3996492/>> accessed 9 Jan 2020

¹⁰⁵⁷ For instance, Note (M), Article (1) of the Law on the Establishment of the Ministry of Industries and Mines states that one of the duties of the ministry is monitoring the effective management and utilization over the governmental mines, factories, industrial and mineral units and also development and restoration of these assets to increase productivity and efficiency. Under paragraphs 2 and 3 of Article 3 of the Environmental Improvement and Protection Act, the Agency is obliged to gain consent (agreement) of the Ministry of Agricultural Jihad and Ministry of Industries and Mines at the time of determination of the four protected areas particularly in the areas where there are forestry projects or mining exploration projects. If, in some cases, legislations have been codified to protect natural resources and the environment, it is clear that these regulations are merely a guarantee for exploitation of natural resources and not to protect them. In addition, in this sort of rules and regulations, basically there are no specific and detailed guidelines available to determine procedures of protection of these resources. In other cases, the law itself (without any frameworks) grants permission of exploitation to various organizations and ignores the issue of environmental protection and the possible conflicts between them, some examples are listed below.

A) Article 37, Law on Protection and Exploitation of Forests and Meadows express that Forests, Range and Watershed Management Organization which is working under the supervision of Ministry of Agriculture Jihad, in order to conduct research and experimental or exhibitive programmes and meet the requirements is permitted to concede required forests, rangelands, natural groves lands and wetlands to the governmental organizations, institutions affiliated to the government, Municipalities, Ministry of Defence and Public parks through the coagulation of contracts with the conditions that is right and reasonable.

B) Article 38, Law on Protection and Exploitation of Forests and Meadows declares that if any public charities require the lands mentioned in Article 37 for constructing clinics, hospitals, educational affairs and orphanages, they may be given up to a maximum of 20 hectares of the lands free of charge based on the proposal of the Forests, Range and Watershed Management Organization and consequently approval of the Cabinet.

C) Article 6, the same legislation says that cutting down forest trees located in rural areas by the villagers for their own use (not for trade) does not require obtaining any permission.

What actually adds to this problem is that Iran's environmental laws do not consider any resolution for the potential conflict between exploitation and environmental protection. Indeed the current mechanisms of dispute resolution are not effective enough to properly protect the environment. Therefore, it is imperative that in all applicable rules and regulations which allow the exploitation of natural resources, the exploitation must be in line with the protection of the environment (1)

(1) McIntyre O, *Environmental Protection of International Watercourses Under International Law* (Routledge-New York, 2016)P 69

¹⁰⁵⁸ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] *Environmental Sciences* 143, 164

	under the exploitation and control of the Ministry of Energy, 50 more dams are under the exploitation of the Ministry of Agricultural Jihad. ¹⁰⁵⁹
Management and Planning Organization of Iran	Among the mentioned ministries and organization, the Management and Planning Organization of Iran is involved in managing wetlands in terms of programming issues and allocating funds. ¹⁰⁶⁰

Abdollahi and Faryadi claimed that due to the extensive and multidimensional benefits of environment to governments and people, different legal bodies in every country are engaged with making use of environment and inevitably should be involved in environment management and protection.¹⁰⁶¹ Abdollahi and Faryadi suggested that an effective approach to using environment sustainably is that governments move from the environmental protection approach per se to an integrated environment management.¹⁰⁶² This approach in management requires the collaborative participation of all relevant institutions and legal bodies in the country. Abdollahi and Faryadi suggested that special mechanisms are needed to coordinate the involved institutions and anticipate how to solve any possible disputes between the legal bodies. It is consequently necessary to set priorities in case of discrepancies or disputes (for example between legal bodies in terms of economic and/or environment interests).¹⁰⁶³ However, the environmental legal system of Iran has not defined the coordination mechanism and planned strategy to define environmental priorities. In addition, there is no specific section for inter-organizational coordination in the structure and outline of the EPA programmes.¹⁰⁶⁴ In this regard, paragraph (d) of Article 28 of Hunting and Fishing Law required the EPA to prepare and submit a bylaw for method(s) of cooperation between ministries and other governmental organizations to the Cabinet of Ministers¹⁰⁶⁵ but so far, such important regulation has not been put into force. Therefore, the usual procedure to solve disputes over environmental subjects between various institutions is the arbitration of the Council of

¹⁰⁵⁹Yasi M, ' Management of Rivers and Dams in Supplying and Delivering Water to Lake Urmia' [2017]

Strategic Research Journal of Agricultural Sciences and Natural Resources 59, 68

¹⁰⁶⁰FarhadDabiri, BorhanRiazi Frank Taheri Yazdi, 'The State of Implementation Ramsar Convention in Iran' [Summer 2014] Journal of Sustainability, Development and Environment 39, 42

¹⁰⁶¹ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] Environmental Sciences 143, 150

¹⁰⁶² ibid

¹⁰⁶³ ibid

¹⁰⁶⁴ ibid

¹⁰⁶⁵Ghassemi Naser, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) P18-26; see also Islamic Parliament Research Centre of the Islamic Republic of Iran, *Hunting and fishing law* <<http://rc.majlis.ir/fa/law/show/96050>> Accessed 11 Apr 2017

Ministers and/or the President. But this way of solving the problems also has its inefficiencies.

First, resolving the disputes takes time and secondly, in the procedure of dealing with disputes, there is also a concern about whether the decision maker is professional enough in environmental management. Abdollahi and Faryadi claimed that for social and political reasons, the priority of the Iranian government is usually the economic development, which literally means environmental issues are subordinated to the economic issues.¹⁰⁶⁶

Indeed, lack of a law to precisely define the cooperation between the EPA and other ministries or organisations has brought a further challenge for EPA in implementation of the Convention. Provisions under the establishment of the EPA and its objectives and duties can be expressed in two different regulations;

1) Protection and Improvement of Environment Act (ratified on 18 Jun 1974 and its editions dated on 15 Nov 1992).¹⁰⁶⁷

2) Hunting and Fishing Law (ratified on 06 Jun 1967 and the editions dated on 15 Dec 1996).¹⁰⁶⁸

However, Zahedi suggested that these two Environmental Laws in Iran have noticeable shortcomings.¹⁰⁶⁹ For example, they do not provide a comprehensive description of EPAs' duties; measures for a consistent and effective collaboration of EPA and other legal bodies for protecting environment are not specified and implementation of environmental protection rules lacks proper coordination between organizations.¹⁰⁷⁰ As a matter of fact, lack of law to precisely distribute power between the legal bodies involved in managing wetlands has caused problems in cooperation and coordination between the legal bodies in the country. For example, Note 3 of article 2 of the law of Fair Distribution of Water (ratified on 13th March in 1983) states that any digging and exploitation of natural rivers, lakes, wetlands and water

¹⁰⁶⁶ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] *Environmental Sciences* 143, 156

¹⁰⁶⁷ Islamic Parliament Research Centre of the Islamic Republic of Iran, 'Amending Law on the Protection and Improvement of the Environment Act' <<http://rc.majlis.ir/fa/law/show/92109>> Accessed 05 May 2017

¹⁰⁶⁸ Naser Ghassemi, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) P18-26; see also Islamic Parliament Research Centre of the Islamic Republic of Iran, *Hunting and fishing law* <<http://rc.majlis.ir/fa/law/show/96050>> Accessed 11 Apr 2017

¹⁰⁶⁹ Atefeh Zahedi, *Collection of Environmental Rules and Regulations* (Javedaneh Publication 2012) 79-89; see also Ministry of Energy of Islamic Republic of Iran, *Fair Distribution of Water' Law*, <<http://ehss.moe.gov.ir/getattachment/30700327-6edc-4d83-90e1-fa65f8b3158e/>> Accessed 21 Jul 2017

¹⁰⁷⁰ *ibid*

surface is illegal unless under the permission of the Ministry of Energy.¹⁰⁷¹ However, as stated under the Article 16 of the Law on the Protection and Improvement of the Environment (ratified on 18 June 1974),¹⁰⁷² the EPA was legally assigned to monitor and implement the Ramsar Convention and in direct charge of the wetlands in the country. While the Ministry of Energy holds the authority over the use of wetlands around Lake Urmia, an enormous number of illegal and unauthorized wells have been dug around the Lake. Ahmadyan and Asghari claimed that illegal wells around the Lake are due to the neglect of the Ministry of Energy in performing its duty.¹⁰⁷³ The illegal wells have had negative influence on the water level of the Lake Urmia.¹⁰⁷⁴

A further example of lack of clear specification of how various legal bodies effectively exploit and preserve environment can be found in paragraph (b) of Article 81, Law of the Second Economic, Social and Cultural Development Plan of the Islamic Republic of Iran (ratified on 11 Dec 1994) which expresses that, in order to preserve, restore and rationally exploit the natural resources, the government is obliged to force the beneficiaries (i.e., ministries of Petroleum, Energy, agricultural Jihad and Industries and Mines) of the national resources to restore these resources.¹⁰⁷⁵ However, how to fulfil this obligation, the methods and techniques for restoration, its enforcement guarantee and the trustee organization to implement all these orders are not determined and the government has not yet specified any instructions or didn't take any step in this regard.¹⁰⁷⁶ Indeed, while various ministries such as ministry of Petroleum, Energy, agricultural Jihad and Industries and Mines are involved in natural resources exploitation, legally the duty of preserving the environment is solely on the EPA according to the Article 1 of the Law on the Protection and Improvement of the Environment.¹⁰⁷⁷ As a matter of fact, the duties of bodies to preserve and restore the environment and explicitly wetlands are not clearly specified.¹⁰⁷⁸

¹⁰⁷¹ Atefeh Zahedi, *Collection of Environmental Rules and Regulations* (Javedaneh Publication 2012) 79-89; see also Ministry of Energy of Islamic Republic of Iran, *Fair Distribution of Water' Law*, <<http://ehss.moe.gov.ir/getattachment/30700327-6edc-4d83-90e1-fa65f8b3158e/>> Accessed 21 Jul 2017

¹⁰⁷² Atefeh Zahedi, *Collection of Environmental Rules and Regulations* (Javedaneh Publication 2012) P13-23

¹⁰⁷³ Mohammad Ali Ahmadyan, Samira Asghari, 'The Environmental Consequences of Reduced water Levels in the Lake Urmia and its Survival,' [Winter 2014] Quarterly Geographical Journal of Territory 81, 92

¹⁰⁷⁴ Chapter 2 section 5.2.2

¹⁰⁷⁵ Islamic Parliament Research Centre of the Islamic Republic of Iran, 'Law on the Second Economic, Social and Cultural Development Plan of the Islamic Republic of Iran' <<http://rc.majlis.ir/fa/law/show/92488>> Accessed 03 Jul 2017

¹⁰⁷⁶ Atefeh Zahedi, *Collection of Environmental Rules and Regulations* (Javedaneh Publication 2012) 13-23

¹⁰⁷⁷ Mohammad Ali Ahmadyan, Samira Asghari, 'The Environmental Consequences of Reduced water Levels in the Lake Urmia and its Survival,' [Winter 2014] Quarterly Geographical Journal of Territory 81, 92

¹⁰⁷⁸ *ibid*

4.2.2. Lack of administrative power

In this section, first some examples which highlight not only the impact of deficient specification of cooperation between EPA and other legal bodies but also how lack of administrative power of EPA affect environment management are presented.

1) Note (1)- Article 3, of the Law of amendments on some Articles of the hunting and fishing law and its subsequent rectifications (ratified on 15 Dec 1996) stipulate that the duties and powers specified in this law for the EPA should not be inconsistent with the powers and responsibilities of the Iranian Fisheries Organization.¹⁰⁷⁹ Abdollahi and Faryadi suggested that the details on the cooperation and prospective disputes between EPA and the Iranian Fisheries Organization were not made clear.¹⁰⁸⁰ Abdollahi and Faryadi claimed that the Iranian Fisheries Organization has the higher administrative power over EPA.

2) Paragraph (23) - Article 1 of the Law on Centralization of Industry and Mining Affairs, and the formation of the Ministry of Industries and Mines (ratified on 26 Dec 2000) stipulates that Licensing the establishment and exploitation of industrial and mineral production units should be in compliance with the environmental regulations but it is entrusted to the Ministry of Industries and Mines.¹⁰⁸¹ However, this article does not specify how EPA and the Ministry of Industries and Mines should cooperate to ensure the compliance of the licensing with environment considerations.

3) Article 4 of Bylaw on the utilization of lands, construction of buildings and facilities outside the boundaries of cities and rural areas (ratified on 29 Apr 2012) stipulates that construction of buildings and facilities outside urban and rural areas is allowed provided that the construction is in compliance with:

A) Regulations considering public sanitation and also environment improvement and protection; and,

¹⁰⁷⁹ Islamic Parliament Research Centre of the Islamic Republic of Iran, 'Law of amendments on some Articles of the hunting and fishing law and its subsequent rectifications' <<http://rc.majlis.ir/fa/law/show/92761>> Accessed 25 Jun 2017

¹⁰⁸⁰ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] *Environmental Sciences* 143, 177

¹⁰⁸¹ Islamic Republic of Iran Ministry of Industry and Mine, 'The Law on centralization of industry and mining affairs', and the formation of the Ministry of Industries and Mines <http://www.mimt.gov.ir/general_content/42396>--صنایع-وزارت-تشکیل-معدن-صنعت-امور-قانون-تمرکز-معدن.html?محتوای-عمومی=t> Accessed 26 Jun 2017

B) The EPA's regulations regarding the establishment of industrial and production units and activities in and around the Four Districts areas as mentioned in paragraph (e) of this Article.¹⁰⁸² However, there is no specific assurance for enforcement of these environmental regulations in this legislation. Also, the cooperation details between EPA and the Ministry of Roads and Urban Development was not determined. The EPA has no authority to get involved in decision making process according to the regulation and its articles, so eventually the Ministry of Roads and Urban Development has the power of decision making and implementation of this Law.

4) Article 9 of the Law on the Protection and Improvement of the Environment expresses that; any action that causes environmental pollution is prohibited. This is while, Note 1 of this Article clearly say that pesticides and substances used for destroying insects, vermin or other organisms harmful to cultivated plants or animals in compliance with the laws and regulations of the Ministry of Agriculture and Natural Resources shall not be subject to this Article.¹⁰⁸³ Also this legislation does not provide a specific solution for the problems caused by chemical fertilizers, pesticides and other environmental pollutant substances. As a result, in the event of failure to comply with environmental standards the only action that can be done by the EPA is to refer to the Council of Ministers and consequently face its lengthy arbitration process; A ritual (process) in which there is no assurance, priority or at least consideration of environmental aspects because of poor environmental status of the country.¹⁰⁸⁴

The argument with regards to administrative challenges of EPA is that EPA does not possess appropriate legal administrative power. The administrative system of Iran is a ministry centred system. In other words, ministries have administrative authorities. In fact, the EPA works as an agency and not a ministry. So, EPA lacks legal administrative power.¹⁰⁸⁵ The EPA is subordinated to Presidential institution.¹⁰⁸⁶ It has legal personality and is financially independent but it works under the authority of the Environmental Protection Supreme

¹⁰⁸² Islamic Parliament Research Centre of the Islamic Republic of Iran, 'Bylaw on the utilization of lands, construction of buildings and facilities outside the boundaries of cities and rural areas' <<http://rc.majlis.ir/fa/law/show/812295>> Accessed 27 Jun 2017

¹⁰⁸³ Environmental Protection Agency, 'Law on the Protection and Improvement of the Environment' <<http://as.doe.ir/Portal/home/?196912/>> Accessed 07 May 2017

¹⁰⁸⁴ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] *Environmental Sciences* 143, 170

¹⁰⁸⁵ *ibid*

¹⁰⁸⁶ FarhadDabiri, BorhanRiazi Frank Taheri Yazdi, 'The State of Implementation Ramsar Convention in Iran' [Summer 2014] *Journal of Sustainability, Development and Environment* 39, 42

Council.¹⁰⁸⁷ The administrative system of Iran consists of different administrative Councils. These councils play important roles in making public rules and decisions.¹⁰⁸⁸ The head of the EPA is a member of some of these councils such as: Supreme Council of Water, the Supreme Council of Energy, Council to consider the reconstruction of war-torn areas, Coordination Commission of Healthy Cities project, Supreme Council of Planning and Architecture of Iran, Atomic Energy Council, the Supreme Council of Oceanography of the country, Country's Coordinating Council of cities traffic, Supreme Council of Technical Protection and finally the Supreme Council of Standard.¹⁰⁸⁹ Abdollahi and Faryadi pointed out that the Head of EPA does not have administrative power because firstly, members of the aforementioned Councils are mostly ministers and the head of the EPA, who is not a minister, (under Article 138 of Iranian Constitution that gives authority for establishment of the councils with cooperation of several ministers) does not have the right to vote. Secondly, if a decision is made by the members of a council without considering environmental aspects, the EPA viewpoints is not considered later and consequently their viewpoint is not involved in decision making. An important point to notice is that, the head of the EPA does not have any legal power in the Administrative Supreme Council which is one of the main centres for administrative decisions in Iran.¹⁰⁹⁰ An example for lack of administrative power for EPA is the case of Anzali lagoon.¹⁰⁹¹ At first, two different routes were proposed before constructing the Highway through Anzali lagoon. The Government's Infrastructure Commission agreed with the route proposed by the Ministry of Roads and Urban Development in spite of the fact that the route proposed by EPA was only half a kilometre longer but could save a large area of the Lake.¹⁰⁹² Eventually, by approving the route proposed by the Ministry of Roads and Urban Development, in fact, 300 hectares (equivalent to 3 million square meters) of land in the north of the wetland was dried and destroyed.¹⁰⁹³ The approved project was in fact a threat to Anzali

¹⁰⁸⁷ Ghassemi Naser, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) 11-18; see also Environmental Protection Agency, *Law on the Protection and Improvement of the Environment* <<http://as.doe.ir/Portal/home/?196912/>> Accessed 07 May 2017

¹⁰⁸⁸ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] *Environmental Sciences* 143, 155

¹⁰⁸⁹ *ibid*

¹⁰⁹⁰ *ibid*

¹⁰⁹¹ Mehr News Agency, *Late admission of the destructive effects of the causeway bridge on the lake Urmia* <<http://www.mehrnews.com/news/2212419/>> Accessed 08 May 2017

¹⁰⁹² Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] *Environmental Sciences* 143, 156

¹⁰⁹³ Iranian Students' News Agency, 'The fate of the Anzali wetland was revealed: the main infrastructure commission of the government agreed to construct the bypass suggested by the Ministry of Roads & Urban Development' (isna.ir, 2010) <<http://www.isna.ir/news/8703-13013/>> Accessed 10 Sep 2017

international wetland.¹⁰⁹⁴ A closer look at the content of the Agency's approvals reveals that the decisions made by the EPA are mostly on less important subjects such as import and export licences for animals or methods of taxidermy of animals. In Iran, the Council of Ministers or the Parliament has legal administrative power.¹⁰⁹⁵

As stated earlier, because different legal bodies (i.e., ministries and organisations) make use of natural resources in the country, there is a possibility of nonconformity of environmental standards and rules and the legal bodies' actions. Hence, Abdollahi and Faryadi suggested that on the one hand a major part of the EPA's capabilities should focus on tracking the disputes in the Council of Ministers and on the other hand the Council of Ministers should dedicate a particular professional section to deal with the objections and disputes raised by the EPA. Undoubtedly, establishment of special units to monitor and chase environmental rules and standards in each organization and ministry with the aim to coordinate various activities related to the environment with the EPA can be a very good solution to prevent diverse inter-organizational disagreements and violations of environmental rules and standards.¹⁰⁹⁶

4. 2. 3. Deficient monitoring of EPA's performance

As it was discussed in chapter 4¹⁰⁹⁷, under Article 50 of the Iran's constitution first, it is necessary to look after environment in the economic development programme of the government, and second it is the right of the present generation as well as the future generations to have a healthy environment.¹⁰⁹⁸ The protection of environment as a result falls under the sovereignty of the government to deal with¹⁰⁹⁹ and so the parliament must exercise strict monitoring over the implementation of this important duty. However, as it was discussed under the functional challenges of the EPA, Abdollahi and Faryadi claimed that EPA has not provided a precise and regular process of systematic and documentary reports to the parliament.¹¹⁰⁰ In practice, two types of reports regarding the status of country's environment including wetlands are provided by foreign and domestic institutions. First, are reports often published and presented in newspapers and online data bases. These reports

¹⁰⁹⁴ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] *Environmental Sciences* 143, 156

¹⁰⁹⁵ *ibid*

¹⁰⁹⁶ *ibid*

¹⁰⁹⁷ Chapter 4, section 3

¹⁰⁹⁸ *ibid*

¹⁰⁹⁹ Matthew S. Weinert, 'Democratic Sovereignty: Authority, Legitimacy, and State in a Globalizing Age' (UCL Press 2007) 5

¹¹⁰⁰ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] *Environmental Sciences* 143, 156

usually indicate an improvement in environmental protection situation. Second, are the reports which usually are prepared and presented by institutions such as the World Bank and non-governmental environmental organisations.¹¹⁰¹ Sometimes inconsistent news is released from these sources which makes it difficult to precisely assess the current situation of environment in Iran.¹¹⁰² As an example for such inconsistency, an article was published by Lake Urmia Restoration Programme in 2017, *The condition of the Lake Urmia has improved but yet not revitalised*,¹¹⁰³ which reported a promising improvement for the Lake Urmia condition. However, *Drying of the 90% of the Lake Urmia* was another article published by Iranian's Students New agency in the same year which discussed the threatening condition of the Lake.¹¹⁰⁴

Under Article 76 of the Iranian Constitution,¹¹⁰⁵ the Parliament of Iran has the right to investigate and explore the country's affairs. However, according to Abdollahi and Faryadi, there have been no investigation cases regarding the environmental issues by the Parliament.¹¹⁰⁶ Abdollahi and Faryadi believed that the adoption and ratification of environmental conventions and legislations such as Ramsar Convention has been carried out with the least discussion and negotiation.¹¹⁰⁷ A further reason why the performance of EPA is not comprehensively monitored is that in the legal system of the country, ministries are responsible to the Parliament however; EPA as an agency and not a ministry is not legally responsible to the parliament. Hence, according to Abdollahi and Faryadi, the EPA has found itself free from responding to Parliament reporting its achievements and failure. As a result, they suggested that reinforcing the internal commissions related to environmental issues and increasing monitoring of the parliament in this regard appear to be necessary and vital.¹¹⁰⁸

¹¹⁰¹ *ibid*

See e.g., *The Drying of Iran's Lake Urmia and its Environmental Consequences* (UNEP, 2012)

2) *Exploring social vulnerability and environmental migration in Lake Urmia in Iran: Comparative insights from the Aral Sea* (International Organization for Migration, 2015)

3) *Iran Economic Monitor, Special Focus on: Iran's Pension System: The Need for Reform; and Towards Water Security in Iran: Challenges and Opportunities* (The World Bank, Spring 2017)

¹¹⁰² *ibid*

¹¹⁰³ Lake Urmia Restoration Programme, 'The condition of the Lake Urmia has improved but yet not revitalised' < <http://www.khordadnews.ir/fa/news/212914/-اما-خوب-نیست-> Accessed 20 Feb 2018

¹¹⁰⁴ Iranian Students' New agency, *Drying of the 90% of the Lake Urmia* <<https://www.isna.ir/news/96100301086/>> Accessed 10 March 2018

¹¹⁰⁵ Mansour J, *Constitution of the Islamic Republic of Iran* (Douran Publications 2013) 72

¹¹⁰⁶ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment'

[Summer 2010] *Environmental Sciences* 143, 156

¹¹⁰⁷ *ibid*

¹¹⁰⁸ *ibid*

Finally, it should be noted that the performance of the EPA is monitored mostly by NGOs or communities run by volunteers and usually it is just about the environmental degradation that sometimes appears in the shape of protest(s) in the newspapers or online magazines¹¹⁰⁹ such as Destruction of Lake Urmia and endangering health of 16 million people: the authors raised the issue published by Khabar Online news agency¹¹¹⁰; Destruction of Lake Urmia in the next 4 years by Young Journalists Club.¹¹¹¹ One of the main goals of the NGOs' activities as defined in Article 182 of the Law of the Forth Economic, Social and Cultural Development Plan of the Islamic Republic of Iran,¹¹¹² is to monitor the activities of governmental institutions. According to the above article, the Ministry of State is bound to adopt the necessary plans to develop and reinforce the NGOs' function and consequently assign parts of state-owned authorities to them with the aim of supervision of these NGOs on the performance of governmental institutions. The approval and codification of necessary projects in this regard should be done by the Cabinet of Ministers which so far has not been implemented in practice.¹¹¹³

4.3. Legal gaps which affect wetlands management

The shortcomings of national laws with respect to the implementation of Ramsar Convention were discussed in chapter 4. However, Abdollahi and Faryadi suggested that the challenges of EPA are linked to gaps in the legal system of Iran.¹¹¹⁴ This section will be dealing with the gaps in the legal system of Iran which affected the performance of EPA.

4.3.1 Old-fashioned provisions in Iran

In Iran, various overlapping regulations have been adopted for protecting the environment. An important point to note is that most of the basic regulations in the field of environmental protection have been passed long time ago (years before the Islamic Revolution of Iran)

¹¹⁰⁹ *ibid*

¹¹¹⁰ Khabar Online, *Destruction of Lake Urmia and endangering health of 16 million people* <<https://www.khabaronline.ir/detail/615039/society/environment>> Accessed 19 Feb 2018

¹¹¹¹ Young Journalists Club, *Destruction of Lake Urmia in the next 4 years* <<http://www.yjc.ir/fa/news/4323269/>> Accessed 3 Feb 2018

¹¹¹² Naser Ghassemi, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) P42-66; Please also see; Islamic Parliament Research Centre of the Islamic Republic of Iran, *Law of the Fourth programme for Economic, Social and Cultural development of Islamic Republic of Iran* <<http://rc.majlis.ir/fa/law/show/94202>> Accessed 20 May 2017

¹¹¹³ *ibid*

¹¹¹⁴ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] *Environmental Sciences* 143, 156

without being amended and updated in accordance with the changing environmental situation.¹¹¹⁵ The followings are a few examples of such rules:

- The law of protection and exploitation of forests and meadows passed on 21 Aug 1967¹¹¹⁶
- The Plant Protection Act passed on 02 May 1967¹¹¹⁷
- Protection of sea and Boundary Rivers from contamination by petroleum products Act passed on 03 Feb 1976¹¹¹⁸
- Law of coastal and constructed lands passed on 20 Jul 1975¹¹¹⁹

Ghassemi argued that the old provisions lack appropriate impact in terms of implementation and they are in need of an update.¹¹²⁰ For example, as discussed earlier, old punishment provisions has made the fine penalties very affordable and the provisions lack any effective and preventive act of environmental crimes.¹¹²¹

4.3.2. Weakness in compensatory mechanisms

The outdated laws have led to weaknesses in compensatory mechanisms of the legal system in Iran. According to Claver, Lymbery and McComb, the requirement to rebuild and restore the environment is considered one of the most important principles of environmental management.¹¹²² This means that in compensation for environmental damages it is most important to return the environment to its pre-damaged state as opposed to the imposition of fines and such penalties on environmental offenders which would not provide any benefit for the sustainability of environment. However, as discussed earlier in this chapter¹¹²³, the

¹¹¹⁵ Einollah Golpir, 'Retraining environmental laws and regulations (Legislative Institutions and Processes)' (1st, EPA, Tehran Oct 2015) 26-27 <<https://www.doe.ir/portal/file/?550122/>> Accessed 19 Jan 2018

¹¹¹⁶ Naser Ghassemi, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) P85-122 Please also see; Islamic Parliament Research Centre of the Islamic Republic of Iran, 'Regulation for protection and exploitation of forests and meadows' <<http://rc.majlis.ir/fa/law/show/96108>> Accessed 08 Apr 2017

¹¹¹⁷ Naser Ghassemi, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) P125-127; see also Islamic Parliament Research Centre of the Islamic Republic of Iran, 'The Plant Protection Act' <<http://rc.majlis.ir/fa/law/show/95998>> Accessed 05 May 2017

¹¹¹⁸ Naser Ghassemi, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) 142-150; see also Islamic Parliament Research Centre of the Islamic Republic of Iran, 'Protection of sea and Boundary Rivers from contamination by petroleum products Act' <<http://rc.majlis.ir/fa/law/show/97381>> Accessed 05 May 2017

¹¹¹⁹ Naser Ghassemi, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) 150-156; see also Islamic Parliament Research Centre of the Islamic Republic of Iran, 'Law of coastal and constructed lands' <<http://rc.majlis.ir/fa/law/show/97348>> Accessed 06 May 2017

¹¹²⁰ *ibid*

¹¹²¹ Chapter 4 section 3.1

¹¹²² Claver M, Lymbery A and McComb J, *Environmental Biology* (Cambridge University Press, 2009) 580

¹¹²³ Chapter 5 section 3.1.2

financial punishments as a response of Penal Code to environmental crimes have some weaknesses. Indeed, EPA could use Penal Code effectively as a tool to prevent environmental crimes and compensate the damages to environment and wetlands in particular if the weaknesses would be investigated and removed. It was discussed earlier that first, no financial punishments were established for damages to wetlands. Second, the financial penalties are so low and affordable that they lost preventive effect.

5. Conclusion

The aim of chapter 5 is to answer the research question of the study:

What legal enforcements are in place for Lake Urmia independent of the Ramsar Convention?

Iran uses penal code to comply with and enforcing the laws for preserving wetlands. The Islamic Penal Code consists of crimes and punishments and the rules that apply to them.

First, the functions of Penal Code in enforcing and supporting the laws are criticised.

- (iii) Criminal law in Iran does not include wetlands management and the environment has been addressed very generally under the Penal Code.
- (iv) The criminal liability of legal persons in environmental crimes is not recognised perfectly. Although legal persons are mostly responsible for damages to Lake Urmia (e.g., government for construction of Shahid Kalantari Highway), the liability of legal persons is not established precisely under the Penal Code. In fact, under the Penal Code there is no clear provision with regards to the liability of legal persons in charge and the penalties to compensate the damage that this construction has imposed to the Lake Urmia.

Second, Penal Code responds to environmental crimes. Imprisonment, financial punishments and confiscation of properties are the responses of penal code to environmental crimes each of which has got their shortcomings. The application of Imprisonment, financial punishments and confiscation of properties has been criticised:

- (i) The punishment of *imprisonment* has not been directly set for crimes related to wetlands. In addition, imprisonment is used less frequent in Iran than financial punishments for environmental crimes.
- (ii) *Financial punishments* are generally set for environmental crimes in Iran and are not exclusively imposed for crimes related to wetlands. On top of that, financial

punishments for environmental crimes are very small and affordable in amounts compared to the damages that are caused to the environment. Fines are not updated from time to time to be compatible with the economic situation of the country. In fact, the environmental law in which financial punishments are imposed are old and the fines do not reflect the seriousness of the crime and consequently they lose deterrent effect.¹¹²⁴

- (iii) Confiscation has been considered directly for crimes such as illegal fishery and hunting but provisions for wetlands destruction have been neglected. Heydarzade and Mozafarizade suggested the use of alternative punishments to prevent environmental crimes are effective¹¹²⁵ but the application of such punishments in other areas (e.g., wetland crimes) for which legislator has missed setting a punishment is in need of investigation.

Third, the EPA which is officially in charge of preserving wetlands faces challenges which influence wetlands management. Penal Code is a tool that EPA can use to enforce and implement sustainable wetland management and further compensate the environmental damages including damages to wetlands. The EPA faces functional and legal challenges.

(i) Functional challenges:

--According to the Law on Protection and Improvement of Environment, the EPA is assigned to raise **public awareness** towards wetlands. In order to raise public awareness, it is essential to inform people of wetlands' problems and the consequences of wetlands degradation plus public access to reports and statistics is undoubtedly important. However, the EPA publishes no regular, scheduled and accurate environmental data with the aim of informing how to benefit from ecosystem services without damaging it and how to produce environment friendly goods.

--Furthermore, it is expected that the EPA prepare and provide guidelines, mandatory patterns and optimal **advices regarding the protection of wetlands** and consequently send it to the various organizations involved in wetlands exploitation (Ministries of Agricultural Jihad and Energy).

--Finally, under paragraph (b) Article 6 of the Law on the Protection and Improvement of the Environment, EPA is responsible for drafting bylaws, standards and technical

¹¹²⁴ Some examples of old environmental crimes and low imposed fines are in chapter 5 section 3.1.2

¹¹²⁵ Elham Heydarzadeh and Sajjad Mozaffari Zadeh, 'Prevention of environmental offenses' [Spring 2013] Journal of Bioethics 163, 164

regulations to protect the environment including wetlands and consequently sending these drafts for approval to the Supreme Council or the Council of Ministers have been granted to the EPA. However, in practice in different cases the approval of drafted bylaws and/or standards has been delayed for long time due to lack of efforts and chasing the subject by the EPA. In case of wetlands, **approving bylaws with delay** has led to irreparable damages one of which is the drying of the Lake Urmia.

(ii) Legal challenges:

--Besides EPA, several legal bodies are involved in the management of wetlands in Iran (e.g., EPA, the Ministry of Energy and the Ministry of Agricultural Jihad). They are established with a purpose other than wetlands protection (Ministry of Energy aims at management of supply and demand of water; Ministry of Agricultural Jihad is responsible for oversight of agriculture). As a matter of fact, **weak distribution of power** has led to inconsistent cooperation and coordination of the legal bodies. There is no clear and secure legal mechanism to ensure coordination and resolution of their disagreements. For example, Article 16 of the Law on the Protection and Improvement of the Environment, the EPA was legally assigned to monitor and implement the Ramsar Convention and in direct charge of the wetlands in the country and on the other hand, Note 3 of article 2 of the law of Fair Distribution of Water states that any digging and exploitation of natural rivers, lakes, wetlands and water surface is illegal unless under the permission of the Ministry of Energy. However, an enormous number of illegal and unauthorized wells have been dug around Lake Urmia which has been threatening the ecosystem of the Lake.

--**Lack of administrative power** of EPA affects wetlands management in Iran. The administrative system of Iran is a ministry centred system. In other words, ministries have administrative authorities. The EPA works as an agency and not a ministry. So, EPA lacks legal administrative power. The EPA does not play a role in decision making.

-- the performance of EPA is not perfectly monitored by the Parliament. Under Article 76 of the Iranian Constitution, the Parliament of Iran has the right to investigate and explore ministries' affairs. In Iran, ministries are responsible to the Parliament and EPA which is not a ministry is not legally responsible to the Parliament. The EPA has found itself free from responding to Parliament reporting its achievements and failure. The performance of the EPA is monitored mostly by NGOs or communities run by

volunteers and usually it is just about the environmental degradation that sometimes appears in the shape of protests in the newspapers or online magazines.

Fourth, there are gaps in the legal system of Iran which affect wetlands management.

Some provisions are **old-fashioned** in Iran's legal system. Ghassemi argued that the old provisions lack appropriate impact in terms of implementation, and they should be updated (for example, very affordable financial punishments, some of which were ratified between 1967 and 1976).¹¹²⁶ The **compensatory mechanisms** are weak. The outdated laws have led to weaknesses in compensatory mechanisms of the legal system in Iran in returning the environment to its pre-damaged condition. If the aforementioned weaknesses be investigated and resolved, EPA should be able to use Penal Code as an enforcing tool to prevent environmental crimes and compensate the damages to wetlands.

Chapter Six

Legal and non-legal solutions to the Lake Urmia Crisis: Evidence and challenges

1. Introduction

The national laws of Iran and the implementation and enforcement of Iran's obligations under the Ramsar Convention are discussed in chapters 4 and 5. The weaknesses of the laws and the implementation of the laws and challenges in the preservation of the wetlands within the country are discussed in detail. This chapter critically discusses how those challenges could be addressed, including legal and non-legal approaches to saving the wetlands and Lake Urmia in particular. First, possible legal solutions are being analysed. This chapter identifies potential legal solutions and explores how they might be useful within the context of Iran. This is followed by discussing any challenges that the recommended solution could face when applied in Iran. Secondly, the chapter examines the non-legal solutions such as transfer of water from other resources, etc. for saving Lake Urmia. In discussing the non-legal solutions, the chapter will further explore the effectiveness of these solutions in the context of wetland management in Iran.

¹¹²⁶ Further example in chapter 5 section 4.3

2. Legal solutions for preserving the wetlands

Having demonstrated a framework for analysing the Ramsar Convention and its implementation in Iran in chapters 3 and 4, this section will be following the same framework for proposing and discussing legal solutions for saving Lake Urmia. Similarly, a very brief summary of the weaknesses in the implementation of the Convention in Iran will be discussed under separate subheadings.¹¹²⁷ The aim of this overview is to give a condensed and objective account of the main ideas and features of already discussed arguments. Then, legal solution to overcome the shortcoming will be proposed and examples from Iran and/or other jurisdiction will be explored.

2. 1. Definition of wetlands

The implementation of the Ramsar Convention in Iran with regards to the definition of wetlands was investigated in chapter 4.¹¹²⁸ The argument with regards to the definition of wetlands in Iran is that wetlands are not defined in the Law of Conservation, Restoration and Development of Iran's Wetlands. The Law of Conservation, Restoration and Development of Iran's Wetlands was discussed in chapter 4. As a matter of fact, in the law of conservation, restoration and management of wetlands, the wetlands are not defined.

As discussed earlier, the Ramsar convention was translated, ratified by the Iranian Parliament and put into force. Ramsar convention defined wetlands in Article 1. According to the Ramsar Convention Wetlands are of three different types including man-made wetlands. As mentioned in chapter 4, in Iran the control of waters behind dams (that is categorised as man-made wetlands) is given to the Ministry of Energy while EPA under Articles 1, 6, 9 and 16 of the Law of the Protection and Improvement of the Environment, is officially assigned for implementing the Ramsar Convention and should control the wetlands within the country.

Kooshki suggested that a clear and precise definition can lead to better management of wetlands. Indeed, the definition of wetlands can integrate in the Law of Conservation, Restoration and Development of Iran's Wetlands and different legal bodies (including EPA, Ministry of Energy) in charge of exploitation of wetlands in Iran would play a more effective and clearer role.

¹¹²⁷ The discussion of problems will be short as they were discussed in detail in chapter 4.

¹¹²⁸ Chapter 4 section 2.1

Once wetlands are clearly defined in the national law (the Law of Conservation, Restoration and Development of Iran's Wetlands) the arguments which were discussed in chapter 4 could be resolved effectively. Two key arguments with regards to the definition of wetlands in Iran were discussed in chapter 4 Section 2.1. The first argument was the conflict between the Environmental Protection and economic development In Iran. As it was also emphasized in the challenges that EPA face with regards to implementation of the Ramsar convention in chapter 5, different legal bodies are in charge of exploitation of the wetlands and this has led to a conflict between the environmental protection and the economic progress as the two bodies of EPA and the Ministry of Energy which are involved in the management and exploitation of wetlands in Iran, tend to follow different aims and objectives. For example, EPA attempts to preserve wetlands and take care of environmental issues but the Ministry of energy provides energy and tend to improve the economic development of the country and exploits waters behind dams to produce energy. Dam construction is the main way of providing energy by the Ministry of Energy damages wetlands. The second argument which was dealt with as a challenge that EPA faces was that the collaboration between EPA and other legal bodies which exploit wetlands in the country was not clear and the Law of Conservation, Restoration and Development of Iran's Wetlands does not clearly defined their collaboration and the water is not clearly allocated among users.

As a possible way forward, Kooshki argued that a specific law should be established by the government to precisely define the wetlands and the different types consistent with the Ramsar Convention. The national wetlands should be listed and their boundaries should be specified.¹¹²⁹ A coherent and regular policy and regulation in this regards is vital.¹¹³⁰ Once different types of wetlands were defined and listed in line with the Convention's definition, Iran should bring forward a consistent policy for distributing the power over controlling wetlands in the country.¹¹³¹ Kooshki suggested that if EPA is assigned to take control over wetlands then different types of wetlands (e.g., water behind dams that is considered as man-made wetlands) in the country should fall under the supervision of the EPA.¹¹³² However, the following organizations/ministries are involved in managing wetlands in Iran; Environmental

¹¹²⁹ Gholamhasan Kooshki, 'The Challenges of Iranian Criminal System in the field of Environmental Crime' [2009] Quarterly Journal of Legal Notifications 88, 104

Please also see;

Esmail Kashkoulani, Abbas Sheikholeslami and Mahdi Naghavi, 'Environmental Crimes and Preventive Strategies' [Jun 2019] Bioethics Journal 101, 107

¹¹³⁰ *ibid*

¹¹³¹ *ibid*

¹¹³² *ibid*

Protection Agency (EPA), Ministry of Energy, Ministry of Agricultural Jihad, Management and Planning Organization of Iran. The argument here is that there is a need for clarity of definition in the Law of Conservation, Restoration and Development of Iran's Wetlands and that the definition and interpretation of wetlands needs to be consistent with the Ramsar Convention.¹¹³³ A definition can lead to better management of wetlands.

In support of the solutions argued, examples from the United Kingdom (UK) and Australia, member states of Ramsar Convention, are brought in to highlight how a clear definition of wetlands can integrate all types of wetlands which is consistent with the Ramsar Convention. In the UK,¹¹³⁴ control over wetlands including waters behind dams is granted to one single body and this has helped to prevent overlapping management policies. The designated Ramsar Administrative Authority¹¹³⁵ in the UK is the Department for Environment, Food and Rural Affairs (DEFRA).¹¹³⁶ DEFRA then assigns local authorities to effectively manage and safeguard the natural environment. DEFRA defines duty for authorities and local authorities report their activities to DEFRA.¹¹³⁷ The Walthamstow Wetland,¹¹³⁸ a nature reserve consisting of a series of ten reservoirs (man-made wetland) is categorised as a wetland.¹¹³⁹ Walthamstow Reservoirs is a component part of the wider Lee Valley SPA and Ramsar Site. Changes in the management or use of Walthamstow Reservoirs associated with any project could therefore have an adverse effect on the integrity of the SPA and Ramsar Site if the projects are not designed appropriately. Hence, the London Borough of Waltham Forest appointed BSG Ecology¹¹⁴⁰ to produce a report to inform an appropriate assessment (under

¹¹³³ Chapter 4 section 2.1

¹¹³⁴ Katie Beckett, 'Ramsar National Report to COP13' (Ramsar.org 2018) <https://www.ramsar.org/sites/default/files/documents/library/cop13nr_united_kingdom_e.pdf> accessed 4 Feb 2019

¹¹³⁵ The agency within each Contracting Party charged by the national government with oversight of implementation of the Ramsar Convention within its territory, see: Hale, J, *Ecological Character Description of the Ord River Floodplain Ramsar Site*, Report to the Department of Environment and Conservation, Perth, Western Australia (2008) P 1

¹¹³⁶ Ministry of Environment, *Implementation of the Ramsar Convention on Wetlands of International Importance* UK, National Report submitted to the 8th Meeting of the Conference of the Parties, Valencia, Spain, 2002

¹¹³⁷ Biodiversity in Waltham Forest Report of Neighbourhoods Scrutiny Committee, Waltham Forest, Dec 2015<<https://walthamforest.gov.uk/sites/default/files/Biodiversity%20in%20Waltham%20Forest.pdf>> Accessed 20 Feb 2018

¹¹³⁸ Walthamstow Reservoirs <<http://leabridge.org.uk/waterworks/walthamstow-reservoirs.html>>Accessed 10 Apr 2018

¹¹³⁹ BSG Ecology, *Walthamstow Reservoirs, Walthamstow Wetlands Project: Report to inform a Habitats Regulations Assessment (HRA) for the Lee Valley Special Protection Area*. (BSG Apr 2014) <<https://democracy.walthamforest.gov.uk/documents/s57929/6342>> accessed 10 Apr 2018

¹¹⁴⁰ BSG Ecology is a leading independent ecological consultancy. We provide a complete ecology service, from fieldwork and baseline survey to impact assessment, biodiversity management, project design and expert witness advice. BSG Ecology<<http://www.bsg-ecology.com/about/>> Accessed 10 Mar 2018

the Habitats Regulations) of the Walthamstow Wetlands project.¹¹⁴¹ The project aimed to create a new urban wetland nature reserve based within the existing Walthamstow Reservoirs site (owned and operated by Thames Water).¹¹⁴² The point here is to show how better a robust definition of wetlands can lead to better management of wetlands. Once wetlands are defined, different types of wetlands are specified and this would give a clear idea of which legal bodies should involve in the exploitation and consequently management of wetlands. Once a clearer idea is provided on which legal bodies should involve in the management, the collaboration and coordination of roles would help effective management of wetlands.

Another example for a clear definition of wetlands and consistent with the Ramsar Convention can be found in Australia, a Ramsar contracting party. The Ord River Floodplain is a man-made wetland in Australia which was constructed in 1972.¹¹⁴³ The Australian Government Department of the Environment is the administrative authority in Australia for the Ramsar Convention on Wetlands of International Importance.¹¹⁴⁴ In the UK and Australia, both contracting parties, one single body is in charge of wetland management and then that single administrative body assigns legal bodies to manage the wetland effectively. The Australian Government meets its obligations under the Ramsar Convention by providing national wetland policy leadership and direction, working with state and territory governments through the Standing Council on Environment and Water, implementation of the

¹¹⁴¹BSG Ecology, *Walthamstow Reservoirs, Walthamstow Wetlands Project: Report to inform a Habitats Regulations Assessment (HRA) for the Lee Valley Special Protection Area*. (BSG Apr 2014) <<https://democracy.walthamforest.gov.uk/documents/s57929/6342>> accessed 10 Apr 2018

¹¹⁴² The site is already open to the general public for recreational use (fishing, walking and bird-watching) through a self-permitted access system. Under the project, the site will be 'opened up' through the provision of new facilities (including a new visitor centre and exhibition space), interpretation, enhanced access points and recreational routes through the site. There is a focus on the shift from the current ad hoc and largely self-regulated public access to a more managed system with dedicated on-site staff. Please see; BSG Ecology, *Walthamstow Reservoirs, Walthamstow Wetlands Project: Report to inform a Habitats Regulations Assessment (HRA) for the Lee Valley Special Protection Area*. (BSG Apr 2014) <<https://democracy.walthamforest.gov.uk/documents/s57929/6342>> accessed 10 Apr 2018

¹¹⁴³ Water Corporation, *Ord River Irrigation Scheme* <<https://www.lakeargyle.com/wp-content/uploads/2013/04/Lake-Argyle-Ord-Irrigation-Scheme.pdf>> Accessed 12 Apr 2018
It is located in the north east of Western Australia, approximately 8 km east of the town of Wyndham within the Victoria-Bonaparte bioregion. The site covers over 140,000 hectares and lies within the Shire of Wyndham–East Kimberley. The Victoria-Bonaparte bioregion covers over 70,000 km² and spans the Western Australian and Northern Territory borders with over 70% of the bioregion within the Northern Territory. Although the wetlands of the bioregion have not been inventoried, there are a number of nationally and internationally important wetlands present. These include the Lower Ord Floodplain, the Legune wetlands in the Northern Territory and the artificial wetlands created by the damming of the Ord River: Lakes Argyle and Kununurra and they were listed in Ramsar sites in 1990

Hale, J. and Morgan, D., *Ecological Character Description for the Lakes Argyle and Kununurra Ramsar Site*, Report to the Department of Sustainability, Environment, Water, Population and Communities, Canberra (2010)

¹¹⁴⁴ Australian Department of Environment and Energy, *Managing Wetlands* <<http://www.environment.gov.au/water/wetlands/managing>> Accessed 25 Jan 2018

The agency within each Contracting Party charged by the national government with oversight of implementation of the Ramsar Convention within its territory

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), and through the development of programs to improve the management of wetlands.¹¹⁴⁵

As a conclusion, it should be stated that although Iran is a Contracting party of the Ramsar convention and the law on the Ramsar Convention was ratified by the parliament and the definition of wetland which was mentioned in Article 1 of the convention was formally came into force in Iran, Iran needs a clear definition of wetland in law of conservation restoration and management of wetland. Once wetlands are clearly defined different types of wetlands should be specified. In this case as already stated the conflict over the use of man-made wetlands should be resolved. A further argument with regards to the definition of wetland would be that once the definition of wetlands is specified and clearly stated, the challenges which were discussed in chapter 5 with regards to performance of EPA should be resolved. the arguments were the conflict between the Environmental Protection and economic progress and the collaboration between different legal bodies exploiting wetlands in the country.

2.2. Listing approach

It was discussed in chapter 3 that the prerequisite for Ramsar List is that the wetland should be internationally important. However, the criteria for internationally important wetlands were not specified. Discussions in chapter 3 highlighted that, firstly, this requirement is vague and, secondly, some wetlands are nationally important but are not listed in the Ramsar List of internationally important wetlands. Lake Urmia has met the requirements and is listed. However, Lakes SabalanNosha, Haft Barm Lake, Langoor wetland, Ganjgah wetland Ghooch Lake, Pasab-e Yazd wetland are nationally important to Iran but are not listed in the Ramsar List.¹¹⁴⁶ Then chapter 4¹¹⁴⁷ suggested that it is essential that contracting parties follow a systematic approach to nominate wetlands for Ramsar List and that Iran has not yet reported a systematic approach in nominating wetlands for the Ramsar List though nominating new wetlands was reported as one of the priorities of the Iranian government in the National report to the implementation of the Ramsar convention on wetlands on the 13th COP.

To provide a better protection of the wetlands which are not yet listed in the Ramsar List of internationally important wetlands, Iran should attempt to apply a systematic approach to the

¹¹⁴⁵ Australian Department of Environment and Energy, *Australian Ramsar management principles* <<http://www.environment.gov.au/water/wetlands/managing/australian-ramsar-management-principles>> Accessed 27 Jan 2018

¹¹⁴⁶ Chapter 3, Section 4.2.

¹¹⁴⁷ chapter 4 section 2.2

selection of wetlands. Iran should disseminate wetland directories, which identify potential (not currently listed) Ramsar sites to add to the Ramsar List. Iran needs to establish a committee to diligently study, observe and monitor the potential sites. Finally, it would be helpful to specify a timeframe for consistent monitoring and nominating potential wetlands for the Ramsar List.

An example from Australia highlighted how potential wetlands are designated for Ramsar List. Australia takes a systematic approach to identify candidate Ramsar sites.

Australia undertakes initial assessment against Ramsar criteria before nominating the site to Ramsar. The initial assessment aims to inform whether the site is potential to be added to Ramsar list based on the nine criteria for identifying Wetlands of International Importance provided by Ramsar handbook. Then, Australia undertakes more detailed assessment while developing the nomination documents. Australia follows a systematic approach (intent to nominate and landowners support; broader consultation about owner consent and objections/grievances; develop supporting documents i.e., preparing the RIS, Listing criteria, Ramsar site boundary description and map determine the boundaries of the site, ecological character description and management plan or management system, jurisdiction review and finally submission of proposed nomination).¹¹⁴⁸ A further example from the UK emphasizes the importance of taking a systematic approach for designating Wetlands of international importance to add to the Ramsar list.¹¹⁴⁹ Ramsar site designation in the UK previously focused on identifying important localities for water-birds.¹¹⁵⁰ There was no systematic approach to the selection of sites for wetland habitats and non-avian species. The United Kingdom in its National Report on the implementation of the Ramsar Convention submitted to the 8th Meeting of the Conference of the Parties, Valencia, Spain, 2002 expressed its attempts to designate for the Ramsar list further wetlands especially wetlands still under-represented in the list and trans-frontier wetlands. Hence, the UK assigned the Joint Nature Conservation Committee (JNCC) to study UK sites, with the aim of achieving a more balanced representation of wetland interest features and to

1. Relate all existing Ramsar sites to consistent selection criteria;

¹¹⁴⁸ chapter 4 section 2.2

¹¹⁴⁹UK Department for Environment, Food and Rural Affairs, 'Implementation of the Ramsar Convention on Wetlands of International Importance National Report submitted to the 8th Meeting of the Conference of the Parties, Valencia, Spain, 2002' (jncc.gov.uk 2002) P 37 <
http://archive.jncc.gov.uk/PDF/Ramsar_UK_NatRep_2002_Report.pdf> accessed 1 Apr 2018

¹¹⁵⁰ *ibid*

2. Evaluate the representation of wetland habitats and selected non-avian species within existing and candidate Ramsar sites in the UK and Overseas Territories;
3. Identify any significant gaps in coverage and make recommendations for additional sites.¹¹⁵¹

In sum with regards to the listing approach, it is first important to be consistent with regards to designating potential wetlands. Contracting parties can follow the nine criteria that Ramsar convention has set as the criteria of internationally important wetlands. The Contracting parties also need to study and monitor potential wetlands to follow their systematic approach in designating potential Wetlands to add to the Ramsar convention.

2.3. The ‘Exclusive Sovereign Right’

Chapter 3 explored the principle of ‘exclusive sovereign right’ which is closely linked to the principle of ‘ecological character’. The conflict between the wetland conservation and sovereignty was discussed.¹¹⁵² On the one hand, the contracting parties are committed to be responsible towards any changes in the ecological character of wetlands within their territory and report the changes to Montreux Record for further investigation and advice. On the other hand, under the ‘exclusive sovereign right’, it is emphasised that the inclusion of a wetland in the Ramsar List does not prejudice the exclusive sovereign rights of the Contracting Party in whose territory the wetland is situated. It was discussed in chapter 4 that Iran did not report the adverse ecological changes of Lake Urmia to the Montreux Record. No reasonable reason for not entering the Lake Urmia to the Montreux Record is found in the literature. However, the comprehensive Sovereign right given to the Contracting parties with the purpose of attracting their interest towards joining the convention does not bind the Contracting parties to record the ecological changes of wetlands to the Montreux Record and left this action at the member of State’s discretion. As a matter of fact, Iran has no legally binding obligation to report the ecological changes of the Lake Urmia to Montreux Record. In the most recent report to 57th Meeting of the Standing Committee at Gland, Switzerland, 24 – 28 June 2019, Iran has not reported the Lake Urmia to the Montreux List.¹¹⁵³ Contracting parties are

¹¹⁵¹ *ibid*

¹¹⁵² Chapter 3 section 4.3

¹¹⁵³ Ramsar Convention Secretariat, 'Update on the status of Sites on the List of Wetlands of International Importance' (Ramsar.org Jun 2019) P 23
<https://www.ramsar.org/sites/default/files/documents/library/sc57_23_status Ramsar sites_e.pdf> accessed Nov 2019

instructed in Ramsar convention to report the ecological changes of the wetlands within their territory to the Ramsar Secretariat for evaluation, observation and support.

In order to contribute to effectively implementing the Convention in Iran, the Iranian government needs to report the Urmia site to the Montreux Record for further investigation, observation and advice. Keikha, the Deputy of EPA in 2015 emphasised that ‘the Lake Urmia is in such condition that the wetland needs to enter the Montreux list as soon as possible.’¹¹⁵⁴ The deputy of the EPA stated that 20 to 80 percent of the 40 wetlands of the country has dried. He continued that Iran needs to report the ecological changes to the Ramsar Secretariat to add the site to the Montreux record and receive administrative, scientific, and technical support.¹¹⁵⁵

To promote the concept of sovereignty over wetlands, Iran needs to invoke the national law. In this regards, two arguments will be discussed here:

- First is the concept of ‘right to environment’ (i.e., public right to healthy environment) and
- Second is the Article 40 of Iran’s Constitutional law--‘rule of Prohibition of detriment’.

Briefly, the exclusive Sovereign right of Ramsar convention gives the comprehensive right to Contracting parties over the wetlands within their territory. Iran has not reported the Lake Urmia to Montreux record, and it can be concluded that this could be because Iran has no binding obligation to report the changing ecological character of Lake Urmia to the Montreux record. To help the sovereignty right provision in Iran, two arguments will be discussed. On the one hand, it is the public’s right to environment which is highlighted in article 50 of Iran’s constitutional law. It means people have a right to healthy environment. On the other hand, it is the rule of prohibition of detriment which is indicated in article 40 of Iran’s constitutional law. Based on the rule of prohibition of detriment, any activity which threatens public’s interests or lives is prohibited. It will be discussed that the rule of prohibition of detriment very generally prohibited all damaging activities, but it is applicable to any specific situations (here environment and preservation of wetlands). It means that any activity or projects of the government to exploit the Urmia

¹¹⁵⁴ Ali KhodaeiBijari, 'Lake Urmia on the verge of entering to the Montreux Record' (Fars News Agency 2015) < <https://www.javanonline.ir/fa/news/701413/>> accessed 16 mar 2018

¹¹⁵⁵ Chapter 3 section 3

wetland (e.g., dam construction) which has damaged the wetland and endangered people's lives (illnesses caused due to converting the Lake into salt land) based on the rule of prohibition of detriment can be prosecuted by the legal system. These two arguments will be elaborated hereafter:

The human's right to healthy environment is generally defined as: 'human rights are indispensable and indisputable whereby every individual and all human beings deserve to share a healthy environment with the collective responsibility of protecting environment in order to preserve human health (including both current and prospective generations) and development in all its aspects (including economical, social and cultural)'.¹¹⁵⁶ In Iran 'right to environment has been considered in Article 50 of Constitutional Law. Article 50 is discussed in chapter 4.¹¹⁵⁷ According to Article 50 of the Constitutional Law, preserving the environment for the benefits of present and future generations is a public duty and any activity which damages the environment is forbidden. Azad Khalesi asserted that in the Islamic Republic of Iran's Constitutional Law right to environment is recognized as a common heritage of mankind.¹¹⁵⁸ The Iran's Constitutional Law discusses environment as a public wealth that is considered as important as health, hygiene and education and is valuable.¹¹⁵⁹ Azad Khalesi emphasised that article 50 of Iran's Constitutional Law explicitly notices environment and the right of having a healthy environment.¹¹⁶⁰ The detrimental consequences of drying of Lake Urmia were discussed in chapter 2 that the life of millions of people around the Lake has been threatening.¹¹⁶¹ As discussed, the rapid shrinking of Lake Urmia has converting the dried areas into a salt land and this is a potential threat to human health and the ecosystem.¹¹⁶² Nikkhah et al claimed that allowing Lake Urmia dry out violates the people's right to life, the right to healthy environment, the free residency right, and the right to work and to appropriate food.¹¹⁶³ In the Iranian jurisprudence, 'right' is defined as the 'authority, domination and privilege that is valid for a person and others are obliged to respect

¹¹⁵⁶Matin A. 'Global Threat to Biosphere, Natural resources on the brink of destruction' [1991] Journal of Research and Development 3-12

Please also see; Mohsen emamiGheshlaagh, Seyed Mohammad Hashemi, Mohsen Mohebbi and Vali Rostami, 'The right to a healthy environment in the light of the principle of jurisprudence and ethics' [Spring 2018] Ethical Research quarterly Journal 143, 151

¹¹⁵⁷ Chapter 4 section 3

¹¹⁵⁸ Mohammad Azad Khalesi, 'Principles and content of right to environment (in the light of international documents and conventions)' [2013] Pelagia Research Library 371, 377

¹¹⁵⁹ *ibid*

¹¹⁶⁰ *ibid*

¹¹⁶¹ Chapter 2 section 6

¹¹⁶² *ibid*

¹¹⁶³Reza Nikkhah, Seyed Mehdi Salehi and HoseinJavadi, 'Rule of Prohibition of Detriment and Right over Environment focusing on Lake Urmia' [Spring 2018] ije 331, 341

it'.¹¹⁶⁴ As a matter of fact, 'right' and 'duty' are linked. It means that if someone has the 'right' to something (here environment), others have the 'duty' to respect it.¹¹⁶⁵ The 'right' is valid when the 'right' is legally obliged to be respected by others.¹¹⁶⁶

The second argument as discussed above is the Article 40 of Iran's Constitutional law--'rule of Prohibition of detriment'. The rule of Prohibition of detriment' can complement the 'right to environment'. Article 40 of Iran's Constitutional Law stated that: 'No one shall be subjected to the exercise of his or her rights by harming others or infringing upon the public interest.'¹¹⁶⁷ Article 40 of the Constitutional Law is known as the 'rule of prohibition of detriment'. According to the rule of prohibition of detriment, any harmful activity (detriments) which threaten people is prohibited'.¹¹⁶⁸ The 'rule of prohibition of detriment' in the Iranian legal system is derived from the Islamic religion by which any detriment is prohibited.¹¹⁶⁹ The 'rule of prohibition of detriment' focuses on people's right to benefit from their livelihood in the country. Environmental rights mean access to the unspoiled natural resources that enable survival, including land, shelter, food, water and air.¹¹⁷⁰ They also include more purely ecological rights, including the right for an individual to enjoy an unspoiled landscape.¹¹⁷¹ In the view of scholars such as Emamdadi and Saghafi who investigated the potential impact of this rule of 'prohibition of detriment', the harmful activities and threats to environment in Iran can be prevented with adherence to this provision.¹¹⁷²

Indeed, the rule of prohibition of detriment generally prohibits any damaging activity to people's lives and does not address any particular damaging activity (for example, damages to environment). However, the rule of prohibition of detriment can be applied to particular

¹¹⁶⁴ Seyed Jalaluddin Madani, '*Foundations and Principles of Science of Law*' (Paydaar Publishing, 19th edn Tehran 2012) P 117-119

¹¹⁶⁵ Reza Nikkhah, Seyed Mehdi Salehi and Hosein Javadi, 'Rule of Prohibition of Detriment and Right over Environment focusing on Lake Urmia' [Spring 2018] ije 331, 341

¹¹⁶⁶ *ibid*

¹¹⁶⁷ Dadrah, 'The Rule of Prohibition of Detriment' (dadrah.ir Oct 2015) <<http://dadrah.ir/danesh/>- مطالبه خسارت> accessed 26 Apr 2019

¹¹⁶⁸ *ibid*

¹¹⁶⁹ Nematollah Dalvand, Amaan Alimardani and Mohammad ali Heydari, 'Civil liability of the government regarding the water resources based on the rule of Liability for Spoil, Prohibition of Detriment and Respect' [Winter 2018] Journal of the teachings of civil jurisprudence 177, 199

¹¹⁷⁰ Friends of The Earth International, 'Environmental rights are human rights' (foei Organisation, 18 June 2003) <<https://www.foei.org/what-we-do/environmental-rights-human-rights>> Accessed 19 Nov 2018

¹¹⁷¹ *Ibid*

And

Reza Nikkhah, Seyed Mehdi Salehi and Hosein Javadi, 'Rule of Prohibition of Detriment and Right over Environment focusing on Lake Urmia' [Spring 2018] ije 331, 341

¹¹⁷² Alireza Emamdadi and Mahdi Saghafi, 'Protecting Environmental Rights on the Basis of Jurisprudential Rules' [Summer 2016] Semmi annual Journal Environment Law 37, 49

circumstances (here, environment) in which people's lives are endangered or violated.¹¹⁷³ Emamdadi and Saghafi proposed to use the 'rule of prohibition of detriment' to protect environmental rights of people.¹¹⁷⁴ This approach could have implications for preserving wetlands as well. As a matter of fact, the 'rule of prohibition of detriment' can help the preservation of the Lake Urmia. The 'rule of prohibition of detriment' could be applied to preserving wetlands and preventing threatening activities.¹¹⁷⁵ The rule of prohibition of detriment can complement Article 50 of Iran's Constitutional Law and the Law on conservation, restoration and management of the country's wetlands and promote the sovereignty since in Iran, the government has the sovereignty over water resources however, if the government's activity makes changes to the water sources which could harm people, with adherence to the 'rule of prohibition of detriment', the harmful activity can be prosecuted by the legal system.

A case in which the 'rule of prohibition of detriment' was used in the Iranian judicial system will be discussed here. The case is about an illegal well in the Khorasan Razavi Province in north-eastern Iran. The case was heard in the Court of Appeal of Khorasan Razavi.¹¹⁷⁶ The verdict by the Court of Appeal was that the drilled well should be sealed and that the owners of well should provide compensation for the damage. Eventually, the Supreme Court of the country approved and confirmed the verdict and this verdict provides a judicial precedent that can be referred to in future similar cases.¹¹⁷⁷ The judicial precedent¹¹⁷⁸ of General Board of the Supreme Court Number 713 on 05.01.2010 set that: According to Article 45 of Fair Water Distribution ratified on 07.03.1983, any illegal digging of well, ganat or overharvesting of water resources is banned and any perpetrator is obliged not only to compensate the damage but also will be punished according to this law.¹¹⁷⁹ All Supreme

¹¹⁷³ *ibid*

¹¹⁷⁴ Alireza Emamdadi Mahdi Saghafi, 'Protecting Environmental Rights on the Basis of Jurisprudential Rules' [Summer 2016] *Semmi annual Journal Environment Law* 37, 43

¹¹⁷⁵ Nematollah Dalvand, Amaan Alimardani and Mohammad ali Heydari, 'Civil liability of the government regarding the water resources based on the rule of Liability for Spoil, Prohibition of Detriment and Respect' [Winter 2018] *Journal of the teachings of civil jurisprudence* 177, 199

¹¹⁷⁶ Nematollah Dalvand, Amaan Alimardani and Mohammad ali Heydari, 'Civil liability of the government regarding the water resources based on the rule of Liability for Spoil, Prohibition of Detriment and Respect' [Winter 2018] *Journal of the teachings of civil jurisprudence* 177, 179

¹¹⁷⁷ *ibid*

¹¹⁷⁸ A judicial precedent is a decision of the court used as a source for future decision making. This is known as *stare decisis* (to stand upon decisions) and by which precedents are authoritative and binding and must be followed. This needs to be explained more clearly Please see; Rolando V. del Carmen and Craig Hemmens, *Criminal Procedure: Law and Practice* (CENGAGE LEARNING, 10thedn, 2015) 11

¹¹⁷⁹ Nematollah Dalvand, Amaan Alimardani and Mohammad ali Heydari, 'Civil liability of the government regarding the water resources based on the rule of Liability for Spoil, Prohibition of Detriment and Respect' [Winter 2018] *Journal of the teachings of civil jurisprudence* 177, 185

Court judges unanimously confirmed the verdict approved by the Court of Appeal (branch: Number 12) of Khorasan Razavi Province regarding the condemnation of the perpetrator for damaging the water well subject to dispute. This verdict according to Article 270 of Islamic Republic of Iran's Criminal Code of Procedure Act for Public and Revolutionary Courts must be applied in similar practical cases.¹¹⁸⁰ In sum, according to this judicial precedent, because any illegal digging wells or overharvesting of water resources is prohibited, the illegal well which damaged the underground water origin in Khorasan region was set to be sealed and the perpetrators were obligated to compensate the damage.¹¹⁸¹

Article 44 of Fair Distribution of Water is set with adherence to the rule of prohibition of detriment and bans administrating any project which would cause damage to qanats, wells, river- and spring-waters and has decided as following in order to compensate the damages (water shortage).¹¹⁸²

- a) In cases where damage (water shortage) could be compensated by the government, the government is obliged to compensate it by providing enough water without paying for financial fine.
- b) In cases where damage (water shortage) could not be compensated meaning that the government could not provide enough water from other sources (e.g. dams) to compensate the damage, the right court would set the government to compensate it in another way.
- c) In cases where damage was drought of qanats, wells or springs but the damage could be compensated making use of other water resources, the Ministry of Energy is obligated to compensate the damage to the owner(s) of qanats, wells or springs. As compensation, the owner(s) will be paid a fair price of the water loss or enough amount of water for their use provided from other sources.
- d) In cases where damage was drought of qanats, wells and springs and the damage could not be compensated meaning that other water sources cannot provide the lost water, the dispute should be heard in court.

¹¹⁸⁰ *ibid*

¹¹⁸¹ *ibid*

¹¹⁸² *ibid*

- e) The owners of illegal wells and qanats do not have the right to claim for compensation.¹¹⁸³

It can therefore be stated that the 'rule of prohibition of detriment' does not only deal with damage to individual's properties but it also applies to damage to public properties (such as lakes).¹¹⁸⁴ It is noticeable that detriments caused by inappropriate management of water resources by government mostly affect the public.¹¹⁸⁵ Accordingly, if government damages water resources and violate human's 'right to environment', the legal system based on the 'rule of prohibition of detriment' can obligate the government to compensate for the damage.

Based on the discussion above, it can therefore be argued that in case of Lake Urmia:

- The 'right to a healthy environment' is the right that people possess and government are obliged to respect it.
- The greatest consequence of the drying of the Lake Urmia is the threat to human health, destruction of the region's economy and immigration that is indispensable.¹¹⁸⁶
- With adherence to this rule, the legal system can put enforcement against government (which conducted projects that threatened people's right to Lake Urmia by constructing dams and Shahid Kalantary Highway).

2.4. The 'ecological character'

Chapter 3 argued that the Ramsar Convention does not specify criteria to maintain good ecological character.¹¹⁸⁷ Furthermore, contracting parties are committed to report ecological changes of their wetlands to the Ramsar Secretariat for further observation and advice.¹¹⁸⁸ The ecological character of Lake Urmia has been adversely changing for many years.¹¹⁸⁹ However, Iran has not reported changes in the ecological character of Lake Urmia to the Ramsar Secretariat and as a result Lake Urmia was not entered into the Montreux Record.

¹¹⁸³ Nematollah Dalvand, Amaan Alimardani and Mohammad ali Heydari, 'Civil liability of the government regarding the water resources based on the rule of Liability for Spoil, Prohibition of Detriment and Respect' [Winter 2018] Journal of the teachings of civil jurisprudence 177, 199

¹¹⁸⁴ *ibid*

¹¹⁸⁵ *ibid*

¹¹⁸⁶ Chapter 2

¹¹⁸⁷ Chapter 3 section 4.5

¹¹⁸⁸ Chapter 4 section 4.5

¹¹⁸⁹ Chapter 2 section 5. The direct and indirect drivers responsible to change the ecological character of lake Urmia were discussed in chapter 2

The ecological changes of Lake Urmia should be reported to the Ramsar Secretariat and the Lake should be listed in the Montreux Record.¹¹⁹⁰ In fact, adding the site to the Montreux Record which is the principal tool of the Ramsar Convention would be helpful as the vulnerable wetlands whose ecological character is adversely changing or is likely to change will receive priority conservation attention and advice by national and international organisations. The characters of the vulnerable wetlands shall be maintained as part of the Ramsar database and shall be subject to continuous review.¹¹⁹¹

There is evidence of internationally important wetlands once at risk of drying and were registered into the Montreux Record and as a result had their environmental issues stopped or mitigated. Endangered wetlands are removed from the Record after it is considered by the Ramsar Secretariat that the ecological character of the wetland is no longer threatened. For example, Lake Myvatn is a shallow eutrophic lake situated in an area of active volcanism in the north of Iceland.¹¹⁹² The Myvatn Lake is a Ramsar site (designated in 1977) and entered into the Montreux Record in 1990 because it was disappearing. The site was rescued and then removed from the List in 1993.¹¹⁹³ The Myvatn site had been exploited by local people for many years, with farming of surrounding land, mining of diatomite and harvesting of fish and waterfowl.¹¹⁹⁴ Expansion of diatomite dredging activity was proposed and there was concern that this may have a negative effect on the lake's productivity.¹¹⁹⁵ A local committee, the Management Guidance Mission, visited the site in mid-1992 and reported to the Icelandic Minister of the Environment.¹¹⁹⁶ Following the report, the Icelandic National Assembly introduced a bill (proposed legislation) confining dredging to a restricted area of the Lake.¹¹⁹⁷ It is important to note that, the site of Myvatn, was removed from the Record when it was

¹¹⁹⁰ Fars News Agency, *Lake Urmia on the verge of entering to the Montreux Record* <www.farsnews.com/newstext.php?nn=13921107000606> Accessed 17 Mar 2018

¹¹⁹¹ Chapter 3 section 4.5

¹¹⁹² Ramsar Convention Bureau, *Directory of Wetlands of International Importance: Sites Designated for the List of Wetlands of International Importance* (Ramsar Convention Bureau 1990) 297

Lake Myvatn in northern Iceland is a geological wonderland which has been sculpted by volcanic eruptions over thousands of years. It is one of the largest lakes in Iceland. It is thought to nest more species of duck than any other place in the world.

¹¹⁹³ Ramsar Convention, 'List Of Wetlands Of International Importance Included In the Montreux Record' <http://archive.ramsar.org/cda/en/ramsar-documents-montreux-montreux-record/main/ramsar/1-31-118%5E20972_4000_0_> Accessed 28 May 2018

¹¹⁹⁴ Ulf Hauptfleisch, 'High-Resolution Palaeolimnology of Lake Mývatn, Iceland' (PhD Thesis, University of Iceland 2012)

¹¹⁹⁵ Storey A, Lane J and Davie P, *Monitoring the Ecological Character of Australia's Wetlands of International Importance* (Ramsar Convention) Report prepared for the Western Australian Department of Conservation and Land Management and Biodiversity Group of Environment Australia (Commonwealth Government of Australia)

¹¹⁹⁶ *ibid*

¹¹⁹⁷ *ibid*

considered that the ecological character of the wetlands was no longer threatened.¹¹⁹⁸ Myvatn is an example of endangered wetland that was reported to Montreux and following their assistance was rescued. Iran has reported some of the vulnerable wetlands to the Montreux Record. The following wetlands are in the Montreux List and it is reported in Iran's report on the implementation of the Ramsar Convention to the 57th Meeting of the Standing Committee Gland, Switzerland in 2019 that their issues are being actively addressed: Anzali Wetland; Neiriz Lakes & Kamjan Marshes; Shadegan Marshes and mudflats of Khor-al Amaya and Khor Musa; Hamun-e-Saberi & Hamun-e-Helmand; Shurgol, Yadegarlu & Dorgeh Sangi Lakes.¹¹⁹⁹ Besides, Alagol, Ulmagol, Ajigol Ramsar sites are the Iranian wetlands which were designated to enter to the Montreux Record (Alagol was placed on the Montreux Record in June 1975; Ulmagol, Ajigol were placed on the Montreux List in June 1993).¹²⁰⁰ Since being placed on the Montreux Record, the EPA in consultation with Ramsar advisory team took a number of strategic and proactive steps to reducing the threats to this Ramsar site. For example,

- Banning the carrying of firearms in and around the wetland because of its proximity to the border with Turkmenistan, and increasing patrols by EPA guards and border guards. As a result, there has been a three-fold increase in the arrests of illegal hunters since 2006 and such hunters have had their guns confiscated.
- Controlling the abstraction of water from the wetlands for local agriculture and for the fish farm through an MOU between the EPA and the Water Authority;
- Agreements being reached between Iran and Turkmenistan, and between the EPA and the Water Authority in Iran, to ensure that the necessary water flow reaches the rivers that feed the wetland.¹²⁰¹

Due to the improved conditions of Alagol, Ulmagol, Ajigol Ramsar sites, the government of Iran sent a report to the Ramsar Secretariat in November 2008 proposing that the site be taken off the Montreux Record, and this was strongly supported in the report by a Ramsar Advisory Mission (No. 60) to the site in May 2009.¹²⁰² The three wetlands were removed from the

¹¹⁹⁸ *ibid*

¹¹⁹⁹ Ramsar Convention Secretariat, 'Update on the status of Sites on the List of Wetlands of International Importance' (Ramsar.org Jun 2019) P 23
<https://www.ramsar.org/sites/default/files/documents/library/sc57_23_status Ramsar sites_e.pdf> accessed Nov 2019

¹²⁰⁰ Ramsar Convention, 'Iranian site removed from the Montreux Record' (ramsar.org Jul 2009) accessed 11 Jan 2020

¹²⁰¹ *ibid*

¹²⁰² *ibid*

Montreux Record on 17/07/2009.¹²⁰³ Following this example, there is a possibility that Lake Urmia could be saved if it would be reported to the Record as well.

Australia has set a national framework for maintaining the wellbeing of its national wetlands.¹²⁰⁴ The act of designating a wetlands as a Ramsar site carries with it certain obligations including managing the site to retain its ‘ecological character’ and to have procedures in place to detect if any threatening processes are likely to or have altered the ‘ecological character’.¹²⁰⁵ Thus, according to Australia’s national framework for preserving its wetlands, understanding and describing the ‘ecological character’ of a Ramsar site is a fundamental management tool for signatories and local site managers which should form the baseline or benchmark for management planning and action, including site monitoring to detect negative impacts.¹²⁰⁶ In order to detect change, Australia has established a benchmark for management and planning purposes. Ecological character descriptions (ECD) form the foundation on which a site management plan and associated monitoring and evaluation activities are based. The legal framework for ensuring the ecological character of all Australian Ramsar sites is maintained in the Environment Protection and Biodiversity Conservation (EPBC) Act, 1999.¹²⁰⁷ According to this national framework:

The EPBC Act regulates actions that will have or are likely to have a significant impact on any matter of national environmental significance, which includes the ecological character of a Ramsar wetland. An action that will have or is likely to have a significant impact on a Ramsar wetland will require an environmental assessment and approval under the EPBC Act. An ‘action’ includes a project, a development, an undertaking or an activity or series of activities.¹²⁰⁸

The EPBC Act establishes a framework for managing Ramsar wetlands including principles which were set out in Schedule 6 of the Environment Protection and Biodiversity Conservation Regulations, 2000.¹²⁰⁹ These principles are intended to promote national

¹²⁰³ *ibid*

¹²⁰⁴ Environment Protection and Biodiversity Conservation Act 1999 (Australian Government)

¹²⁰⁵ Hale, J, *Ecological Character Description of the Ord River Floodplain Ramsar Site*, Report to the Department of Environment and Conservation, Perth, Western Australia (2008)

¹²⁰⁶ *ibid*

¹²⁰⁷ Australian Government, *Environment Protection and Biodiversity Conservation Act 1999 and regulations 2000*, Office of Legislative Drafting and Publishing, Attorney General’s Departments, Australia 1999-2000

¹²⁰⁸ *ibid*

¹²⁰⁹ Natural Resource Management Ministerial, *National Framework and Guidance For describing the Ecological Character of Australian Ramsar wetlands, Module 2 of the National Guidelines for Ramsar Wetlands Implementing the Ramsar Convention in Australia* (Department of the Environment, Water, Heritage and the Arts 2008)

standards of management, planning, environmental impact assessment, community involvement, and monitoring, for all of Australia's Ramsar wetlands in a way that is consistent with Australia's obligations under the Ramsar Convention.¹²¹⁰

2. 5. Wise Use

Contracting parties are required to consider the wise use of wetlands in their national programmes.¹²¹¹ The evidence of violating this commitment in Iran was investigated in chapter 4 (e.g., construction of Shahid Kalantary Highway, construction of dams over rivers feeding the Lake Urmia, etc).¹²¹² The reasons behind unwisely managing the wetlands and the challenges facing EPA in the implementation of the Ramsar Convention in Iran (e.g., lack of legal authority and political support) were discussed as well.¹²¹³

As a first solution to prevent unwise use of wetlands in Iran, the rule of 'Liability for Spoil' can help. The rule of 'Liability for Spoil' is Article 328 of Civil Law in Iran.¹²¹⁴ Civil Law which is categorised as general rules in the Iranian legal system is discussed in chapter 4.¹²¹⁵ Examples of the use of this rule will be discussed later on in this section. According to the rule of 'Liability for Spoil', 'if someone misuses others' property, he is legally responsible for the spoil caused.'¹²¹⁶ Based on this principle, anybody who demolishes or spoils a property either private or public is legally responsible for what has been done.¹²¹⁷ The rule of 'Liability for Spoil' is applicable both to intentional and unintentional harmful activities.¹²¹⁸ Hence, anybody whose action unintentionally causes harm to other's property would legally be responsible and is obliged to compensate the damage. This principle can be applied for common properties including 'public property'.¹²¹⁹ What can be derived here as a solution to prevent spoiling the Lake Urmia is that the rule of 'Liability for Spoil' is applicable to the

¹²¹⁰ *ibid*

¹²¹¹ Chapter 4 section 2.4

¹²¹² Chapter 4 section 2.4

¹²¹³ Chapter 4 Section 2.4 and chapter 5 section 4

¹²¹⁴ Jahangir Mansour, *Civil Law* (1st, Didar Publications, Tehran 2012) 47-247

Please also see; Islamic Parliament Research Centre of the Islamic Republic of Iran, 'Civil Law' (majlis.ir May 1928)<<https://rc.majlis.ir/fa/law/show/97937>> accessed 7 May 2017

¹²¹⁵ Chapter 4 section 1.1

¹²¹⁶ Alireza Emamdadi and Mahdi Saghafi, 'Protecting Environmental Rights on the Basis of Jurisprudential Rules' [Summer 2016] *Semmi annual Journal Environment Law* 37, 49

¹²¹⁷ *ibid*

¹²¹⁸ *ibid*

¹²¹⁹ *ibid*

'Public property', in the Iranian jurisprudence *Anfal*, is a general and pervasive term which includes extensive range of properties with different characteristics. Mountains-forests-pastures-waste lands- seas and lakes-mines-oil and gas-animal resource (aquatic or non aquatic)- heritages without heir-booty and etc.

owner of the property or the person in charge as well—that is the government.¹²²⁰ It implies that if the government spoils a public property, it would be legally responsible and the legal system of the country can apply enforcement against the government.¹²²¹

The application of the rule of ‘Liability for Spoil’ in relation to environment would be that if an individual intentionally or unintentionally does something which causes damage to the environment, he would legally be responsible and has to compensate.¹²²² Based on the Iranian legal system, soil, water, air and whatsoever that makes up the environment is ‘public property’ because human being depend on them to survive.¹²²³ Hence, such ‘public property’ should be respected and kept safe from any harmful activity and any adverse treatment to the environment should be compensated. Any damage to the environment would literally be an instance of ‘spoil’ and it will be treated under the rule of ‘Liability for Spoil’.¹²²⁴ Some examples in which the Iranian courts judged with adherence to the rule of ‘Liability for Spoil’ will be reviewed here.¹²²⁵

The first case is about the Kurdkooy Cotton Factory located in the Golestan Province, Iran. The local residents of the GharehSou village claimed that the Factory was polluting the GharehSou River at the nearby causing 90,000 fish to die.¹²²⁶ Following the residents' complaints to the Islamic Council of village on the 23rd of April, 1986, the GharehSou River's water was examined and after technical investigation, it turned out that the pollution was the result of the sewage of the factory. Basically, chemicals that cause fatalities to 90,000 fish included caustic soda and phosphoric acid which were used at the Factory. After careful investigation of the details, the case was sent to the Gorgan Court of Law to decide on the compensation of the damage.¹²²⁷ Following the rule of ‘Liability for Spoil’ and according to Articles 331 and 333 of the Civil Code of the country, the Court condemned the Kurdkooy Cotton Factory to pay 90 million Rials to the General Directorate of EPA in Gorgan and

¹²²⁰ Alireza Emamdadi and Mahdi Saghafi , ' Protecting Environmental Rights on the Basis of Jurisprudential Rules' [Summer 2016] Semmi annual Journal Environment Law 37, 46

¹²²⁰ *ibid*

¹²²¹ *ibid*

¹²²² Mohammad Salehi, ' Responsibility for Actions Against the Environment in Iranian Laws and legal Procedures / Legal verdicts regarding Environmental litigations in the Iranian Judicial System' [2016] Scientific, Legal and Critical Journal of Iranian Bar Association 35, 46

¹²²³ *ibid*

¹²²⁴ *ibid*

¹²²⁵ *ibid*

¹²²⁶ *ibid*

¹²²⁷ *ibid*

Gonbad (located in Golestan Province) as a fine for losses of the fish in the GharehSou River.¹²²⁸

A further example of the use of rule of 'Liability for spoil' is a verdict for a case where the EPA has filed lawsuits against a natural person. In a lawsuit filed by the Amol Environmental Department (located in Mazandaran Province) against a person who was involved in illegal fishing of 475 trout in the year 1982, the Court sentenced the perpetrator with adherence to the rule of 'Liability for spoil' to pay a fine of thirty thousand Rials on the basis of sections B and C of Article 12 and Section C of Article 13 of the Hunting and Fishing Act.¹²²⁹ A further lawsuit filed by the EPA against the government was related to the contamination of the Zarrineh-roud River with the chemical substances resulting from the sewage discharge of the Miandoab Sugar Factory (located in Western Azerbaijan Province) which led to death of 5 million fish. Eventually, with adherence to the rule of 'Liability for spoil', the legal court of Miandoab in Western Azerbaijan Province issued its verdict in favour of the EPA.¹²³⁰ Following the cases reviewed and with adherence to the rule of 'Liability for spoil', the government can be hold responsible in case of damages that Lake Urmia has faced. It implied that the government spoils a public property, it would be legally responsible and the legal system of the country can apply enforcement against the government.

However, there are challenges to apply the liability for spoil to protect wetlands. The environmental liability is a function of responsibility in public law in Iran.¹²³¹ According to public law, liability arises when a detrimental action or omission (of an action) to public happens in which the perpetrator is obligated to compensate the spoil, or he would be sentenced.¹²³² The environmental damages encompass damages to soil, water and biodiversity.¹²³³ However, damages to private properties that are included in civil responsibility are considered different from the environmental responsibility and it is grouped

¹²²⁸ *ibid*

¹²²⁹ *ibid*

¹²³⁰ Hamid Bahrami Ahmadi and Azam Alam Khani , ' Reflection on the Applicable Aspects of Civil Liability against the government regarding Environmental Damages' [Autumn 2013] QJPLK 83, 96

¹²³¹ Mohammad Salehi, ' Responsibility for Actions Against the Environment in Iranian Laws and legal Procedures / Legal verdicts regarding Environmental litigations in the Iranian Judicial System' [2016] Scientific, Legal and Critical Journal of Iranian Bar Association 35, 46

¹²³² Najarzadeh M and Mohammadi H, *Acquaintance to the Concepts of Public Law/ Examining the Concept of Civil Liability of the Government* (Research Institute of Guardian Council 2016)

<<http://www.shora-rc.ir/portal/file/?19960/Gp941226-179.pdf>> Accessed 26 Apr 2018

¹²³³ *ibid*

under the traditional law of civil responsibility.¹²³⁴ A challenge that the rule of 'Liability for Spoil' could face is that it is only applicable to the civil liability but it is not applicable to environmental liability. It means that if an action or omission of an action damages an individual's property, the perpetrator is legally responsible and obligated to compensate the damage but in terms of environmental liability, the committed person can skip the liability if he has the 'activity license' for developing the so-called 'new technology'.¹²³⁵ Unfortunately, fewer defences in environmental liability are approved in the Iranian Judicial System and the reason behind it is the enforcement power that is usually granted to the so-called 'use of new technology'. It means that some harmful activities are given 'activity license' in accordance with public law because it is stated that they have social and public benefits (e.g. electricity generators) and will help the economic benefits of the society.¹²³⁶ In sum the rule of 'Liability for spoils' is one of the most important rules discussed by jurisprudents in the topic of civil liability.¹²³⁷ However, the Iranian Civil Liability Act,¹²³⁸ adopted in 1960, is not applicable to environmental damages, but the damage to individuals' properties exposed to environmental pollution (traditional damage) can be claimed under this law.¹²³⁹

Besides invoking the rule of 'Liability for Spoil' to wise use the wetlands in Iran, **the necessity of conducting EIA could be a further solution to wise use of wetlands.** In case of the Lake Urmia, it was stated that the constructions of many dams over the rivers feeding the Lake and Shahid Kalantary Highway have the most detrimental effect on the ecosystem of the Lake disrupting and changing the ecological characteristics of the lake.¹²⁴⁰ However, Salehi claimed that, if economic development (including constructions) has been properly planned and implemented considering the wise use principle of the Convention, it would not violate the sustainability of the environment and applying projects while having environment

¹²³⁴ Mohammad Salehi, 'Responsibility for Actions Against the Environment in Iranian Laws and legal Procedures / Legal verdicts regarding Environmental litigations in the Iranian Judicial System' [2016] Scientific, Legal and Critical Journal of Iranian Bar Association 35, 46

¹²³⁵ Salehi M, *Responsibility for Action Against the Environment in Iranian Law* (Iranian Agriculture News Agency 2017) <<http://www.iana.ir/44236/64-بخش-عمومی>> Accessed 19 Apr 2018

¹²³⁶ *ibid*

¹²³⁷ Mohammadreza Najarzadeh and Hoesin Mohammadi, 'Acquaintance to the Concepts of Public Law/ Examining the Concept of Civil Liability of the Government' (Research Institute of Guardian Council 2016) P 4-12

¹²³⁸ Islamic Parliament Research Centre of the Islamic Republic of Iran, 'Civil Liability Act' (Iranian Parliament 1960) <<https://rc.majlis.ir/fa/law/show/95202>> accessed 10 Feb 2019

¹²³⁹ Mohammad Salehi, 'Responsibility for Actions Against the Environment in Iranian Laws and legal Procedures / Legal verdicts regarding Environmental litigations in the Iranian Judicial System' [2016] Scientific, Legal and Critical Journal of Iranian Bar Association 35, 46

¹²⁴⁰ Chapter 2

protection considerations at the heart would not contradict economic developments.¹²⁴¹ As a matter of fact, any economic development that damages the environment would violate the two concepts of sustainable use and the right of future generations which is highlighted in Article 50 of the Iranian Constitution.¹²⁴² However, according to the critical condition of the Lake Urmia, the implementation of the economical projects (dam constructions and Shahid Kalantari Highway) violated the sustainable use the Lake Urmia. According to Salehi, considering short term economical incentives of the projects around the lake at the cost of neglecting a valuable ecosystem such as Urmia wetland is indeed in contradiction to the concept of sustainable development.¹²⁴³ As stated in chapter 4, conducting EIA is one of the main measures for the fulfilment of the wise use within the framework of the Ramsar Convention. However, Jamshidi suggested that the construction of the bridge (Shahid Kalantari Highway) was begun before its assessment report was approved by the EPA¹²⁴⁴. In fact, even after the report was conditionally approved by the EPA, the enactment of Environmental Impact Assessment Committee of the project has not yet been implemented by the Ministry of Roads and Transportation.¹²⁴⁵ However, in the context of international environmental law, the International Court of Justice, in its recent vote in *Uruguay v. Argentina*, stated that environmental assessments should be carried out before the project is practically implemented.¹²⁴⁶

Chapter 4 discussed the deficiencies of EIA process in Iran in terms of the coverage, screening, scoping, decision making. Moreover, the EIA shortcomings in terms of lack of legal provision and enforcement were explored in detail. However, strengthening EIA legislation could be a legal solution to preserve wetlands and Lake Urmia in particular in Iran.¹²⁴⁷ Kosravai (2018) believes that in order to improve environmental consideration in water management, there is an urgent need to strengthen EIA legislation in Iran.¹²⁴⁸ She

¹²⁴¹ Mohammad Salehi, 'Responsibility for Actions Against the Environment in Iranian Laws and legal Procedures / Legal verdicts regarding Environmental litigations in the Iranian Judicial System' [2016] Scientific, Legal and Critical Journal of Iranian Bar Association 35, 46

¹²⁴² *ibid*

¹²⁴³ *ibid*

¹²⁴⁴ Ali Ebrahimzadeh, Alireza Hasani and Rasoul Farnoodfar, 'Investigation of Lake Urmia Drying, Environmental Pollution and its Impacts on the Economy' (First National Conference on Environmental Pollutions Focused on Clean Earth, Ardabil, 2016)

¹²⁴⁵ *ibid*

¹²⁴⁶ Jan De Mulder, 'Case Note: International Court of Justice Judgment on the Paper mill permit dispute between Argentina and Uruguay recognizes the requirement of Environmental Impact Assessment in a transboundary context ' [2010] RECIEL 263, 268

¹²⁴⁷ Fatemeh Khosravi, Urmila Jha-Thakur and Thomas B. Fischer, ' The role of environmental assessment (EA) in Iranian water management' [Oct 2018] Impact Assessment and Project Appraisal 56, 64

¹²⁴⁸ *ibid*

states that EIA legislation needs to become stronger and along with more clearly defined roles and responsibilities of stake-holders.¹²⁴⁹ She further asserts that the country is missing effective penalties for EIA violations so along with other environmental laws, EIA legislation should be clear about what effective penalties are and should be explicit as to how enforcement should happen.¹²⁵⁰

A further solution to wise use of wetlands is that the legal and administrative power of the EPA should be reconsidered in the legal system of Iran. The challenges that EPA faces in implementing the Convention were discussed in chapter 5.¹²⁵¹ It was discussed that the distribution of power in controlling wetlands is not in favour of EPA as EPA is an organisation and in the legal system of Iran, Ministries in contrast to organisations, have administrative power.¹²⁵² To keep the wise use commitment, one step could be that EPA as the only organisation in charge of implementation of the Ramsar Convention should take the control over all types of wetlands and be given appropriate authoritative and political power.

As the final solution, Iran needs to integrate wise use in national law. Iran should use the Ramsar Convention guidelines to review the national laws and perhaps amend them to meet the provision of sustainable and wise use in the country. The guidelines for Reviewing Laws and Institutions to Promote the Conservation and Wise Use of Wetlands adopted by Resolution VII.7 (1999) by the Ramsar Convention provide a step-by-step process to guide identification, development, and implementation of a restoration project that can also be integrated into administrative guidelines and is claimed to preserve the endangered wetlands.¹²⁵³ A comprehensive explanation on the guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands is included in appendix 6.1. Indeed, the national legal provisions of Iran will be reviewed along the same guideline to see how Iran can amend and improve its national laws to meet the wise use commitment of the Ramsar Convention plus the challenges that Iran faces in this respect later in section 4. A good example for the effectiveness of the Ramsar guidelines can be seen in the Lake Karla in Greece.¹²⁵⁴ The Lake was almost completely drained in 1962 both to protect surrounding

¹²⁴⁹ *ibid*

¹²⁵⁰ *ibid*

¹²⁵¹ Chapter 5 Section 4

¹²⁵² Chapter 5 Section 4.2.2

¹²⁵³ The guidance documents were officially adopted by the meetings of the Conference of the Contracting Parties from 1990 through 2012. Ramsar, *The Guidelines adopted by the Conference of the Contracting Parties*, < https://www.ramsar.org/search?search_api_views_fulltext=+Guidelines+ > Accessed 28 Oct 2017

¹²⁵⁴ *ibid*

farmlands from flooding and to increase agricultural area. Loss of wetland functions and values resulted in environmental, social, and economic problems. A number of restoration plans were proposed to address these problems.¹²⁵⁵ The plan approved by the Greek government in the early 1990s proposed construction of a 4200-ha reservoir solely to improve water storage and flood attenuation functions. However, the Ramsar Scientific and Technical Review Panel stated that the primary goal of any restoration project is to create resilient and sustainable ecosystems in order to improve the ecological character and enhance the socioeconomic role that the wetland plays in the watershed.¹²⁵⁶ The Ramsar guidelines were utilized for sustainable restoration of Lake Karla.¹²⁵⁷

2. 6. Information exchange

Lack of information exchange between Iran and other countries has resulted in lack of public awareness of how to benefit from the environment without damaging it and lack of sustainable development in general.¹²⁵⁸ Furthermore, chapter 5 discussed that EPA according to Article 6, Note 1 of the Iranian Hunting and Fishing Law is tasked to exchange information and increase the public awareness.¹²⁵⁹ However, EPA did not prove to try hard in this respect.¹²⁶⁰

For several years, Lake Urmia has undergone severe ecological changes and it is subject to environmental degradation. The contracting parties of the Ramsar Convention are committed to cooperate and exchange knowledge and also ask for financial aid and technical assistance to address their environmental challenges.¹²⁶¹ Basically the aim to report a wetland to the Montreux Record is to exchange information and receive further technical assistance and advice.¹²⁶² However, as it is discussed in this study, Iran has not reported Lake Urmia to the Montreux Record.¹²⁶³ This study discussed how reporting the Lake Urmia to the Montreux Record would help Iran improve the condition of the wetland.¹²⁶⁴

¹²⁵⁵ *ibid*

¹²⁵⁶ *ibid*

¹²⁵⁷ *ibid*

¹²⁵⁸ Chapter 4 section 2.6

¹²⁵⁹ Chapter 5 section 4.1.

¹²⁶⁰ *ibid*

¹²⁶¹ JavadAminmansour, 'From Ramsar to Urmia: International Dimensions of the Lake Urmia Crisis' [Summer 2013] *Quarterly Journal of Foreign Policy* 389, 400

¹²⁶² Boisson de Chazournes L, *Fresh Water in International Law* (Oxford University Press 2013) 133-134

¹²⁶³ Chapter 6 section 2.4 and chapter 4 section 2.5

¹²⁶⁴ Chapter 6 section 2.3

Other ways to improve the exchanging of information are to discuss the issue of the crisis in the regional and international environmental conferences, the interaction and cooperation with neighbouring countries in this area and use of facilities, knowledge and experience of others in integrated management of catchment areas with the aim of revitalizing the Lake and protecting it in the future, as well as developing national legal instruments such as a sustainable development strategy.¹²⁶⁵ Such suggestions would be possible through strengthening international cooperation and information exchange with other organizations involved in sustainable development, conservation and resource use issues.¹²⁶⁶ As a solution, the international programmes that encourage transfer of information, knowledge and skills between wetland education centres around the world and educators should be supported in Iran. Wetland International's EPA Working Group, Global Rivers Environmental Education Network (GREEN) and Wetland Link International (WLI) are some wetland education centres which discuss wetland related concerns through sharing, training and expertise exchange.¹²⁶⁷ It is crucial for Iran to participate in, or initiate consultations with related conventions to foster information exchange and cooperation, and develop an agenda for potential joint actions.¹²⁶⁸

Also, in Ramsar Convention information exchange with the aim of preserving the transboundary sites is encouraged.¹²⁶⁹ It should be reminded that the Lake Urmia is not a transboundary site; however, the cooperation at international level exchanging information and seeking advice could contribute to preserving the Lake.¹²⁷⁰ The UNEP which is an organisation established by the United Nations General Assembly in 1972 aims at promoting cooperation and coordination among nations, recommend environmental policies and provides general policy guidelines in the international environmental area for all nations.¹²⁷¹ UNEP is actively involved in the assessment and monitoring of the global environment. The

¹²⁶⁵ JavadAminmansour, 'From Ramsar to Urmia: International Dimensions of the Lake Urmia Crisis' [Summer 2013] Quarterly Journal of Foreign Policy 389, 401

¹²⁶⁶ Ramsar Convention Bureau, *A global action plan for the wise use and management of peatlands*, 7th Meeting of the Conference of the Contracting Parties to the Convention on Wetlands (Ramsar, Iran, 1971), San José, Costa Rica, 10-18 May 1999

¹²⁶⁷ *ibid*

¹²⁶⁸ Ministry of Environment, *Implementation of the Ramsar Convention on Wetlands of International Importance UK*, National Report submitted to the 8th Meeting of the Conference of the Parties, Valencia, Spain, 2002

¹²⁶⁹ Ramsar Convention Secretariat, *Designating Ramsar Sites: Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (4th, Ramsar Publications, Gland, Switzerland 2010) 25-26

¹²⁷⁰ JavadAminmansour, 'From Ramsar to Urmia: International Dimensions of the Lake Urmia Crisis' [Summer 2013] Quarterly Journal of Foreign Policy 389, 396

¹²⁷¹ *ibid*

cooperation between national NGOs in Iran and UNDP was discussed in chapter 4.¹²⁷² However, further collaboration at international level contributes to preserving the Lake Urmia. For example, below is a support example from the UK and how effectively exchange of information can promote wetland management.

The UK, in its National Report submitted to the 8th COP, set a general objective to promote international cooperation and mobilize financial assistance for wetland conservation and wise use in collaboration with other conventions and agencies, both Governmental and Non-governmental.¹²⁷³ Under this general objective, the UK government encouraged strengthening and formalising linkages between Ramsar and other international and/or regional environmental conventions and agencies, so as to advance the achievement of shared goals and objectives relating to wetland species or issues. In the UK, the Clearing House Mechanism (CHM)¹²⁷⁴ supports the Convention on Biological Diversity by promoting scientific and technical co-operation and information exchange through the provision of access to relevant information, knowledge and expertise. The UK CHM has publicised the information, skills and knowledge available within the UK online.¹²⁷⁵ The UK has also contributed to policy and technical developments for the European Commission CHM website.¹²⁷⁶ Furthermore, the UK seeks collaboration with other developing countries with the aim of helping them to improve the implementation of the Convention on Biodiversity.¹²⁷⁷ The Darwin Initiative supports collaboration between UK biodiversity institutions and developing country partners, to help the latter implement the Convention on Biodiversity.¹²⁷⁸

In 8 years, the programme has funded over 200 projects involving over 80 British institutions and with links to around 80 countries. Projects so far have involved the major British biodiversity institutions such as the Natural History Museum and the

¹²⁷² Chapter 4 section 2.8

¹²⁷³ *ibid*

¹²⁷⁴ UK Clearing House Mechanism <<http://uk.chm-cbd.net/>> Accessed 02 Jun 2018

The UK Clearing House Mechanism (UK CHM) provides easy access to information about how the United Kingdom (UK) implements the Convention on Biological Diversity (CBD), its Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets.

¹²⁷⁵ UK CHM, 'UK Clearing House Mechanism for Biodiversity' <<http://uk.chm-cbd.net/>> accessed 1 Feb 2020

¹²⁷⁶ UK CHM, 'UK Clearing House Mechanism for Biodiversity' <<http://biodiversity-chm.eea.europa.eu/>> accessed 1 Feb 2020

Ministry of Environment, *Implementation of the Ramsar Convention on Wetlands of International Importance UK*, National Report submitted to the 8th Meeting of the Conference of the Parties, Valencia, Spain, 2002

¹²⁷⁷ Ministry of Environment, *Implementation of the Ramsar Convention on Wetlands of International Importance UK*, National Report submitted to the 8th Meeting of the Conference of the Parties, Valencia, Spain, 2002

¹²⁷⁸ *ibid*

Royal Botanic Gardens Kew as well as many of the universities, research institutes and other educational bodies.¹²⁷⁹

The projects under the support of the Darwin Initiative programme have ranged from the sustainable use of seahorses in the Philippines, via an inventory of a nature reserve in Paraguay, to helping the establishment of the Tropical Biology Association to train biodiversity practitioners in Africa.¹²⁸⁰

In the National Report of Iran the 8th COP in 2002, the financial, informational and connectional problems, lack of programs and supportive mechanisms, and lack of suitable use of the networking centres (e.g. WLI) were presented as the impediments to occurring wetland degradation by the Iranian government.¹²⁸¹ Though since 2002, Iran has proved to further the international collaboration between EPA, national NGOs and IOPs,¹²⁸² seeking further international cooperation and collaboration would improve the wetland management in Iran and preserve the Lake Urmia in particular.

2.7. Financial Resources

The financial resources for preserving the Lake Urmia are discussed in chapter 4.¹²⁸³ It was stated in chapter 4 that private sectors for example Iranian Omid entrepreneurship fund have helped saving wetlands nationwide. Iran, in the national report on the implementation of the Ramsar Convention submitted to the 13th Meeting of the COPs in Dubai, United Arab Emirates, 2018 reported that in accordance with the MOU of the Omid Fund and the Environmental department, the Omid Fund will support wetlands conservation entrepreneurship proposals that provide local communities with economic returns and help wetlands conservation. Three micro-credit funds are set up in three villages of Urmia Lake basin with rural women's management.¹²⁸⁴ Besides national private funding, government of Japan provided fund for developing sustainable agriculture in Lake Urmia

¹²⁷⁹ *ibid*

¹²⁸⁰ *ibid*

¹²⁸¹ Government of Islamic Republic of Iran, *National planning tool for the implementation of the Ramsar Convention on Wetlands*, submitted for the (8th Meeting of the Conference of the Contracting Parties, Spain, 2002) <https://www.ramsar.org/sites/default/files/documents/library/iran_nr2002_1_2.pdf> Accessed 01 Jun 2018

¹²⁸² Chapter 4 sections 4.6 and 4.7

¹²⁸³ Chapter 4 section 2.7

¹²⁸⁴ Government of Islamic Republic of Iran, 'National Report on the Implementation of the Ramsar Convention on Wetlands Submitted to the 13th Meeting of the Conference of the Contracting Parties, Dubai, United Arab Emirates, 2018' (ramsar.org Jan 2018) <https://www.ramsar.org/sites/default/files/documents/importftp/COP13NR_IRIran_e.pdf> accessed 19 Jun 2018

basin.¹²⁸⁵ Sustainable agricultural techniques have been implemented to reduce water consumption and chemical inputs funded by the Japanese government in 110 villages located in the Urmia Lake. This work in the Gavkhouni wetland has not yet been officially launched however; the experience of farmers in Urmia was placed in a two-day workshop by farmers and Gavkhouni stakeholders.¹²⁸⁶ Moreover, chapter 4 discussed that legal researchers suggested that to save Lake Urmia, the Iranian government needs to allocate a part of the annual budget to this purpose.

Two possible solutions could be recommended with regards to the challenges that Iran faces in financial issues: i) to receive further fund from international resources and/or ii) East- and West- Azerbaijan provinces (surrounding the Lake Urmia) allocate a part of their budget to preserve the Lake. The two solutions are discussed hereafter:

The first solution as recommended by Kalantari, the vice president of the Iranian government, the head of EPA and head of the Lake Urmia Restoration Programme at the time, is that Iran should receive fund from international resources.¹²⁸⁷ Kalantari believes that, the 'rescue of the Lake Urmia is only possible with international financial aid'.¹²⁸⁸ The vice president emphasised the government's lack of financial resource and the need to ask for foreign funding. He stated that 'over the past two years, it has been proven that revitalising of Lake Urmia cannot be achieved with national financial resources'.¹²⁸⁹ Kalantari, the head of the EPA, claimed that, the Lake Urmia Research Group working for the LURP has suggested 'fully operational programs but with the existing financial resources it is unlikely that the Lake Urmia will be restored.'¹²⁹⁰

The international financial and monetary institutions such as the World Bank, the United Nations Development Program Fund, the Asian Development Bank and the Islamic Development Bank can be recourses for the government of Islamic Republic of Iran to provide financial credit in order to lessen the ecological problems of the Lake Urmia.¹²⁹¹ A good example for financial aid provided by international financial and monetary institutions is

¹²⁸⁵ Chapter 4 section 2.7

¹²⁸⁶ Government of Islamic Republic of Iran , 'National Report on the Implementation of the Ramsar Convention on Wetlands Submitted to the 13th Meeting of the Conference of the Contracting Parties, Dubai, United Arab Emirates, 2018' (ramsar.org Jan 2018) <

https://www.ramsar.org/sites/default/files/documents/importftp/COP13NR_IRIran_e.pdf> accessed 19 Jun 2018

¹²⁸⁷ Deutsche Welle Farsi, 'Saving the Lake Urmia is only possible with borrowing from foreign

lenders'(dw.com Dec 2017) <www.dw.com/fa-ir/a-41647089> Accessed 26 May 2018

¹²⁸⁸ *ibid*

¹²⁸⁹ *ibid*

¹²⁹⁰ *ibid*

¹²⁹¹ *ibid*

implementation of the international project for the conservation of Iranian wetlands. This project has been initiated by the EPA along with the support of \$ 5.6 million provided by the UNDP and Global Environment Facility¹²⁹² to protect the country's wetlands in particular the Lake Urmia and Parishan. The project officially started on the 26th of January 2005 and will be continuing until 2019.¹²⁹³ Besides, the Parties to the Convention established the SGF in 1990 to help developing countries and countries with economies in transition support the conservation and wise use of wetland resources, and the sustainable development of communities which depend on them and care for them.¹²⁹⁴ Since 1990, 240 successful projects from 110 countries used the SGF and saved their wetlands.¹²⁹⁵ Ethiopia is a third world country. Ethiopia managed to preserve the Berga wetland using SGF funding.¹²⁹⁶ The aim for saving the wetland was to alleviate the pressure on the wetland as the only core breeding site of White-winged Flufftail. The Ethiopian Wildlife and Natural History Society (EWNHS) SGF project was implemented from July 2012 to September 2014.¹²⁹⁷ In the course of this EWNHS-run project, basic research on the status and migration routes of the Flufftail was carried out, awareness of the species' importance and conservation needs were raised, and several habitat conservation as well as livelihood-related activities were carried out.¹²⁹⁸

According to Kalantari, EPA faces a challenge in persuading the government to request international fund. International loan makes the government responsible for paying off the loan and as Kalantari asserted, the government is reluctant to be under financial pressure to pay off the debt. He asserted that 'in the case of manufacturing and industrial affairs which has economic justification, the loan can be paid off from the place of work of the same sector

¹²⁹² Conservation of Iranian Wetlands Project Organisation, *Participation in the protection of wetlands* <<https://www.wetlandsproject.ir/fa/fund>> Accessed 15 Nov 2017

¹²⁹³ HojatSalimiTorkamani, ' Investigating the Biological difficulties of the Lake Urmia from the perspective of International Environmental Law ' [2011] *Rahbord Quarterly Journal* 177, 195

¹²⁹⁴ *ibid*

¹²⁹⁵ Ramsar Convention Secretariat, *Investing in Wetlands Proposals for funding through the Ramsar Small Grants Fund* (March 2013) https://www.ramsar.org/sites/default/files/documents/library/ramsar_sgf_portfolio_2014_20.pdf Accessed 11 Mar 2018

¹²⁹⁶ AEWA, *White-winged Flufftail Project in Ethiopia Completed with AEWA SGF Support* <<http://www.unep-awea.org/en/news/white-winged-flufftail-project-ethiopia-completed-awea-sgf-support>> Accessed 12 Feb 2018

¹²⁹⁷ *Ibid*

The White-winged Flufftail (*Sarothrura ayresii*) was the focus of an AEWA Small Grants Fund (SGF) supported project which was recently completed by the Ethiopian Wildlife and Natural History Society (EWNHS), in the Berga wetland. The latter is an Important Bird and Biodiversity Area (IBA) and site of critical importance for water-birds - located in Ethiopia's central highlands.

¹²⁹⁸ *ibid*

and the government allows borrowing from abroad.¹²⁹⁹ However, repayment of the Urmia international loan will make the government financially responsible. According to Kalantari, the EPA struggles with persuading the government to request funds from international resources.¹³⁰⁰

The second solution for financial challenges in saving the Lake Urmia as stated above, would be that provinces between which the Lake is located (East Azerbaijan and West Azerbaijan provinces¹³⁰¹) allocate a part of their budget to this purpose. According to IRNA, the Iranian governmental News Agency, Hazrati, the Head of the West Azerbaijan State Planning and Budget Organization, said that 33 thousand and 510 billion Rial budget will (Approximately 621 million pounds) be provided to the Islamic Consultative Assembly by the government for the provincial costs and constructions of the West Azerbaijan in the following year.¹³⁰² 21 thousand and 30 billion Rial (Approximately 390 million pounds) budget of this amount will be allocated to the costs of province and 12 thousand 480 billion Rials (approximately 231 million pounds) to the construction projects in province.¹³⁰³ Besides, Behboodi, the Head of the Organization for Management and Planning of the East Azarbaijan Province, said that this year's budget for East Azarbaijan was 50 thousand billion Rials (approximately 925 million pounds).¹³⁰⁴ He added that in addition to the provincial budget which is provided from the national credit place and the organization of border rivers budget, a further amount of 15,140 billion Rial (approximately 280 million pounds) budget can be expended by ministries for the constructing projects of the province.¹³⁰⁵ In sum, the two provinces are granted over 835 thousand billion Rial (approximately 1.5 billion pounds) budget annually. This is while according to Kalantari, the government had provided 2 thousand billion Rials (approximately 37 million pounds) for retrieving the Lake Urmia until Dec 2017, but the Lake Urmia

¹²⁹⁹ Deutsche Welle Farsi, 'Saving the Lake Urmia is only possible with borrowing from foreign lenders' (dw.com Dec 2017) <www.dw.com/fa-ir/a-41647089> Accessed 26 May 2018

¹³⁰⁰ *ibid*

¹³⁰¹ European Space Agency, Lake Urmia <<https://earth.esa.int/web/earth-watching/image-of-the-week/content/-/article/lake-urmia-iran>> Accessed 01 Jun 2018

¹³⁰² The Islamic Republic News Agency, 'Assigning 33 trillion Riyals for West Azerbaijan in the next year's Budget' (IRNA Jan 2018) <<http://www.irna.ir/fa/News/82762341>> Accessed 30 May 2018

¹³⁰³ Taadol News Agency, 'Allocation of 33 trillion Rials budget for West Azerbaijan for year 1397(2018-2019)', (Taadol News Agency Jun 2018) < <http://www.taadolnewspaper.ir/-/بوجه-هزار-112772/46-بخش-بنگاه-ها>> Accessed 06 Feb 2018

¹³⁰⁴ Mehr News Agency, 'The current year's budget for East Azarbaijan is 50 trillion Rials' (The News agency 13 Jun 2017) <<https://www.mehrnews.com/news/4003467/>> Accessed 30 Jul 2018

¹³⁰⁵ *ibid*

Restoration Programme group has needed 18 thousand billion Rials (approximately 333 million pounds) more to implement its reviving programmes.¹³⁰⁶

As a support to the solution for allocating provinces' budgets, an example can be brought from India which allocated some of its provincial budgets for restoring a national Lake. India went through the same procedure—allocated some of provincial budgets to save a national lake and it worked. The reason for choosing India is to picture similar conditions in which the recommended solution had worked. The government of India operationalised National Wetland Conservation Programme (NWCP) in close collaboration with concerned State Government (i.e., the States in which wetlands were degrading) the during the year 1985/86.¹³⁰⁷ Under the programme, 115 wetlands were identified by the Ministry which required urgent conservation and management initiatives. The aim of the programme was the conservation and wise use of wetlands in the country so as to prevent their further degradation. The conservation and management of wetlands was primarily vested with the State/UTs¹³⁰⁸, who were in physical possession of the area. After identification of wetlands under the Scheme, the State/UTs were to submit long-term comprehensive Management Action Plans (MAPs) for a period of 3-5 years, preferably 5 years, coinciding with the Plan period.¹³⁰⁹

The Netherlands is a further example in which the municipal governments have the power and financial means to develop and implement local policy on spatial planning and the environment.¹³¹⁰ Indeed, the Netherlands has a long tradition of consultation and cooperation of government bodies, stakeholder organisations, and citizens. Within this framework, policy on national and international issues is prepared by central government and forms the basis for

¹³⁰⁶ Deutsche Welle Farsi, 'Saving the Lake Urmia is only possible with borrowing from foreign lenders' (dw.com Dec 2017) <www.dw.com/fa-ir/a-41647089> Accessed 26 May 2018

¹³⁰⁷ Ministry of Environment, Forest and Climate change (Government of India), National Wetland Conservation Programme (NWCP), Ramsar Convention on Wetland and Salim Ali Centre for Ornithology and Natural History (SACON) <<http://www.moef.nic.in/division/ramsar-convention-wetland>> Accessed 23 May 2018

¹³⁰⁸ Pelican Creations International (Noida, India), *Encyclopedia Indica: a compendium of milestones* (Pelican Creations International 2010) p 46-47

A union territory is a type of administrative division in the Republic of India

¹³⁰⁹ Ministry of Environment, Forest and Climate change (Government of India), National Wetland Conservation Programme (NWCP), Ramsar Convention on Wetland and Salim Ali Centre for Ornithology and Natural History (SACON) <<http://www.moef.nic.in/division/ramsar-convention-wetland>> Accessed 23 May 2018

¹³¹⁰ Government of the Netherlands, Roles and responsibilities of provincial government, municipal governments and water authorities <<https://www.government.nl/topics/environment/roles-and-responsibilities-of-provincial-government-municipal-governments-and-water-authorities>> Accessed 03 Jun 2018

legislation ratified by the Dutch Parliament.¹³¹¹ The Ministry of Infrastructure and the Environment is responsible for developing policy in the national context and the provinces are responsible for translating these guidelines into the regional context.¹³¹² Implementing national policy and strategy on environmental management is largely decentralised to municipal government. These authorities prepare local regulations and have both the legal and financial means to implement and enforce decisions and regulations.¹³¹³ Municipalities may also work together with public authorities such as Water Boards on water quality and wastewater treatment.¹³¹⁴ The municipalities are responsible for preparing regulations for implementing and enforcing the regulations in the national Environmental Management Act¹³¹⁵ and other environmental regulations. The Environmental Management Act covers matters such as separated waste collection, disposal of hazardous waste, air quality, and noise nuisance, and environmental permits for industrial and commercial activity. Environmental regulations may vary from one municipality to another.¹³¹⁶ Taking the examples of India and Netherlands in allocating some of the concerned States/Provinces budgets for saving their wetlands into consideration, Iran could allocate some of the East- and West-Azerbaijan budgets for restoring the Lake Urmia could be a solution to save the Lake.

2. 9. NGOs' participation

Chapter 4 discussed the roles that NGOs play in the management of wetlands in Iran. It was discussed that NGOs are involved in providing information and raising the understanding of both decision makers and ordinary people about the values and threats towards wetlands and Lake Urmia in particular. NGOs also help with monitoring compliance and capacity building and collaborate with EPA in informing the EPA of the negative effects of any activity towards Lake Urmia.¹³¹⁷ Having explored the substantial role NGOs play, chapter 4 highlighted the limited role played by the NGOs due to the restricted level of government support. In fact, there is no support for participation of NGOs in the legislation process and they do not have the right to protest to decisions harming the environment or the wetlands.¹³¹⁸ One of the most

¹³¹¹ *ibid*

¹³¹² Brown D.A and Prue T, *Ethics and climate change: A study of national commitments* (IUCN 2015) 109-113

¹³¹³ *ibid*

¹³¹⁴ Government of the Netherlands, Roles and responsibilities of provincial government, municipal governments and water authorities <<https://www.government.nl/topics/environment/roles-and-responsibilities-of-provincial-government-municipal-governments-and-water-authorities>> Accessed 03 Jun 2018

¹³¹⁵ Environmental Management Act 2004 (Netherland)

¹³¹⁶ *ibid*

¹³¹⁷ Chapter 4 section 2.8

¹³¹⁸ Chapter 4, section 2.8

important concerns in relation to NGO participation is that their potential role in helping wetlands must be supported by the legal system.¹³¹⁹ Four arguments will be discussed in this section to effectively involve NGOs and benefit from their participation in wetlands management.

- i. First, a close interaction between the EPA and the judicial branch of the country should be established to make them able to assess and then approve the competence of the NGOs.¹³²⁰

NGOs have the capacity to innovate and adapt more quickly than national governments; therefore, their actions can undermine government initiatives.¹³²¹ NGOs may have special technical or educational expertise. Working with NGOs provides the advantage of access to their knowledge, experience, networks and resources.¹³²² A close relationship between the EPA and judicial branch will enable participation from NGOs in Iran.

- ii. Second, NGOs should participate in drafting of laws in the legislative process of the country.

Saberi, an attorney at law and a member of the city of Tehran Council, believed that 'NGOs should be involved in the process of legislation in the country by supervising the law to be made, reflecting the concern of society in the law and establishing a balance in the rules in order to promote the society.'¹³²³ In fact, participation in legislative process is an important benefit of NGOs for wetlands management.¹³²⁴ When a law is being initiated, it is expected that the government consult with relevant stakeholders including NGOs.¹³²⁵

The Ramsar Convention's Programme on Communication, Capacity-building, Education, Participation and Awareness (CEPA) was established to help raise awareness of wetland values and functions. The CEPA Programme calls for coordinated international and national

¹³¹⁹ *ibid*

¹³²⁰ Shahrvand, 'NGOs Participation in the Legislation Process' (shahrvand-newspaper.ir 2016) <<http://www.shahrvand-newspaper.ir/news:nomobile/main/57420/>> accessed 5 Mar 2019

¹³²¹ Inger Ulleberg, 'The role and impact of NGOs in capacity development; From replacing the state to reinvigorating education' [2009] IIEP-UNESCO 6, 8

¹³²² Frits Hesselink, Wendy Goldstein, Peter Paul van Kempen, Tommy Garnett and Jinie Dela, *Communication, Education and Public Awareness (CEPA) A Toolkit for National Focal Points and NBSAP Coordinators* (1st, IUCN Publication, Montreal 2007) 119

¹³²³ Shahrvand, 'NGOs Participation in the Legislation Process' (shahrvand-newspaper.ir 2016) <<http://www.shahrvand-newspaper.ir/news:nomobile/main/57420/>> accessed 5 Mar 2019

¹³²⁴ Mehdi Shaidayian, Ali Asgari Morovat and Moslem Vahedi, 'Participation of NGOs in the criminal procedure process is a social wealth' [2019] *jscm.ut* 41, 42

¹³²⁵ EPA, Iran Wetlands project, Ministry of Energy, Ministry of Agriculture Jihad and Ministry of Cultural Heritage, Tourism and Handicraft Organization, *Soldoz Wetland Comprehensive Management Plan* (1st, wetlandsproject.ir, Western Azerbaijan 2017) 12-14

wetland education, public awareness and communication.¹³²⁶ In the guidelines published by Ramsar Secretariat on Communication, Education, Participation and Awareness (CEPA) programme for supporting people taking action for the wise use of wetlands and other natural resources, the need to involve NGOs in legislation is emphasised.¹³²⁷ A case is discussed in CEPA in which lack of consultation of a government with NGOs caused damage. In 1988, the Russian Federation decided to make a state nature reserve in the Nizhnii Novgorod region. Local residents were accustomed to go to the forest for hunting and fishing. The day the forest became legally part of the state nature reserve, the local people had to stop this activity. This meant that they lost any possibility to supply their families with forest products which are very important for their families' income. The government should have discussed their ideas for the reserve with the local community and engaged them in planning before starting to develop the legislation. If this discussion had taken place before the reserve was established, the conflict would not have emerged.¹³²⁸ In Iran and in case of the Lake Urmia, as discussed in chapter 2, over the last three decades tremendous efforts have been made to supply water in Urmia region, primarily through an extensive program of development, with dam building at the forefront. 35 dams have been built on 21 rivers feeding the Lake Urmia so far.¹³²⁹ NGOs and local communities called on releasing the water behind the dam and halt further dam constructions.¹³³⁰ However, 11 further dams are currently under construction.¹³³¹

According the IRNA, the official news agency of the Islamic Republic of Iran, NGOs can play a special role in decision-making and legislation process because their influence extends from cultural and economic to humanitarian affairs and they can have a place in consulting, planning and influencing official legislation.¹³³² IRNA highlighted that NGOs are growing in efficiency due to the independence of their financial and human resources, quick and far-reaching decision-making from the state bureaucracy and relying on people's support to

¹³²⁶ Ramsar Convention Secretariat, 'A Guide to Participatory Action Planning and Techniques for Facilitating Groups' (ramsar.org 2008) <

https://www.ramsar.org/sites/default/files/documents/library/outreach_actionplanning_guide.pdf> accessed 29 Aug 2018

¹³²⁷ *ibid*

¹³²⁸ *ibid*

¹³²⁹ Chapter 2 Section, 5.1.2

¹³³⁰ MelanneRouw, 'Socially navigating through the Urmia Lake debate; Framing analysis of a shrinking salt lake in north-western Iran' (Master thesis, Wageningen University, the Netherlands 2017) 33

¹³³¹ Chapter 2 Section, 5.1.2

¹³³² Islamic Republic News Agency, 'NGOs - the most effective institutions in the path of people's connection with the government and the private sector' (e.g. Legallaw.com Aug 2019) <
<https://www.irna.ir/news/83426940/>> accessed 19 Jan 2020

strengthen civil society.¹³³³ NGOs are the best tools that can receive information from all layers of the society, then organise and classify it and deliver it to the legislator when a law is being initiated. Considering the potential roles NGOs can play in legislation process, Iran should benefit NGOs participation in this respect as neglect of them reflects a lack of understanding of the importance and impact of the civic institutions, and ultimately the loss of opportunity.¹³³⁴

- iii. Third, NGOs do not have the right to protest decisions against the environment or wetlands management.¹³³⁵

Following the codification of the Criminal Procedure Code in 2013, the legislator assigned Article 66 to support the presence of NGOs in the criminal process.¹³³⁶ This article initially entitled NGOs to present in the indictment of the crime, participate in the proceedings and protest to the verdicts (judicial decisions). Unfortunately, in the amendments which were made to this Article in 2015, the right to protest to verdicts was removed by the judiciary. The removal of such a right from this article directly influenced the presence of NGOs in the judiciary procedures.¹³³⁷ With refer to the amendments to Article 66 of the Code of Judicial Procedure, IRNA, the Iranian News Agency, reported from the Director General of the Education and Public Participation Committee of the EPA at the meeting of the Consultative Core in 2015 on the activities of the NGO's that, 'the Judiciary has asked the EPA to introduce the representatives of the NGOs.' It was also reported that according to Article 66, NGOs can prosecute a person who damaged the environment.¹³³⁸ 31 representatives of the NGOs currently participate in the National Network Environmental NGOs without being involved in the legislative procedures in the country.¹³³⁹ In contrast to the current status of NGOs, Atarodian, the head of the Council of Civil Society Organizations of Iran emphasized that 'the laws, which are prepared by the government and come into force in the Parliament are faced with problems in practice. Subsequently, in order to eliminate their deficiencies, Notes and Articles will be added to laws so that they can re-enter the legislative cycle of the

¹³³³ *ibid*

¹³³⁴ *ibid*

¹³³⁵ Shahrvand, 'NGOs Participation in the Legislation Process' (shahrvand-newspaper.ir 2016) <<http://www.shahrvand-newspaper.ir/news:nomobile/main/57420/>> accessed 5 Mar 2019

¹³³⁶ Mohammad Hosein Ramezani Ghavamabadi, 'Participation of non-governmental organizations in the criminal process in the light of the Criminal Procedure Code' [2017] *The Judiciary Law Journal* 139, 145

¹³³⁷ *ibid*

¹³³⁸ The Islamic Republic News Agency, *The national network for environmental NGOs will be formed*, (IRNA Dec 2016) <<http://www.irna.ir/fa/News/81428645>> Accessed 07 Jun 2018

¹³³⁹ *ibid*

country.¹³⁴⁰ However, 'one of the efforts of NGOs is to reform the legislative process in such a way that laws and regulations are prepared and approved by consultation and cooperation of relevant organizations to come into practice in the society, Atarodian added.¹³⁴¹

Improving NGO consultation and participation at the decision making level, the government can benefit from NGOs in the following areas:(i) effective participation in the environmental impact assessment process (ii) better access to information by the NGOs (iii) ability to make a complaint to government agencies by NGOs (iv) ability to make a complaint to a court of law by NGOs¹³⁴²

In sum, involving NGOs in the process of legislation could improve environment management.¹³⁴³ However, there are some challenges which is worth thinking about.¹³⁴⁴

First, the existence of regulation in the form of bylaws (which is a draft and not a ratified law passed by the parliament) is the legal basis of the NGOs in Iran, which creates challenges *per se*. The laws are ratified by the Parliament in Iran and all Legislative, Executive and Judicial branches of the country are obligated to implement it. However, bylaws are established by the Executive branch of the country and are binding for the organizations working under the Executive branch.¹³⁴⁵

Second, establishing and registering NGOs in the country is a long and demanding process. The strict licensing system for NGOs itself limits and reduces the activity of such organizations. Vatandoost argued that NGOs have deficiencies in their structure.¹³⁴⁶ Hence, it is important to develop their structure before being involved in the decision making in legal

¹³⁴⁰Shahrvand, 'NGOs Participation in the Legislation Process' (shahrvand-newspaper.ir 2016) <<http://www.shahrvand-newspaper.ir/news:nomobile/main/57420/>> accessed 5 Mar 2019

¹³⁴¹ *ibid*

¹³⁴² Mustafa Chekni and Mohammad Hassan Hassani, 'Strategies for Participation of NGOs in the Criminal Process (A Critical Review of Article 66 of the Iranian Criminal Procedure Code)' [Summer 2018] Quarterly Journal of Majlis & Rahbord 341, 349

¹³⁴³Shahrvand, 'NGOs Participation in the Legislation Process' (shahrvand-newspaper.ir 2016) <<http://www.shahrvand-newspaper.ir/news:nomobile/main/57420/>> accessed 5 Mar 2019

¹³⁴⁴ Fereshteh Vatandoost, *Challenges facing Non Governmental Organizations*, (Iran Analytical News Agency, Feb 2017) <<https://www.khabaronline.ir/detail/636135/provinces/zanjan>> Accessed 08 May 2018

¹³⁴⁵ Fereshteh Vatandoost, *Challenges facing Non Governmental Organizations*, (Iran Analytical News Agency, Feb 2017) <<https://www.khabaronline.ir/detail/636135/provinces/zanjan>> Accessed 08 May 2018

Also see Mohammad Esa Zadeh, 'The Legal Challenges of NGOs in Iran' (shahrvand-newspaper.ir 2015) <<http://shahrvand-newspaper.ir/News:NoMobile/Main/45278/>> accessed 19 Feb 2019

Please also see; Nader Razghi and Behnam LotfiKhachaki, 'A Sociological Analysis on the Survival and Sustainability Challenges of NGOs Active in Social Problems: With an Emphasis on Their Relationship with the State' [Summer 2018] Journal of Sociology of Social Institutions 93, 108

¹³⁴⁶ *ibid*

system of the country. She believed that NGOs lack robust and effective mechanisms for transparency in reporting.¹³⁴⁷

- iv. Finally, people's participation plays an important role in the implementation and monitoring Lake Urmia. Participation of people in environmental issues is an important support to improve the condition of the Lake Urmia.¹³⁴⁸

SalimiTorkamani consider success in protecting wetlands in contributing to the promotion of the status of people in local communities, and even implementing and monitoring plans and projects.¹³⁴⁹ All indigenous inhabitants of regions, popular organizations and all organizations involved in environmental development must play a role in gathering, interacting, discussing and discussing the conservation of the Lake of Urmia.¹³⁵⁰ The protection and proper use of wetlands is everyone's responsibility. At a level beyond that, responsibility for protection includes government agencies, non-governmental organizations, private sector and specialist stakeholders.¹³⁵¹

3. Practical guidance for improving the national legal system

In order to provide effective wetlands management, the Ramsar Convention Secretariat encourages the member states to follow at least three recommendations.¹³⁵² Firstly, governments should find ways in which legal and institutional measures which contribute to the loss of wetlands be **harmonised** with conservation and wise use objectives. Otherwise, if it was not possible to make a rule in line with wise use, that rule is recommended to be deleted. Where this is impracticable in the short term, all possible steps should be taken to reduce progressively the impact of such measures'.¹³⁵³ Secondly, the governments should identify and recommend ways in which existing legal and institutional measures can be **implemented more effectively** without the need for new laws or regulations.¹³⁵⁴ Thirdly, the governments should identify and **prioritise areas** where laws and institutions should be

¹³⁴⁷ *ibid*

¹³⁴⁸ HojatSalimiTorkamani, 'Investigation of the environmental problem of Lake Urmia from the perspective of international environmental law' [2011] *Raahbord quarterly journal* 177, 202

¹³⁴⁹ *ibid*

¹³⁵⁰ *ibid*

¹³⁵¹ *ibid*

¹³⁵² Ramsar Convention Secretariat, *wetlands Laws and institutions: Reviewing laws and institutions to promote the conservation and wise use of wetlands*, (Handbook3, 4th edition, vol. 3, Switzerland 2010) P21

¹³⁵³ Ramsar Convention, *Guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands*, Resolution VII.7 (1999) of the Ramsar Convention <<http://archive.ramsar.org/pdf/guide-laws-e.pdf>> Accessed 07 Nov 2017

¹³⁵⁴ *ibid*

upgraded or consolidated or where new legislative or **economic instruments** should be developed.¹³⁵⁵ This section will discuss how these three recommendations by the Ramsar Convention Secretariat could contribute to Lake Urmia:

A. Harmonise the legal and institutional measures in line with conservation and wise use objectives

The Iranian government should merge the concept of wise use into its national rules, regulations and policies. Iran needs to adapt its current laws and policies with the commitment of the wise use of the wetlands. It means that decision makers (i.e., Legislative and Executive branches in Iran)¹³⁵⁶ should make decisions considering the information and recommendations provided by environmental experts and consequently make laws to protect the wetlands. In this regards, Legislative and Executive branches must amend any rules and regulations that are inconsistent with the wise use of wetlands in line with conservation and wise use objectives.¹³⁵⁷ An important step in harmonising the institutional activities with the conservation and wise use objectives is to improve the EIA in Iran. Chapter two discussed the needs of Iran for providing water for agriculture and domestic use and that the government supports water-related projects in Urmia region (for example, dam constructions).¹³⁵⁸ On the other hand, there is a vital need to preserve the Lake Urmia and its ecological functions. This justifies the need for conducting thorough and accurate environmental impact assessments.¹³⁵⁹ Iran needs to improve its environmental impact assessment system in order to achieve wise use of the Urmia Lake. Such assessment includes: (1) the identification of specific activities that are unreasonable use of wetland. (2) Reduction or elimination of these harmful activities in Urmia wetland. (3) Professional analysis of the possible developmental activities without harmfully affecting the ecosystem of Urmia wetland.¹³⁶⁰

B. Improve ways through which existing laws can be implemented

Currently, some existing rules or projects for preserving the Lake Urmia lack enough legal support to be implemented. The Urmia wetland as a distinct ecosystem requires specific and

¹³⁵⁵ *ibid*

¹³⁵⁶ Legislative and Executive branches in Iran are discussed in chapter 4 section 1.1.

¹³⁵⁷ HojatSalimiTorkamani, ' Investigation of the environmental problem of Lake Urmia from the perspective of international environmental law' [2011] Raahbord quarterly journal 177, 192

¹³⁵⁸ Chapter 2 section 5

¹³⁵⁹ Chapter 4 section 2.4

¹³⁶⁰ HojatSalimiTorkamani, ' Investigation of the environmental problem of Lake Urmia from the perspective of international environmental law' [2011] Raahbord quarterly journal 177, 186

unique approaches for management and conservation.¹³⁶¹ Adoption of specific wetland-centred policies for the Lake Urmia is a necessity.¹³⁶² The most important step in this regards was the establishment and approval of the agreement on the management of the ecosystem of the Urmia National Park in the form of a project for the protection of Iranian wetlands.¹³⁶³ The meeting was held in Urmia City in September 2008 and the agreement was reached by all participants including the Ministry of Agricultural Jihad, Ministry of Energy, the Environmental Protection Agency and governors of the West and East Azarbaijan provinces And Kurdistan. As a result of the meeting, a comprehensive management plan for Urmia Lake was prepared with the assistance of the United Nations Development Program and the Global Environment Facility in June 2010.¹³⁶⁴ However, the General Director of the EPA of the West Azerbaijan province claims that such programs fails to effectively being implemented as the required enthusiasm in this subject has not been shown.¹³⁶⁵

C. Existing national laws should be updated or new laws should be developed

The recent law on wetlands in Iran, the Law of Conservation, Restoration and Management of wetlands, was discussed and evaluated in chapter 4. This recent law was approved by the Parliament in 04/05/2017.¹³⁶⁶ However the flaws of the older laws about environment protection (for example very outdated and affordable fines that lacked effect) was discussed in chapter 5.¹³⁶⁷ The old laws need to be updated.¹³⁶⁸

Besides, new laws should be developed. For example, the important role that people and NGOs can play in preserving wetlands is discussed in this chapter.¹³⁶⁹ New laws promoting the participation of people should be established in Iran. The role of people and NGOs and local communities in monitoring and implementing the rules should be highlighted. Local communities for example farmers play important role in the protection of wetlands.¹³⁷⁰ In addition to the emphasis on the role of public and local communities, another example in

¹³⁶¹ *ibid*

¹³⁶² *ibid*

¹³⁶³ *ibid*

¹³⁶⁴ *ibid*

¹³⁶⁵ Abbas Nejad H, 'The chance of complete drying of Lake Urmia', Weekly Magazine of Saayeh Tehran (Tehran Spring 2010)

¹³⁶⁶ Government of Islamic Republic of Iran, 'National Report on the Implementation of the Ramsar Convention on Wetlands Submitted to the 13th Meeting of the Conference of the Contracting Parties, Dubai, United Arab Emirates, 2018' (ramsar.org Jan 2018) <

https://www.ramsar.org/sites/default/files/documents/importftp/COP13NR_IRIran_e.pdf> accessed 19 Jun 2018

¹³⁶⁷ Chapter 5 section 3.1.2

¹³⁶⁸ Chapter 5 section 4.3.1

¹³⁶⁹ Chapter 6 section 2.9

¹³⁷⁰ Chapter 2 section 5.2

developing laws is that Iran should take the necessity of renovation and rehabilitation of wetlands when implementing construction projects for example, Shahid Kalantary Highway. SalimiTorkamani believes that rehabilitation and restoration of wetlands as a compensatory method is necessary when a construction project inevitably would cause degradation or damage to the environment.¹³⁷¹ For example, in case of the Lake Urmia, in order to compensate the devastating adverse effects caused by the construction of Shahid Kalantari highway and numerous dams on the rivers feeding the lake, efforts should be focused on keeping the water share right for the lake (which means allocation of about 3.9 billion cubic meters of required water to revive the Lake Urmia). Moreover, the lake's water level must reach to the minimum level that is needed to maintain its ecological characters (which is 1274 meters).¹³⁷²

4. Remaining challenges in implementing the Ramsar Convention in Iran

The criminal law in Iran was discussed in chapter 5. However, there are challenges to use the criminal law to manage wetlands which will be discussed in this section. This section takes advantage of previously investigated rules and regulations and challenges Iran faces to implement the Ramsar Convention in chapter 5 and the challenges that Iran faces with regards to the solutions proposed in chapter 6.¹³⁷³ This discussion follows the guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands adopted by Resolution VII.7 (1999) by the Ramsar Convention and assess challenges at each step Iran continues to face as it reviews its laws on wetland management.¹³⁷⁴ Based on the guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands adopted by Resolution VII.7 (1999) by the Ramsar Convention, a review team is needed to review the national laws with regards to wetlands. Taking advantage of these guidelines by Ramsar Convention, Iran's challenges will be reviewed here.

4.1. Political support for effective laws on wetlands

According to the guidelines by the Ramsar Convention secretariat, before carrying out the review, the legal system should establish the political support for the review, establish the

¹³⁷¹ HojatSalimiTorkamani, ' Investigation of the environmental problem of Lake Urmia from the perspective of international environmental law' [2011] Raahbord quarterly journal 177, 183

¹³⁷² *ibid*

¹³⁷³ Chapter 6 section 2.1 to 2.9

¹³⁷⁴ guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands adopted by Resolution VII.7 (1999) by the Ramsar Convention, Appendix 6.1

political responsibility and set the review team. According to Taheri Yazdi *et al.*, there are challenges in preserving environment due to lack of effective political support.¹³⁷⁵ The administrative power and legal challenges that EPA faces in implementing the Ramsar Convention is discussed in chapter 5.¹³⁷⁶ As a matter of fact, the EPA lacks appropriate legal authority in making decisions with regards to wetlands in Iran although it is theoretically assigned in charge of controlling and supervising wetlands within the country.¹³⁷⁷ More importantly, there is no formal Ministry for the protection of environment in Iran and this contributes to incapable wetland-related legal supports.¹³⁷⁸ Indeed, an independent organisation monitoring and assessing wetlands within the country does not exist.¹³⁷⁹ In fact, Iran should consider establishing an 'interagency steering committee' to ensure that all relevant governmental sectors are represented during the review. Briefly, it is of great importance to efficiently carry out and then implement the review that possesses high level legal and political support.¹³⁸⁰ As chapter 5 discussed, the legal system faces challenges when establishing the political responsibility because there are discrepancies and sporadic overlaps between different ministries, organisations and institutions in controlling wetlands in the country.¹³⁸¹ Hence, for carrying out the national law review, it would be a good idea that the Iranian government ask the beneficiary administrative authorities to conduct their own review. In fact, to ensure consistency with applicable national policies and laws, it is crucial to nationally harmonise the review procedures.

4.2. Regular review of national laws on wetlands management

In some countries, an appropriate review team may already have been established to develop a national wetland policy or provided by an established cross-sectoral Ramsar/wetlands committee. In Iran however the review team should be planned first. According to the Legal Directorate of the EPA in Iran, the issues of environment as a branch of science of law is a completely new subject in the country and this by itself has led to contain less effective legal

¹³⁷⁵ Farhad Dabiri, Frank Taheri Yazdi, 'The State of Implementation Ramsar Convention in Iran' [2014] Journal of Sustainability, Development and Environment 39, 43

¹³⁷⁶ Chapter 5 section 4

¹³⁷⁷ Farhad Dabiri, Frank Taheri Yazdi, 'The State of Implementation Ramsar Convention in Iran' [2014] Journal of Sustainability, Development and Environment 39, 43

¹³⁷⁸ *ibid*

¹³⁷⁹ *ibid*

¹³⁸⁰ guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands adopted by Resolution VII.7 (1999) by the Ramsar Convention, Appendix 6.1

¹³⁸¹ Chapter 5 section 4.2.1

value as other old laws.¹³⁸² These already existed laws are established 3 to 4 decades ago and never been updated appropriately.¹³⁸³ The Law on the protection and exploitation of water resources of the Islamic Republic of Iran ratified in Sep 1994 and the Law of equitable distribution of water ratified in March 1983 could be mentioned as examples of such old and in need of revision environmental laws.

4.3. Sharing of information

A further challenge is that in Iran, the inadequate and in many cases **lack of basic information** is an issue that prevent proper understanding of the wetland and managing it properly.¹³⁸⁴ Hence, the most important research activities for wisely managing wetlands are the determination of the ecological boundary, the estimation of ecological and water share rights,¹³⁸⁵ and restoration of the wetlands. In addition, recognizing the ecological structure of wetlands, identifying and classifying water plants and drought in wetlands, and assessing the habitat of wetland animals are among the basic issues in understanding these ecosystems. It is necessary to note that the national law review is not possible without the cooperation of representatives from differing relevant organizations and NGOs.¹³⁸⁶ The adoption of an outlook and the application of interdisciplinary and inter-organizational management among the executive and supervisory bodies of the country will lead to effective review of the national laws and consequently a more successful management and protection of wetlands.¹³⁸⁷ The distribution of power between EPA on the one hand and Ministry of Energy on the other hand was discussed in chapter 5.

In the case of Iran, the EPA with the assistance of the Iranian Wetlands Conservation Project developed the National Wetland Conservation Strategy and Action Plan for the country in 2011.¹³⁸⁸ The National Wetland Conservation Strategy based on the ecosystem approach and

¹³⁸²The Islamic Republic News Agency, 'Importance of reviewing the environmental laws: the ecological mater of the country' (IRNA 2017) <<http://www.irna.ir/fa/News/82445834>> accessed 10 Nov 2017

¹³⁸³ *ibid*

¹³⁸⁴SimaSefidian and Abdolrassoul Salman Mahiny, *Reviewing the nature of wetlands and the research-based needs of the internationally important wetlands in Iran for Wise Use Management* [Autumn 2015] *Biosphere Journal* 31-38

¹³⁸⁵ Chapter 4 section 2

¹³⁸⁶SimaSefidian and Abdolrassoul Salman Mahiny, *Reviewing the nature of wetlands and the research-based needs of the internationally important wetlands in Iran for Wise Use Management* [Autumn 2015] *Biosphere Journal* 31, 38

¹³⁸⁷ *ibid*

¹³⁸⁸ Department of Environment with the assistance of the Conservation of Iranian Wetlands Conservation Project, *Islamic Republic of Iran National Wetland Conservation Strategy and Action Plan* (Ramsar.org May 2011)

the present situation of wetlands in Iran proposed a 10 year vision program encompassing the main elements for having healthy wetlands.¹³⁸⁹ The program set five major goals and eight implementation strategies for the 10 year vision. Eventually, it was recommended in the program that the Iranian government needed to establish a national Wetlands Committee involving all the relevant Government Organizations and stakeholder groups to oversee the implementation of this strategy and action plan.¹³⁹⁰ It should establish and fund a series of five year wetland action plans until the vision is achieved. Here, it can be stated that these goals and implementation strategies were set based on a basic knowledge base which can be used for the national law review as well. With regards to the outcome of the National Wetland Conservation Strategy plan in Iran, it should be noted that neither has the National Wetland Conservation Strategy and Action Plan (NWCSAP) was approved as a bill by the cabinet, nor the Wetlands Law submitted to Parliament had been approved until May 2017. However, there are several regulatory benchmarks incorporated in the 5th National Five Years Plan.¹³⁹¹ Back to the discussion on the importance of a comprehensive knowledge base particularly used for carrying out the review for Iran, it would be a good idea to start from basic levels like establishing scientific, legal and institutional knowledge base from developing National Wetland Policies or drafting modern environmental statutes.

4.4. Designation of a competent body to wetland management

For the case of Lake Urmia, besides the EPA, Ministry of Energy, Ministry of Agriculture Jihad and the Planning and Budget organization of the country have functional responsibility over wetlands.¹³⁹² In Iran, the review team should first clarify how jurisdiction over wetlands and wetland products is divided between different ministries and organisations and how they are in coordination. The challenges of power distribution between ministries and organisations involved in wetlands exploitation and management are discussed in chapter 5.¹³⁹³ With regards to establishing the sectoral legal and institutional measures which directly or indirectly affect wetlands, the review team needs to provide a comprehensive report. Chapter 2 reviewed the major causes of drying of the Lake Urmia in Iran.¹³⁹⁴ Different studies

< https://www.ramsar.org/sites/default/files/documents/library/national_wetland_policies_-_iran.pdf > Accessed 20 Nov 2017

¹³⁸⁹ *ibid*

¹³⁹⁰ *ibid*

¹³⁹¹ RahmaniSh and Krijnen J.F, *Conservation of Iranian Wetlands Project Terminal Evaluation Report* (UNDP 2013) 4-9

¹³⁹² Chapter 5, section 4

¹³⁹³ Chapter 5 section 4

¹³⁹⁴ Chapter 2, section 5

from various points of view examined possible threats to the Lake Urmia. However, it is worth saying each study conducted on the causes of losing the Lake Urmia so far has mainly focused on one or two specific reasons for losing the lake depending on the viewpoint of the researchers.¹³⁹⁵ This is while a comprehensive report on the threats to the lake has never been prepared and it needs to be commissioned in order to provide an effective review. The review team in Iran could attempt to compile a list of activities which led to the loss or degradation of wetland area and land cape around the Lake Urmia, the activities which caused changes in the water regime (e.g., velocity, volume, seasonal flows, groundwater) plus changes in water quality if any (e.g., pollution, eutrophication, sedimentation); and more importantly over exploitation of wetlands in Lake Urmia area.¹³⁹⁶

To make the review job more effective, in the guidelines of COP, it is recommended that the review team should list ‘the main processes associated with the loss and degradation of public and private wetlands on national territory or beyond national boundaries’.¹³⁹⁷ The review team in Iran should list the threatening activities and processes to the Lake Urmia and then put the responsible ministry or organisation which was responsible for or even contributed to the process of wetland degradation next to them. The following table could be used as a non-exhaustive sample for collecting the activities adversely affecting the Lake Urmia. A comprehensive search by the review team is needed to come up with a reliable source.

Table 1: Some activities adversely affecting the Lake Urmia

The activities which damage Lake Urmia and the wetlands	Organisations/ministries involved
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¹³⁹⁵ As discussed earlier the activities like constructions of dozens of dams or Shahid Kalantary Highway which contributed to the drying of the Lake Urmia in Iran. Please see; Torabian, E. ‘Exploring social vulnerability and environmental migration in Lake Urmia in Iran: Comparative insights from the Aral Sea’ (International Organization for Migration, 2015) 65-81

¹³⁹⁶ Ramsar Convention, *Guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands* (adopted by Resolution VII.7 (1999) of the Ramsar Convention), Processes of this kind are generated by human activities both inside and outside wetlands. Some types of human activity (e.g., drainage, pollution or urban encroachment) almost always generate processes damaging to wetlands, whether individually or on a cumulative basis. Other types of activity (e.g., fishing, agriculture or ecotourism) may be consistent with wise use within certain limits, but can generate damaging processes if they exceed the carrying capacity of the water system, coastal zone or wetland concerned.

¹³⁹⁷ Ramsar Convention, *Guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands* (adopted by Resolution VII.7 (1999) of the Ramsar Convention) < <https://www.ramsar.org/sites/default/files/documents/pdf/guide-laws-e.pdf> > Accessed 8 Nov 2017

Inefficient irrigation systems ¹³⁹⁸	Ministry of Agricultural Jihad
Dam construction ¹³⁹⁹	Ministry of Energy
Lack of dredging rivers feeding the Lake Urmia ¹⁴⁰⁰	Ministry of Energy
Road construction (Shahid-Kalantary Highway) ¹⁴⁰¹	Ministry of Road and Transportation
Legal and illegal water wells ¹⁴⁰²	Ministry of Energy

5. Non-legal solutions for preserving the Lake Urmia

Besides the legal solutions for saving wetlands within the country, some non-legal solutions have been proposed from different perspectives including technical-, educational- and scientific- viewpoints. These solutions will be explored by assessing their weaknesses and strengths in addition to how effective they might be in the context of Iran. A conclusion on if the solution could work in the same context will be followed. The aim of this section is to justify how non-legal solutions could promote the conditions of wetlands and Lake Urmia in particular beside legal solutions.

Blocking the rivers feeding the Lake by constructing dams over them, the construction of the Shahid Kalantari highway (about 10 km) and dividing the Lake into two half, drilling over 30 thousand unauthorized wells, and thousands of legal deep wells, spraying pesticide to the gardens several times a year and letting them to enter into the Lake Urmia, and inappropriate water usage pattern and abundant waste in industrial and household consumption are some of

¹³⁹⁸ office for Central Europe and Eurasia Development, Security, and Cooperation, Committee on U.S-Iranian Workshop on Water Conservation, Reuse, and Recycling, Policy and Global Affairs, National Research Council, *Water Conservation, Reuse, and Recycling* (The National Academic Press 2005) 160

¹³⁹⁹ Elmira Hassanzadeh, Mahdi Zargham and Yousef Hassanzadeh, 'Determining the Main Factors in Declining the Lake Urmia Level by Using System Dynamics Modeling' [Jan 2012] *Water Resources Management* 129, 137

¹⁴⁰⁰ Lake Urmia Restoration Program, *In different parts of the Lake Urmia basin water consumption is not optimal* <<http://ulrp.sharif.ir/en/news/news-640>> آب-بهینه-نیست-در-بخش‌های-مختلف-حوضه-دریاچه-ارومیه-مصرف-آب-بهینه-نیست accessed 19 Nov 2015

¹⁴⁰¹ Mohsen Abdollahi and Masoud Faryadi, 'Legal Challenges facing Iran's Department of Environment' [Summer 2010] *Environmental Sciences* 143, 156

¹⁴⁰² Mohammad Ali Ahmadian and Samira Asghari, 'Environmental consequences of reduction on Lake Urmia water surface and solutions to save it' [2014] *Sarzamin Quarterly Journal* 81, 96

the examples of unsustainable use of this wetland.¹⁴⁰³ Some of the measures that can be adopted to promote sustainable management of Lake Urmia are as follows:

5.1. Water transfer

Some water management strategies have been recommended to overcome the Lake Urmia water crisis each of which has its own advocates and critics. One of such suggestions is the transfer of water from rivers to the Urmia watershed¹⁴⁰⁴ or diverting the Caspian Sea water to Lake Urmia.¹⁴⁰⁵ The rivers in Urmia region goes out of the country and flows into Iraq. It is argued that with the flow of water into Iraq, the water right of the Lake Urmia is not provided. With regards to transferring water from other sources (e.g. the Caspian Sea), there is still a debate whether this suggestion would intensify the crisis or it should be considered seriously as a good solution.¹⁴⁰⁶ Water transfers, the massive engineering projects that divert water from rivers with perceived surpluses to those with shortages, have been promoted as a solution worldwide.¹⁴⁰⁷ In order to revive the Lake Urmia many believe that the only solution left is water transfer. However, Fahimi, an official with the Ministry of Energy and a critic to this suggestion stated that ‘water transfer won’t restore Lake Urmia.’¹⁴⁰⁸ Fahimi noted that transferring water would only lead to unexpected increase in water demand and encourage unsustainable water use in all sectors. Implementing water-demand management policies can improve the supply-demand balance in water-stressed regions, he emphasized. Fahimi as the representative of the critics stated that:

Transferring water from other countries would act against our national interest. Once we grow dependent upon water transferred to our country the other countries might

¹⁴⁰³ Ministry of Industry and Mines, *Environmental Impact Assessment of Industrial exploitation Projects of Lake Urmia* < http://gsi.ir/Files/Reports/2017-05-14_11.21.02_final.pdf > accessed 4 Jan 2018

¹⁴⁰⁴ Lake Urmia Restoration Programme, *Introduction of Lake Urmia Retrieving team* < ulrp.sharif.ir/fa/page/معرفی-کارگروه-ملی-نجات-دریاچه-ارومیه > Accessed 29 Dec 2018

¹⁴⁰⁵ Ministry of Industry and Mines, *Environmental Impact Assessment of Industrial exploitation Projects of Lake Urmia* < http://gsi.ir/Files/Reports/2017-05-14_11.21.02_final.pdf > accessed 4 Jan 2018

Please also see;

Vahid Garousi, Aref Najafi, Azar Samadi and Kabir Rasouli, ‘Environmental crisis in Lake Urmia, Iran: a systematic review of causes, negative consequences and possible solutions’ (6th International Perspective on Water Resources, Izmir, Jan 2013)

¹⁴⁰⁶ Iranian Students News Agency, ‘They wanted to transfer Caspian Sea water to Lake Urmia’ (isna.ir Oct 2019) < <https://www.isna.ir/news/98072317409/> > accessed 30 Jan 2020

¹⁴⁰⁷ Maryam Qarehgozlou, ‘Water transfer won’t revive Lake Urmia: official’ (tehrantimes.com May 2018) < <http://www.tehrantimes.com/news/423519/Water-transfer-won-t-revive-Lake-Urmia-official> > Accessed 08 Jun 2018

¹⁴⁰⁸ ibid

push up the prices, won't let the water flow into wetlands and even ignore the water right of the downstream wetlands and rivers.¹⁴⁰⁹

Elsewhere, in an article published in Hamshahri Persian Language Daily newspaper on 9th April 2018, Akhani, the botanist and environmentalist, declared that:

There are only certain blood types that can be used should anyone need a transfusion and there are factors determining the right type of blood for each person, likewise we cannot transfer any water from anywhere to quench the Lake Urmia.¹⁴¹⁰

Not examining various aspects of water transfer can even worsen the current condition of the Lake Urmia and aggravate the crisis. Behrouzi-Rad, a board member at Science and Research Branch of Azad University, acknowledged.¹⁴¹¹ He added that 'It doesn't matter which lake or river we transfer water from', it can be transferred from Caspian Sea or Lake Van, in Turkey, 'either way water transfer can have detrimental effects on the ecosystem of the Lake.' Water transferred from a lake or river with surpluses should have identical characteristics to those of the Lake Urmia so that it can bring back the lake to its former state, he explained.¹⁴¹² Each basin has its distinguished physical and biological characteristics and inter-basin water transfer can have unpredictable effects on the lake ecosystem such as endangering the biodiversity of the region, Akhani said, adding that the money, earmarked for water transfer schemes, can be spent on reforming irrigation patterns as well as agricultural practices and creating jobs other than farming.¹⁴¹³ Fahimi also explained that 'the lake won't be restored with water transfer' and managing the water use and sustainable agricultural practices are the route to save the lake. Agriculture is both a cause and a victim of water scarcity. Basically, promoting sustainable agriculture is the way to save the lake.

¹⁴⁰⁹ *ibid*

¹⁴¹⁰ *ibid*

¹⁴¹¹ Maryam Qarehgozlou, 'Is inter-basin water transfer a cure for exhausted Lake Urmia?' (tehrantimes.com Apr 2018) <<https://www.tehrantimes.com/news/422565/Is-inter-basin-water-transfer-a-cure-for-exhausted-Lake-Urmia>> accessed 7 Jun 2018

¹⁴¹² *ibid*

¹⁴¹³ Maryam Qarehgozlou, Water transfer won't revive Lake Urmia: official (tehrantimes.com May 2018) <<http://www.tehrantimes.com/news/423519/Water-transfer-won-t-revive-Lake-Urmia-official>> accessed 08 Jun 2018

5.2. Use of wastewater

Besides transferring water from Caspian Sea or nearby rivers, the transfer of effluent of refineries to Lake Urmia has been suggested as a solution to save the Lake.¹⁴¹⁴ This action has been taken in other countries as well. For example, every day in the UK about 347,000 kilometres of sewers collect over 11 billion litres of wastewater. This is treated at about 9,000 sewage treatment works before the treated effluent is discharged to inland waters, estuaries and the sea.¹⁴¹⁵

The use of sewage in Urmia Lake watersheds, especially in Tabriz and Urmia cities, was investigated in the Urmia Lake Restoration Program 2008.¹⁴¹⁶ However, prior to addressing the outcomes of this investigation, it is important to elaborate the difference between the two terms 'sewage' and 'wastewater treatment plant'. Urban and rural sectors and the industrial sector use water to meet their everyday needs. As a result of the use, 'sewage' is produced that contains noxious chemicals and substances harmful to the environment, agriculture, humans and animals. In order to prevent undesirable effects, purifiers are built to purify the sewage and evacuate it in the environment according to environmental standards.¹⁴¹⁷ Most cities around Urmia wetland have wastewater treatment plants, but refined wastewater was never transferred to the Lake.¹⁴¹⁸ In the Urmia Lake Restoration Program, part of the water needs of Urmia Lake will be provided through wastewater (not sewage). According to the program, hopefully the transfer of wastewater to the Lake Urmia should begin from 2018 and will provide 3% to 7% of the total water entering the Lake Urmia.¹⁴¹⁹ There is a challenge to this solution and that is farmers and industries on the river route began to harvest illegally and virtually a small part of it has gone to the lake. Unfortunately, the withdrawal of this part of the water in the Aji Chai River, which has no untreated sewage, has been used for agricultural production.¹⁴²⁰ In order to prevent unauthorized withdrawal of farmers from wastewater

¹⁴¹⁴ Omid Salimi Bani, '19 approaches to Revive the Lake Urmia and the Consequences of Their Failure' (khabaronline.ir Feb 2014) < <https://www.khabaronline.ir/news/335139/> > accessed 1 Jan 2018

¹⁴¹⁵ Department for Environment, 'Food and Rural Affairs, Sewage Treatment in the UK:UK Implementation of the EC Urban Waste Water Treatment Directive' (DEFRA Publications 2002) P3-16

¹⁴¹⁶ ULRP is discussed in Chapter 4, section 2.4

¹⁴¹⁷ Lake Urmia Restoration Programme, 'What is the story of sewage entering into the Lake Urmia?' (eghtesadonline.com Nov 2018) < <https://www.eghtesadonline.com/بخش-عمومی-312752/30-ماجرای-ورود-فاضلاب-> > Accessed 29 May 2018

¹⁴¹⁸ Omid Salimi Bani, '19 approaches to Revive the Lake Urmia and the Consequences of Their Failure' (khabaronline.ir Feb 2014) < <https://www.khabaronline.ir/news/335139/> > accessed 1 Jan 2018

¹⁴¹⁹ ibid

¹⁴²⁰ Lake Urmia Restoration Programme, 'What is the story of sewage entering into the Lake Urmia?' (eghtesadonline.com Nov 2018) < <https://www.eghtesadonline.com/بخش-عمومی-312752/30-ماجرای-ورود-فاضلاب-> > Accessed 29 May 2018

produced in various cities, and in particular in Tabriz, a project to transfer wastewater to the Lake Urmia should be planned to ensure the transfer of wastewater to Lake Urmia.¹⁴²¹

5.3. Agriculture

As already quoted from Fahimi, an official with the Ministry of Energy, agriculture is both a cause and victim of the Lake Urmia crisis. Avoiding the development of agricultural land using appropriate incentive and punitive mechanisms seems a wise thinking solution.¹⁴²² Ministry of Jihad Agriculture, Operating banks Ministry of Industry, Mine and Trade would be involved in such a project. The value of agricultural products produced in the Urmia wetland is \$ 650 million annually.¹⁴²³ This has led to the cultivation of a large area of land. With increasing levels of cultivation in this area and, of course, due to the wrong pattern of agriculture and water consumption, the amount of water loss is very high.¹⁴²⁴ Providing appropriate facilities with the aim of providing other jobs opportunities in the region without reducing the level of income of farmers would be expected to be the outcome of such solution. Also, by anticipating punitive measures, the unlawful cultivation of land will be prevented.¹⁴²⁵

The MP of Urmia people in the Iranian Parliament (Apr 2018) emphasized the necessity of controlling the development of agriculture in the catchment area of the Lake Urmia and said: 'Over the past decades, due to the lack of control of the development of agricultural lands, over 100,000 hectares of apple gardens have been created in the basin, which consumes more than one billions of square meters of water, annually'.¹⁴²⁶ He also referred to the cultivation of sugar beet in 40,000 hectares in the watershed and emphasized that the cultivation pattern should be reconsidered in the country. Cultivation of pistachio, saffron and central provinces could be a good pattern, he added as they don't require frequent irrigation. Suggesting that the cultivation of and apple should be prevented, he stated that the Agricultural Jihad leaders can prevent the sale of roots of apple tree and seeds of sugar beets or they can introduce alternative plants and trees.¹⁴²⁷ According to the IRNA, the Lake Urmia Restoration

¹⁴²¹ *ibid*

¹⁴²² Omid Salimi Bani, ' 19 approaches to Revive the Lake Urmia and the Consequences of Their Failure' (khabaronline.ir Feb 2014) < <https://www.khabaronline.ir/news/335139/>> accessed 1 Jan 2018

¹⁴²³ *ibid*

¹⁴²⁴ *ibid*

¹⁴²⁵ *ibid*

¹⁴²⁶ Lake Urmia Restoration Programme, 'Agricultural development in the catchment area of the Lake Urmia must be controlled'(irna.ir Apr 2018) < <https://www.irna.ir/news/82897825/>> Accessed 11 Jun 2018

¹⁴²⁷ *ibid*

Programme reported that the Lake is expected to reach its ecological balance within 10 years and an effective way would be the reduction of 40% of agricultural water consumption in the catchment area of this Lake.¹⁴²⁸

5.4. Dams

A further suggestion is that all prospective dam construction projects as well as irrigation plans at downstream of the Lake should be stopped.¹⁴²⁹ It is estimated that more than 41 dams will be exploited in the Urmia Basin.¹⁴³⁰ Also, around 10 other dams are in under initial study for construction.¹⁴³¹ The Ministry of Energy Under the supervision of EPA should stop all dam construction projects. The environmental consequences of large dams are numerous and varied, and includes direct impacts to the biological, chemical and physical properties of rivers and riparian environments.¹⁴³² Some of such adverse effects of dams could be as follows:

1. The dam wall itself blocks fish migrations, which in some cases and with some species completely separate spawning habitats from rearing habitats.¹⁴³³
2. The dam also traps sediments, which are critical for maintaining physical processes and habitats downstream of the dam.¹⁴³⁴
3. Another significant and obvious impact is the transformation upstream of the dam from a free-flowing river ecosystem to an artificial slack-water reservoir habitat,¹⁴³⁵ and
4. Dams will cause changes in temperature, chemical composition, dissolved oxygen levels and the physical properties of a reservoir which are often not suitable to the aquatic plants and animals that evolved with a given river system.¹⁴³⁶

Having considered the adverse changes that dams will cause to the ecosystem, more communities than ever are considering the option of removing or modifying dams that have

¹⁴²⁸ ibid

¹⁴²⁹ Lake Urmia Restoration Programme, 'Introduction of Lake Urmia Retrieving team' <ulrp.sharif.ir/fa/page/معرفی-کارگروه-نجات-دریاچه-ارومیه> Accessed 29 Dec 2018

¹⁴³⁰ ibid

¹⁴³¹ ibid

¹⁴³² International Rivers, 'Environmental Impacts of Dams' <<https://www.internationalrivers.org/environmental-impacts-of-dams>> Accessed 10 Jun 2018

¹⁴³³ Zwaan J.D, Lak M, Makinwa A and Willems P, *Governance and Security Issues of the European Union: Challenges Ahead* (Springer Nature 2016) 172-174

¹⁴³⁴ ibid

¹⁴³⁵ Lester J.P, *Environmental Politics and Policy: Theories and Evidence* (PALGRAVE 2018) P 140

¹⁴³⁶ ibid

damaged local rivers in ecosystems, outlived their usefulness, or become a safety hazard.¹⁴³⁷ However, the Iranian MPs disagreed (Apr 2018) that government suspend the implementation and development of dam construction in wetlands, river and lake basins for five years.¹⁴³⁸

Transferring water to the islands and wetlands of Lake Urmia from dams including Hasanlu¹⁴³⁹ and Kani¹⁴⁴⁰ Dams is another suggestion for saving the Lake. Hasanlu Dam is one of the reasons for decreasing the water level of the Urmia Lake. With the water transfer from this dam, it is expected that the impact of Hasanlou and Mamlo dams in reducing the water level in Lake Urmia will be minimized.¹⁴⁴¹ Abdollahi, an officer for the monitoring of Urmia Lake Restoration Projects regarding the transfer of water from dams into the Lake Urmia pointed out that the operation of water transfer from Bokan Dam was carried out in three stages and a total of 181 million cubic meters of water from the Bokan Dam and through the Zarrinehrood connecting to Siminarood rivers has entered into the Lake Urmia.¹⁴⁴² However, he added that there is no infrastructure necessary to accurately measure the water entering the Lake Urmia. Hence, one of the lake restoration projects was to construct structures and install measuring equipment at the extreme parts of the rivers for accurate measurement of the water supplied to the lake.¹⁴⁴³ Further non-legal solutions are listed in Table 2.

Table 2: A non-exhaustive list of solutions to the crisis of the Urmia Lake from different sources

	Solutions	Ministries/organisations in charge	Current situations	Expected situations
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¹⁴³⁷ Ortega J.M, Ferrier R.C, Gordon I.J and Shahbaz Khan, *Water ecosystem services: a global perspective* (Cambridge University Press, UK 2015) 39-40

¹⁴³⁸ The Islamic Republic News Agency, 'The parliament rejected the instantaneous plan to stop water transfers projects' (irna.ir Apr 2018) <<http://www.irna.ir/fa/News/82893382>> Accessed 01 Jun 2018

¹⁴³⁹ Lake Urmia Restoration Programme, 'Introduction of Lake Urmia Retrieving team'

<ulrp.sharif.ir/fa/page/معرفی-کارگروه-ملی-نجات-دریاچه-ارومیه> Accessed 29 Dec 2018

¹⁴⁴⁰ Iranian Students News Agency, Transfer of 57 million cubic meters of water from Hasanlu Dam to the Lake Urmia (isna.ir Feb 2016) <<https://www.isna.ir/news/94120100649/انتقال-57-میلیون-متر مکعب-از-آب-سد-حسنلو-به-دریاچه-ارومیه>> Accessed 11 May 2018

¹⁴⁴¹ Lake Urmia Restoration Programme, *Introduction of Lake Urmia Retrieving team*

<ulrp.sharif.ir/fa/page/معرفی-کارگروه-ملی-نجات-دریاچه-ارومیه> Accessed 29 Dec 2018

¹⁴⁴² Iranian Students News Agency, Transfer of 57 million cubic meters of water from Hasanlu Dam to the Lake Urmia (isna.ir Feb 2016) <<https://www.isna.ir/news/94120100649/انتقال-57-میلیون-متر مکعب-از-آب-سد-حسنلو-به-دریاچه-ارومیه>> Accessed 11 May 2018

¹⁴⁴³ ibid

1.	Reopening the waterways to the lake and facilitating the transfer of water ¹⁴⁴⁴	Ministry of energy	Currently, most lakes' inlet are blocked.	Identify all incoming channels that can be reopened, and reopen them.
2.	Remove dykes created to control the lake's advancement to the entrance of lagoons ¹⁴⁴⁵	Ministry of energy	Due to concerns about the advancement of lake water to the source area, a number of barriers were built that, due to reduced water levels, these barriers prevented the transfer of water to the lake	Due to conducted research and their practical solutions, a number of dikes can be eliminated. Removing them makes the water transfer easy
3.	To Study the effects of construction of Urmia Lake passageway on the reduction of Lake water level ¹⁴⁴⁶	Ministry of Energy, EPA	Some experts believe that the construction of this road which split the Lake has caused the Lake dried up sooner than it was due ¹⁴⁴⁷	Implementing projects such as constructing water conduits under the road, or removing part of it, could decrease drying of Urmia Lake. S

¹⁴⁴⁴ Ministry of Industry and Mines, 'Environmental Impact Assessment of Industrial exploitation Projects of Lake Urmia' < http://gsi.ir/Files/Reports/2017-05-14_11.21.02_final.pdf> Accessed 4 Jan 2018

¹⁴⁴⁵ Omid Salimi Bani, '19 approaches to Revive the Lake Urmia and the Consequences of Their Failure' (khabaronline.ir Feb 2014) < <https://www.khabaronline.ir/news/335139/>> accessed 1 Jan 2018

¹⁴⁴⁶ Ibid

¹⁴⁴⁷ Chapter 4 Section 2.4

4.	Designation of wells without a license ¹⁴⁴⁸	Ministry of Jihad Agriculture, Ministry of energy, Provincial Government	At present, the exact number of unauthorized wells has not been identified. Some sources reported 11000 and some other sources reported up to 50000 semi-deep wells in the catchment area of this lake.	All wells without a license should be identified. Give permits to wells that can be licensed. The other wells should be sealed.
5.	Preventing unauthorized use of surface water ¹⁴⁴⁹	Ministry of Jihad Agriculture, Ministry of energy, Provincial Government	The exact amount of unauthorized impressions of these waters is unclear. Also, those who use these waters are not specified.	Unauthorized persons and users of surface water should be identified and unauthorized harvesting of surface water should be prevented.
6	Watershed management with emphasis on aquifer to feed the underground aquifers on the margin of the lake, preserving the	Department of Environment (EPA), Ministry of Agriculture, Natural Resources Organization Ministry of Power	Currently, there is no precise monitoring of the groundwater sources. Also, due to the development of	The Natural Resources and Watershed Organization of the country, in cooperation with the

¹⁴⁴⁸ Chapter 5 Section 4

¹⁴⁴⁹ Omid Salimi Bani, ' 19 approaches to Revive the Lake Urmia and the Consequences of Their Failure' (khabaronline.ir Feb 2014) < <https://www.khabaronline.ir/news/335139/>> accessed 1 Jan 2018

	environmental rights of the rivers to entering the lake ¹⁴⁵⁰		inappropriate agricultural methods the water right is respected.	environmental organization try to come into a joint and logical way to prevent the decline of groundwater levels.
7	Implementation of informing and raising public awareness programs about the lake's situation and the role of local people and communities in restoring the Lake ¹⁴⁵¹	EPA, Ministry of Jihad Agriculture, Ministry of Energy, Ministry of Culture and Islamic Guidance, Islamic Republic of Iran Broadcasting	The inadequate agricultural methods in the region are due to the lack of knowledge about the effects of the drying of Lake Urmia. Despite the activity of environmental organizations like EPA in Iran, many stakeholders in the region are still not aware of the consequences of the crisis in the lake.	People should come to this understanding that drying of the Urmia Lake is moving towards environmental catastrophe that threatens the lives of the people in the three provinces.
8	Establishment of Urmia Lake Watershed Decision	EPA, Ministry of Jihad Agriculture,	Currently, much of water consumption in	With the deployment of this system, the

¹⁴⁵⁰ ibid

¹⁴⁵¹ ibid

	Systems based on the drought risk management plan ¹⁴⁵²	Ministry of Energy,	the region is for agriculture.	risk of drought in the lake is controlled and minimized.
9	Preparing the cadastral maps of cultivating and gardening in Urmia Lake basin ¹⁴⁵³	EPA, Ministry of Jihad Agriculture, Ministry of Energy, The office of registry	Currently, due to the lack of precise monitoring, the number of farms and areas under cultivation in the region is unclear.	In cooperation with the Office of Registry, to adjust the precise plan of the fields and gardens in order to prevent their progress.
10	To study the extraction and exploitation of the Lake's salt and the implementation of industrial projects to save the Lake ¹⁴⁵⁴	Ministry of Energy, EPA, Ministry of Industry, Trade and Mines, Operating banks	At present, salt is taken from the sea and delivered to refineries in other provinces. Urmia salinity has reached its highest level due to the decrease in	With this study, the possibility of extraction and utilization of salt, creation of industrial estates around the lake with the help of banking facilities is a good solution

¹⁴⁵² ibid

¹⁴⁵³ ibid

¹⁴⁵⁴ Ministry of Industry and Mines, *Environmental Impact Assessment of Industrial exploitation Projects of Lake Urmia* <http://ulrp.sharif.ir/sites/default/files/field/files/final_0.pdf> Accessed 4 Jan 2018

			water levels.	for increasing job opportunities.
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Different studies (HooshangDelju,¹⁴⁵⁵ Garousi, et al.,¹⁴⁵⁶ Noori, et al.,¹⁴⁵⁷ Yazdandoost,¹⁴⁵⁸ Hoseinpour,¹⁴⁵⁹ Tourian, et al.,¹⁴⁶⁰ Alipour¹⁴⁶¹ Joodaki¹⁴⁶²) have proposed evidence-based and scientific solutions to the crisis (e.g., water transfer, dam destruction, agricultural technology improvement, etc). However, all studies have noted that coming up with a detailed rescue plan would require in-depth collection of relevant data and analysing the overall water management of the region, and their feasibility should be carefully investigated with respect to existing constraints (legal, political, administrative, etc.).

6. Conclusion

Chapter six responds to the final research question of the study:

What are the potential legal solutions to the Lake Urmia crisis?

First, wetlands are defined clearly neither in Ramsar Convention nor in Iran's national laws. Kooshki suggested that a clear and precise **definition of wetlands** in the national law can lead to better management of wetlands. According to the Ramsar Convention Wetlands are of three types including man-made wetlands. In Iran the control of waters behind dams (that is categorised as man-made wetlands) is given to the Ministry of Energy while EPA

¹⁴⁵⁵ Amir HooshangDelju, Etienne Piguet and Martine Rebetez, ' Observed climate variability and change in Urmia Lake Basin, Iran' [January 2012] Springer

¹⁴⁵⁶ Vahid Garousi, Aref Najafi, Azar Samadi and Kabir Rasouli, ' Environmental crisis in Lake Urmia, Iran: a systematic review of causes, negative consequences and possible solutions' (6th International Perspective on Water Resources, Izmir, Jan 2013)

¹⁴⁵⁷ Gholamreza Noori and VahedAghaei, 'Assessment of Environmental hazards for surrounding areas of the Lake Urmia due to the fluctuations border, during 1985-2010' [2013] Journal of Natural Environmental Hazards 79, 92

¹⁴⁵⁸ FarhadYazdandoost, ' Dams, Drought and Water Shortage in Today's Iran' [November 2016] Iranian Studies Journal 1017, 1027

¹⁴⁵⁹ Hoseinpour M, FakheriFard A and Naghili R, ' Death of Urmia Lake, a Silent Disaster Investigating of causes, results and solutions of Urmia Lake drying ' [Apr 2010] International applied Geological Congress (Iran) 700, 702

¹⁴⁶⁰ Tourian M.J. , Elmi O, Chen Q, Devaraju B, RoohiSh, Sneeuw N, ' A spaceborne multisensor approach to monitor the desiccation of Lake Urmia in Iran' [2015] Remote Sensing of Environmen 349, 355

¹⁴⁶¹ Samad Alipour, ' Hydro geochemistry of seasonal variation of Urmia Salt Lake, Iran' [2006] Aquatic Bio systems 1, 19

¹⁴⁶² GholamrezaJoodaki, John Wahr and Sean Swenson, ' Estimating the human contribution to groundwater depletion in the Middle East, from GRACE data, land surface models, and well observations' [Mar 2014] AGU 2679, 2690

under Articles 1, 6, 9 and 16 of the Law of the Protection and Improvement of the Environment, is officially assigned for implementing the Ramsar Convention and should control the wetlands within the country. Lack of precise definition of wetlands has led to confusions. As a possible way forward, there is a need to clearly define wetlands in the Law of Conservation, Restoration and Development of Iran's Wetlands and that the definition and interpretation of wetlands needs to be consistent with the Ramsar Convention. The national wetlands should be listed and their boundaries should be specified. Then Iran should bring forward a consistent policy for distributing the power over controlling wetlands in the country. Kooshki suggested that if EPA is assigned to take control over wetlands then different types of wetlands (e.g., water behind dams that is considered as man-made wetlands) in the country should fall under the supervision of the EPA. A clear policy for cooperation between legal bodies in managing/exploiting wetlands should be made.

Second, to provide a better protection of the wetlands which are not yet listed in the Ramsar List of internationally important wetlands, Iran should attempt to apply a **systematic approach for listing wetlands**. Iran should disseminate wetland directories, which identify potential (not currently listed) Ramsar sites to add to the Ramsar List. Iran needs to establish a committee to diligently study, observe and monitor the potential sites. Finally, it would be helpful to specify a timeframe for consistent monitoring and nominating potential wetlands for the Ramsar List.

Third, Iran has not reported the Lake Urmia to Montreux record, and it can be because Iran has no binding obligation to report the changing ecological character of Lake Urmia to the Montreux record. The conflict between the wetland conservation and **sovereignty** needs to be resolved in Iran. Iran needs to report the ecological changes of the Urmia site to the Montreux Record for further investigation, observation and advice. To promote the concept of sovereignty over wetlands, Iran needs to invoke the national law. Two arguments are discussed here: One is that people have right to healthy environment and this is highlighted in Article 50 of Iran's constitutional law. Second is that based on Article 40 of Iran's constitutional law, the Rule of Prohibition of Detriment, any activity which threatens public's interests or lives is prohibited. It means that any activity or projects of the government to exploit the Urmia wetland (e.g., dam construction) which would damage the wetland and endangered people's lives (illnesses caused due to converting the Lake into salt land) based on the rule of prohibition of detriment can be prosecuted by the legal system.

Fourth, to successfully implement the ‘ecological character’ provision of Ramsar Convention, Iran needs to report the ecological changes of Lake Urmia to the Ramsar Secretariat and the Lake should be listed in the Montreux Record. In fact, adding the site to the Montreux Record which is the principal tool of the Ramsar Convention would be helpful as the Lake will receive priority conservation attention and advice. The characters of the Lake shall be maintained as part of the Ramsar database and shall be subject to continuous review. Alagol, Ulmagol, Ajigol Ramsar sites are the Iranian wetlands which were designated to enter to the Montreux Record, were placed on the Montreux List and removed when it was considered that the ecological character of the wetlands was no longer threatened.

Fifth, in order to successfully implement the ‘wise use’ provision in the country, i) Iran can invoke to national rule of ‘Liability for Spoil’; ii) Iran needs to make sure that EIA is perfectly applied before any constructions and projects; iii) the legal and administrative power of EPA should be reconsidered in the legal system of Iran; iv) Iran should integrate wise use in national law.

- (i) the rule of ‘Liability for Spoil’ could be a solution to prevent unwise use of Lake Urmia. According to the rule of ‘Liability for Spoil’ which is Article 328 of Civil Law in Iran, ‘if someone misuses others’ property, he is legally responsible for the spoil caused’. The application of the rule of ‘Liability for Spoil’ in relation to environment would be that if an individual intentionally or unintentionally does something which causes damage to the environment, he would legally be responsible and has to compensate. It implies that if the government spoils a public property, it would be legally responsible and the legal system of the country can apply enforcement against the government.
- (ii) The constructions of many dams over the rivers feeding the Lake and Shahid Kalantary Highway have the most detrimental effect on the ecosystem of the Lake disrupting and changing the ecological characteristics of the lake. Iran needs to make sure that EIA is perfectly applied before any prospective construction projects. Salimi suggested that conducting EIA before initiating any construction projects would not contradict economic developments.
- (iii) The legal and administrative power of EPA should be reconsidered in the legal system of Iran. A further solution to wise use challenges would be that EPA as the only organisation in charge of implementation of the Ramsar Convention take the control over all types of wetlands and be given appropriate authoritative and political power.

- (iv) Iran should integrate wise use in national law. Iran should use the Ramsar Convention guidelines for *Reviewing Laws and Institutions to Promote the Conservation and Wise Use of Wetlands* adopted by Resolution VII.7 (1999) by the Ramsar Convention to review the national laws and make them in line with the provision of sustainable and wise use in the country.

Sixth, it was discussed that reporting the Lake Urmia to the Montreux Record would promote **information exchange** and help Iran improve the condition of the wetland. Indeed, through strengthening international cooperation, Iran can improve the exchanging of information; discuss the issue of the crisis in the regional and international environmental conferences; promote the interaction and cooperation with neighbouring countries in Lake Urmia area and use of facilities, knowledge and experience of others in integrated management of catchment areas with the aim of revitalizing the Lake and protecting it in the future, as well as developing national legal instruments such as a sustainable development strategy.

Seventh, with regards to the challenges Iran faces about **financial resources**, two possible solutions could be recommended:

- (i) to receive further fund from international. The international financial and monetary institutions such as the World Bank, the United Nations Development Program Fund, the Asian Development Bank and the Islamic Development Bank, SGF can be recourses for the government of Islamic Republic of Iran to provide financial credit in order to lessen the ecological problems of the Lake Urmia
- (ii) East- and West- Azerbaijan provinces (surrounding the Lake Urmia) allocate a part of their budget to preserve the Lake. Taking the examples of India and Netherlands in which concerned States/Provinces allocated budget for saving their wetlands into consideration as a guide, East- and West-Azerbaijan could allocate budget for restoring the Lake Urmia.

Eighth, in order to effectively involve **NGOs** and benefit from their participation in wetlands management, four solutions are discussed:

- i) Iran should establish a close interaction between the EPA and the judicial branch of the country to make them able to assess and then approve the competence of the NGOs;
- ii) NGOs should participate in drafting of laws in the legislative process of the country;

- iii) NGOs do not have the right to protest decisions against the environment or wetlands management;
- iv) the participation of people plays an important role in the implementation and monitoring Lake Urmia. Participation of people in environmental issues is an important support to improve the condition of the Lake Urmia.

Finally, further to legal solutions, chapter six reviews the most recommended nonlegal solutions to the Lake Urmia crisis, for example, transferring water from other sources to Lake Urmia; making use of wastewater (not sewage); avoiding the development of agricultural land and using appropriate incentive and punitive mechanisms; destructing dams, etc. Eventually, the important point is that proposing a successful plan for rescuing Lake Urmia needs a rigorous study of the current condition of the Lake in combination with an in-depth analysis of their feasibility with respect to existing legal, political, administrative constraints. Hence, it is always crucial to regularly review the national laws on wetlands management, share information between involved legal bodies; designate a competent body to wetland management and ensure the political support for effective laws on wetlands.

Chapter Seven

Synopsis of the study

This very final chapter attempts to conclude the thesis with an overview of the aims of the present study and main findings. Lake Urmia is at the risk of completely drying. It has lost its 80% of the surface water so far. This study considered both national and international legal provisions in particular the Ramsar Convention to investigate how effective the legal regulations of the ecosystem of the Lake Urmia in the context of Iran have been.

This study aimed at investigating the implementation of the Ramsar Convention in the case of Lake Urmia but to do such an analysis, a comprehensive picture of the purposes, provisions and the legal status of the Ramsar Convention was needed first. To this end, chapter 3 discussed the major provisions of the Ramsar Convention to which the contracting parties are committed. The debates over the efficiency of the nine key provisions of the Convention were addressed in chapter 3. Chapter 3 concluded that the key features in the criticisms over the Ramsar Convention are as follows:

- The definition of wetlands in the Convention is too broad and vague to minimise the dispute over the right and obligation of all concerned parties.
- There is a narrow and ambiguous definition of the listing approach and how CPs would designate wetlands of international importance within their territory in the content of the Ramsar Convention.
- There seems to be a conflict between the national sovereignty provision of the Ramsar Convention and wetlands protection which still would require clarification.
- Again, the concepts of ecological character and wise use have not been defined clearly in the content of the Convention.
- The provisions of information exchange, financing the Ramsar Convention and intergovernmental cooperation lack adequate legal measures that would ensure the implementation.
- NGOs are not formally engaged within the convention body policy making process.

Having pointed out the shortcomings of the Ramsar Convention provisions, its implementation in the context of Iran for the purpose of preserving the Lake Urmia was investigated. It was deduced that:

- Wetlands are not clearly defined in the national laws of Iran which has caused some confusion in the distribution of power over the wetlands and water allocation in the country. The EPA is assigned to be in charge of wetlands but the control over waters behind the dams is given to the Ministry of Energy.
- There is no clear strategy in nominating and selecting wetlands for the Ramsar List in Iran.
- Iran has not reported the changes in the 'ecological character' of the Lake Urmia to the Montreux Record.
- The construction of Shahid Kalantari Highway and dozens of dams around the Lake have violated the sustainable and wise use of the Lake and have risked the benefits of present and future generations.
- The EPA has been criticised with respect to their weak performance in exchanging information, raising public awareness and involving faculty experts to help protect wetlands.
- The fines on the activities which threat/damage the wetlands are very little and affordable.
- NGOs have no supporting role in the Iranian criminal procedure act to help protect the wetlands.

Further to the Ramsar Convention's provisions, Iranian national laws have had implications for wetlands management. The Article 50 of the Iranian Constitution, the five sets of laws (also called as the Economic, Cultural and Social Developmental plan) and the law of Conservation, Restoration and Management of Iran's wetlands are the major national laws which directly or indirectly have implications for preserving the wetlands within the country. The criticism with the first two aforementioned laws which indirectly apply to wetlands is that they are very general in nature and fail to offer any significant protection to the environment or wetlands. However, with respect to the only direct law on wetlands, law of Conservation, Restoration and Management of Iran's wetlands, the debate is that the law was ratified without the required information to successfully tackle the concerns regarding endangered wetlands. In addition, no deadline was set for the legislator to complete the requirements and as a result the information is still not provided.

Independent of Ramsar Convention and the national laws, the Iranian **Penal Code** which consists of crimes, punishments and the criminal laws can be applied to preserve wetlands

within the country. Although there are two major issues in this regard from the Iranian legal system which require investigation and consideration;

The first issue would be with regards to debates over the function of Penal Code and that the criminal laws do not include wetlands management. In addition, there is no provision with regards to the liability of legal persons. Moreover, the Penal Code's responses to environmental crimes have had deficiencies. For example, neither imprisonment nor confiscation has been directly set for wetlands related crimes. In addition, the fines imposed for environmental crimes are very low, not sufficient to act as a deterrent and in need of update.

The second issue would be with regards to the functional and legal challenges of EPA. The functional challenge of EPA is that, as the legal body which has been tasked to raise the awareness of public and other involved organisations towards wetlands protection or drafting bylaws and standard and technical regulations to protect wetlands and informing the Council of Ministers of the drafted bylaws, has not been diligent in its work. Furthermore, the legal challenge of EPA is that several legal bodies are involved in the management of wetlands. The power over managing wetlands has been distributed without any coordination among agencies and EPA, as an agency, lacks legal administrative power and is not involved in decision making.

Finally, this study investigated the potential solutions to preserve wetlands and the Lake Urmia in particular, and these suggestions need to be synergistic

- Wetlands are to be defined in the national laws of the country which would lead to a more effective management of wetlands.
- A consistent policy with regards to distribution of power and control over wetlands is necessary.
- A systematic approach in designating and selecting wetlands to be added to the Ramsar List needs to be provided. A consistent and robust timeframe for monitoring and nominating wetlands would be recommended.
- Noting the conflict between the wetlands protection and sovereignty right of the country over wetlands, Iran needs to invoke the Article 50 of the Constitutional law which emphasises people's right to healthy environment and Article 40 of the Iranian

Constitution (also called the rule of Prohibition of Detriment) which prohibits any threatening activity to public interests or lives.

- The changes in the ecological character of Lake Urmia need to be reported to the Montreux Record.
- The concept of wise use needs to be integrated in the national laws of the country. To ensure the implementation of the wise use provision, Iran can also invoke the national law of 'Liability for Spoil' through which the legal system of the country can apply enforcement against the government responsible for the damage caused to the Lake Urmia.
- In order to prevent infrastructure projects (e.g. highway, dams) with potential to cause serious or irreversible harm to the lake ecosystems, Iran needs to strengthen the EIA process and ensure that EIA process is effectively followed prior to any constructions.
- National laws of the country need to be reviewed and be made in line with the provisions of sustainable and wise use of wetlands.
- Iran needs to allocate national fund and seek international resources to fund the plans/actions aimed at preserving lakes and saving the Lake Urmia in particular.
- Finally, NGOs need to be able to contribute to drafting of the laws and in the legislative process of the country. Provisions enabling such collaborative activities need to be integrated in relevant national laws protecting the environment and wetland.

Appendixes:

Appendix 3.1:

Ramsar Convention context Convention on Wetlands of International ImportanceEspecially as Waterfowl Habitat

Ramsar, 2.2.1971

As amended by the Protocol of 3.12.1982

And the Amendments of 28.5.1987

The Contracting Parties,

Recognizing the interdependence of Man and his environment;

Considering the fundamental ecological functions of wetlands as regulators of water regimes and as habitats supporting a characteristic flora and fauna, especially waterfowl;

Being convinced that wetlands constitute a resource of great economic, cultural, scientific, and recreational value, the loss of which would be irreparable;

Desiring to stem the progressive encroachment on and loss of wetlands now and in the future;

Recognizing that waterfowl in their seasonal migrations may transcend frontiers and so should be regarded as an international resource;

Being confident that the conservation of wetlands and their flora and fauna can be ensured by combining far-sighted national policies with coordinated international action;

Have agreed as follows:

Article 1

1. For the purpose of this Convention wetlands are areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres.

2. For the purpose of this Convention waterfowl are birds ecologically dependent on wetlands.

Article 2

1. Each Contracting Party shall designate suitable wetlands within its territory for inclusion in a List of Wetlands of International Importance, hereinafter referred to as 'the List' which is maintained by the bureau established under Article 8. The boundaries of each wetland shall be precisely described and also delimited on a map and they may incorporate riparian and coastal zones adjacent to wetlands, and islands or bodies of marine water deeper than six metres at low tide lying within the wetlands, especially where these have importance as waterfowl habitat.
2. Wetlands should be selected for the List on account of their international significance in terms of ecology, botany, zoology, limnology or hydrology. In the first instance wetlands of international importance to waterfowl at any season should be included.
3. The inclusion of a wetland in the List does not prejudice the exclusive sovereign rights of the Contracting Party in whose territory the wetland is situated.
4. Each Contracting Party shall designate at least one wetland to be included in the List when signing this Convention or when depositing its instrument of ratification or accession, as provided in Article 9.
5. Any Contracting Party shall have the right to add to the List further wetlands situated within its territory, to extend the boundaries of those wetlands already included by it in the List, or, because of its urgent national interests, to delete or restrict the boundaries of wetlands already included by it in the List and shall, at the earliest possible time, inform the organization or government responsible for the continuing bureau duties specified in Article 8 of any such changes.
6. Each Contracting Party shall consider its international responsibilities for the conservation, management and wise use of migratory stocks of waterfowl, both when designating entries for the List and when exercising its right to change entries in the List relating to wetlands within its territory.

Article 3

1. The Contracting Parties shall formulate and implement their planning so as to promote the conservation of the wetlands included in the List, and as far as possible the wise use of wetlands in their territory.

2. Each Contracting Party shall arrange to be informed at the earliest possible time if the ecological character of any wetland in its territory and included in the List has changed, is changing or is likely to change as the result of technological developments, pollution or other human interference. Information on such changes shall be passed without delay to the organization or government responsible for the continuing bureau duties specified in Article 8.

Article 4

1. Each Contracting Party shall promote the conservation of wetlands and waterfowl by establishing nature reserves on wetlands, whether they are included in the List or not, and provide adequately for their wardening.

2. Where a Contracting Party in its urgent national interest, deletes or restricts the boundaries of a wetland included in the List, it should as far as possible compensate for any loss of wetland resources, and in particular it should create additional nature reserves for waterfowl and for the protection, either in the same area or elsewhere, of an adequate portion of the original habitat.

3. The Contracting Parties shall encourage research and the exchange of data and publications regarding wetlands and their flora and fauna.

4. The Contracting Parties shall endeavour through management to increase waterfowl populations on appropriate wetlands.

5. The Contracting Parties shall promote the training of personnel competent in the fields of wetland research, management and wardening.

Article 5

The Contracting Parties shall consult with each other about implementing obligations arising from the Convention especially in the case of a wetland extending over the territories of more than one Contracting Party or where a water system is shared by Contracting Parties. They shall at the same time endeavour to coordinate and support present and future policies and regulations concerning the conservation of wetlands and their flora and fauna.

Article 6

1. There shall be established a Conference of the Contracting Parties to review and promote the implementation of this Convention. The Bureau referred to in Article 8, paragraph 1, shall

convene ordinary meetings of the Conference of the Contracting Parties at intervals of not more than three years, unless the Conference decides otherwise, and extraordinary meetings at the written requests of at least one third of the Contracting Parties. Each ordinary meeting of the Conference of the Contracting Parties shall determine the time and venue of the next ordinary meeting.

2. The Conference of the Contracting Parties shall be competent:

- (a) to discuss the implementation of this Convention;
- (b) to discuss additions to and changes in the List;
- (c) to consider information regarding changes in the ecological character of wetlands included in the List provided in accordance with paragraph 2 of Article 3;
- (d) to make general or specific recommendations to the Contracting Parties regarding the conservation, management and wise use of wetlands and their flora and fauna;
- (e) to request relevant international bodies to prepare reports and statistics on matters which are essentially international in character affecting wetlands;
- (f) to adopt other recommendations, or resolutions, to promote the functioning of this Convention.

3. The Contracting Parties shall ensure that those responsible at all levels for wetlands management shall be informed of, and take into consideration, recommendations of such Conferences concerning the conservation, management and wise use of wetlands and their flora and fauna.

4. The Conference of the Contracting Parties shall adopt rules of procedure for each of its meetings.

5. The Conference of the Contracting Parties shall establish and keep under review the financial regulations of this Convention. At each of its ordinary meetings, it shall adopt the budget for the next financial period by a two-thirds majority of Contracting Parties present and voting.

6. Each Contracting Party shall contribute to the budget according to a scale of contributions adopted by unanimity of the Contracting Parties present and voting at a meeting of the ordinary Conference of the Contracting Parties.

Article 7

1. The representatives of the Contracting Parties at such Conferences should include persons who are experts on wetlands or waterfowl by reason of knowledge and experience gained in scientific, administrative or other appropriate capacities.
2. Each of the Contracting Parties represented at a Conference shall have one vote, recommendations, resolutions and decisions being adopted by a simple majority of the Contracting Parties present and voting, unless otherwise provided for in this Convention.

Article 8

1. The International Union for the Conservation of Nature and Natural Resources shall perform the continuing bureau duties under this Convention until such time as another organization or government is appointed by a majority of two-thirds of all Contracting Parties.
2. The continuing bureau duties shall be, *inter alia*:
 - (a) To assist in the convening and organizing of Conferences specified in Article 6;
 - (b) to maintain the List of Wetlands of International Importance and to be informed by the Contracting Parties of any additions, extensions, deletions or restrictions concerning wetlands included in the List provided in accordance with paragraph 5 of Article 2;
 - (c) to be informed by the Contracting Parties of any changes in the ecological character of wetlands included in the List provided in accordance with paragraph 2 of Article 3;
 - (d) to forward notification of any alterations to the List, or changes in character of wetlands included therein, to all Contracting Parties and to arrange for these matters to be discussed at the next Conference;
 - (e) To make known to the Contracting Party concerned, the recommendations of the Conferences in respect of such alterations to the List or of changes in the character of wetlands included therein.

Article 9

1. This Convention shall remain open for signature indefinitely.
2. Any member of the United Nations or of one of the Specialized Agencies or of the International Atomic Energy Agency or Party to the Statute of the International Court of Justice may become a Party to this Convention by:

- (a) Signature without reservation as to ratification;
- (b) Signature subject to ratification followed by ratification;
- (c) Accession.

3. Ratification or accession shall be effected by the deposit of an instrument of ratification or accession with the Director-General of the United Nations Educational, Scientific and Cultural Organization (hereinafter referred to as ‘the Depositary’).

Article 10

- 1. This Convention shall enter into force four months after seven States have become Parties to this Convention in accordance with paragraph 2 of Article 9.
- 2. Thereafter this Convention shall enter into force for each Contracting Party four months after the day of its signature without reservation as to ratification, or its deposit of an instrument of ratification or accession.

Article 10 *bis*

- 1. This Convention may be amended at a meeting of the Contracting Parties convened for that purpose in accordance with this Article.
- 2. Proposals for Amendment may be made by any Contracting Party.
- 3. The text of any proposed amendment and the reasons for it shall be communicated to the organization or government performing the continuing bureau duties under the Convention (hereinafter referred to as ‘the Bureau’) and shall promptly be communicated by the Bureau to all Contracting Parties. Any comments on the text by the Contracting Parties shall be communicated to the Bureau within three months of the date on which the amendments were communicated to the Contracting Parties by the Bureau. The Bureau shall, immediately after the last day for submission of comments, communicate to the Contracting Parties all comments submitted by that day.
- 4. A meeting of Contracting Parties to consider an amendment communicated in accordance with paragraph 3 shall be convened by the Bureau upon the written request of one third of the Contracting Parties. The Bureau shall consult the Parties concerning the time and venue of the meeting.

5. Amendments shall be adopted by a two-thirds majority of the Contracting Parties present and voting.

6. An amendment adopted shall enter into force for the Contracting Parties which have accepted it on the first day of the fourth month following the date on which two thirds of the Contracting Parties have deposited an instrument of acceptance with the Depositary. For each Contracting Party which deposits an instrument of acceptance after the date on which two thirds of the Contracting Parties have deposited an instrument of acceptance, the amendment shall enter into force on the first day of the fourth month, following the date of the deposit of its instrument of acceptance.

Article 11

1. This Convention shall continue in force for an indefinite period.

2. Any Contracting Party may denounce this Convention after a period of five years from the date on which it entered into force for that Party by giving written notice thereof to the Depositary. Denunciation shall take effect four months after the day on which notice thereof is received by the Depositary.

Article 12

1. The Depositary shall inform all States that have signed and acceded to this Convention as soon as possible of:

- (a) Signatures to the Convention;
- (b) Deposits of instruments of ratification of this Convention;
- (c) Deposits of instruments of accession to this Convention;
- (d) The date of entry into force of this Convention;
- (e) Notification of denunciation of this Convention.

2. When this Convention has entered into force, the Depositary shall have it registered with the Secretariat of the United Nations in accordance with Article 102 of the Charter.

IN WITNESS WHEREOF, the undersigned, being duly authorized to that effect, have signed this Convention.

DONE at Ramsar this 2nd day of February 1971, in a single original in the English, French, German and Russian languages, all texts being equally authentic which shall be deposited with the Depositary which shall send true copies thereof to all Contracting Parties.

* Pursuant to the Final Act of the Conference to conclude the Protocol, the Depositary provided the second Conference of the Contracting Parties with official versions of the Convention in the Arabic, Chinese and Spanish languages, prepared in consultation with interested Governments and with the assistance of the Bureau.

Appendix 5.1; Environmental Crimes and Punishments

Number	Criminal Title	Type and Amount of Punishment
1	Producing Environmental Contamination	Imprisonment for up to 1 year
2	Hunting and trapping of wild animals without hunting license	A fine from hundred thousand to one million Rials or a period of imprisonment from one to six months
3	Hunting and/or fishing in prohibited seasons or in prohibited areas	A fine ranging from one and a half million to three million Rials or imprisonment period of 91 days to 6 months
4	Hunting and trapping of protected animals without license or in protected districts	Imprisonment from 3 months to one year or a fine of one and a half million to eighteen million Rials
5	Hunting of rare animals which are at risk of extinction or hunting in national parks	Imprisonment period from 91 days to 3 years or a fine from one million and eight hundred thousand to two million Rials
6	Contaminating vehicles without a technical examination certificate	Penalty of five hundred thousand Rials and traffic ban for the vehicle

7	Killing wild beasts	A fine from thirty thousand Rials up to 100 million Rials depending on the type of the beast
8	emission of excessive pollution (beyond permissible legal limit) to the air by factories	A fine of five hundred thousand to two million Rials
9	Preventing inspection by Agency's officers from assessing the air pollution	A fine from five hundred thousand to five million Rials
10	Burning garbage by the owners of public places	A fine from five hundred thousand to five million Rials
11	Domestic sources of air pollution	A fine from one hundred thousand to one million Rials
12	Noise pollution	A fine from fifty thousand to hundred thousand Rials
13	Storage and disposal of waste materials in the environment	A fine from five hundred thousand to hundred million Rials
14	Illegal occupation of national lands	Imprisonment period from 1 month to 1 year
15	Destroying a tree	A fine from two million to five million Rials depend on the type and age of each tree
16	Intentionally fire the jungle	Imprisonment period of 3 to 10 years
17	Intruding into the forests districts	Imprisonment period between 1 to 3 years
18	Causing oil pollution in the Iranians' inland water	Imprisonment period of six months to two years or a fine between one million and ten million Rials
19	Unauthorized fishing (any type of	The confiscation of the properties(fishing

	fish)	tools) and a fine twice the value of the ceased properties
20	Usurpation of coastal lands	Imprisonment period for up to 3 years

Appendix 5.2:

The EPA's legal jurisdiction list

Number	Title of the Jurisdiction	Relevant Regulation/s
1	Protection and improvement of the environment and preventing the destruction	Article 1 of Law on the protection and improvement of environment and Amendments (ratified respectively on 18/Jun/1974 ¹⁴⁶³ and 25/Nov/1992 ¹⁴⁶⁴)
2	Dealing with all issues related to wild animals and aquatic species in inland waters	Same regulation(above)
3	Implementation of all decisions made by the Supreme Council of Environmental Protection regarding hunting and fishing	Paragraph(A), Article 6, Hunting and Fishing Law ¹⁴⁶⁵
4	Formulation and implementation of hunting and fishing regulations	Paragraph(b), Article 6, Hunting and Fishing Law

¹⁴⁶³ Atefeh Zahedi, *Collection of Environmental Rules and Regulations* (Javedaneh Publication 2012)P13-23; see also *Islamic Parliament Research Centre of the Islamic Republic of Iran, Law on the Protection and Improvement of the Environment*<<http://rc.majlis.ir/fa/law/show/97090>> Accessed 15 Apr 2017

¹⁴⁶⁴ Islamic Parliament Research Centre of the Islamic Republic of Iran, *Law of amendments to the Protection and Improvement of the Environment Act*<<http://rc.majlis.ir/fa/law/show/92109>> Accessed 22 Apr 2017

¹⁴⁶⁵ Ghassemi Naser, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) P18-26; see also *Islamic Parliament Research Centre of the Islamic Republic of Iran, Hunting and fishing law*<<http://rc.majlis.ir/fa/law/show/96050>> Accessed 11 Apr 2017

5	Maintenance and conservation of animal habitats and protection of animals	Paragraph(C and D), Article 6, Hunting and Fishing Law
6	Scientific and economic researches in the field of protection and improvement of environmental	Paragraph(A), Article 6 of Law on the Protection and Improvement of the Environment ¹⁴⁶⁶
7	Suggesting different criteria to prevent contamination of the environment	Paragraph(B), Article 6 of Law on the Protection and Improvement of the Environment
8	To take any appropriate action to improve the environment and related laws with respect to the individual's rights	Paragraph(C), Article 6 of Law on the Protection and Improvement of the Environment
9	Regulating and implementing public education programmes	Paragraph(D), Article 6, Law on the Protection and Improvement of the Environment
10	Protection and improvement of wetlands (as properties owned by the government), prevention and prohibition of any form of pollution and destructive actions that may cause imbalance in the wetlands.	Article 16 and 1, Law on the Protection and Improvement of the Environment
11	Announcing any sort of limitation on the locations and times of hunting and fishing	Paragraph(F), Article 6, Law on the Protection and Improvement of the Environment
12	Cooperation with similar foreign and international	Paragraph(G), Article 6, Law on the Protection and

¹⁴⁶⁶ Atefeh Zahedi, Collection of Environmental Rules and Regulations (Javedaneh Publication 2012) P13-23

	organizations to protect the environment	Improvement of the Environment
13	Supervision and responsibility for implementation of waste management law	Article 23 of waste management law (ratified on 09/May 2004) ¹⁴⁶⁷
14	Creating wildlife parks	Paragraph(E), Article 6, Law on the Protection and Improvement of the Environment
15	Representative of government in four ¹⁴⁶⁸ environmentally protected districts	Canon number: 19560T H31121 ¹⁴⁶⁹ (ratified on 22 Jun 2005)
16	National reference for establishment of Coordination Council of Convention on Climate Change	Bylaw of Convention on Climate Change and Kyoto Protocol ¹⁴⁷⁰ (ratified on 22 Feb 2009)

¹⁴⁶⁷ Ghassemi Naser, *Collection of Environmental Rules and Regulations* (Behnami Publication 2007) P36-42; see also Islamic Parliament Research Centre of the Islamic Republic of Iran, *Waste Management law* <<http://rc.majlis.ir/fa/law/show/94060>> Accessed 09 May 2017

¹⁴⁶⁸ Four districts are 1-National parks, 2- National natural monuments, 3-wildlife refuges and 4-Protected areas, Legal adviser of national and uncultivated lands, *Determination of the Environmental Protection Agency as a representative of the government in the in four environmentally protected districts mentioned in paragraph A of Article 3 of Law on the Protection and Improvement of the Environment* <<http://majidiblog.blogfa.com/post-110.aspx>> Accessed 10 may 2017

¹⁴⁶⁹ Islamic Parliament Research Centre of the Islamic Republic of Iran, *Amendments on bylaw- number: 19560T H31121* <<http://rc.majlis.ir/fa/law/show/936998>> Accessed 10 May 2017

¹⁴⁷⁰ Islamic Parliament Research Centre of the Islamic Republic of Iran , *Bylaw of Convention on Climate Change and Kyoto Protocol* <<http://rc.majlis.ir/fa/law/show/136323>> Accessed 09 May 2017

Appendix 6.1

Guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands adopted by Resolution VII.7 (1999) of the Ramsar Convention Contents

§ 1.0 The purpose of a legal and institutional review

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A comprehensive explanation on the guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands

1. Necessary steps before carrying out the review

Before carrying out the review, some preparations would contribute to providing effective review of the national law of the country.

A. Establishing the Political Support for the review

The first important issue is that the contracting parties need to make sure that a high-level political support will be given to preparing, implementing and acting upon the review. The contracting parties need to make sure that their 'National Wetland Committees, inter-ministerial commissions or other coordinating bodies for wetland issues are particularly well placed to take responsibility for and supervise the review, as well as for considering subsequent recommendations by the review team'¹⁴⁷¹ (the review team will be defined and explained later.

B. Establishing the political responsibility

Once the political support for the review is prepared, the political responsibility of the review needs to be clearly set up. Setting the political responsibility for the review of national laws depends on which tier of government has jurisdiction over wetlands and wetland resources in the country and this could vary across countries due to whether the country has a federal or unitary government.¹⁴⁷² In Iran, with the unitary government system¹⁴⁷³, the central government assigned the EPA to have extensive powers over wetland management and decision making.¹⁴⁷⁴

C. Setting the review team

Having established the political support and institutional responsibility for the review, the contracting parties need to set a review team.¹⁴⁷⁵ The review team is needed for operationally carrying out the review and report the review to the institution already designated. An effective review team would be characterised by commitment, objectivity and broad representation and expertise.¹⁴⁷⁶

¹⁴⁷¹ Ramsar Convention, *Guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands* (adopted by Resolution VII.7 (1999) of the Ramsar Convention)
<<http://archive.ramsar.org/pdf/laws-guide.pdf>> Accessed 8 Nov 2017

¹⁴⁷² Ramsar Convention, *Guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands* (adopted by Resolution VII.7 (1999) of the Ramsar Convention)
<<http://archive.ramsar.org/pdf/laws-guide.pdf>> Accessed 8 Nov 2017

¹⁴⁷³ In a country with the Unitary government, every decision is made at central place while in a federal government, the local territories constituents States or provinces have some powers regarding governing and decision making in their respective regions.

¹⁴⁷⁴ Atefeh Zahedi, *Collection of Environmental Rules and Regulations*(Javedaneh Publication 2012) P13-23; Please also see; Islamic Parliament Research Centre of the Islamic Republic of Iran, *Article 11, Law on the Protection and Improvement of the Environment*<<http://rc.majlis.ir/fa/law/show/97090>> Accessed 15 Apr 2017
¹⁴⁷⁵ Shine C and de Klemm C, *Wetlands, Water and the Law: Using Law to Advance Wetland Conservation and Wise Use* (IUCN Publications 1999) P59-66

¹⁴⁷⁶ Ramsar Convention, *Guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands* (adopted by Resolution VII.7 (1999) of the Ramsar Convention)
<<http://archive.ramsar.org/pdf/laws-guide.pdf>> Accessed 8 Nov 2017

According to the guidelines of COP, the review team should include at least one person with legal expertise, planners and economists, technical representation from hydrologists, biologists, ecologists and other relevant disciplines and representatives of the private sector and the general public, specifically including indigenous and local communities.¹⁴⁷⁷ The members of review team should have detailed knowledge of how the country's laws and institutions including those which are customary operate both in theory and in practice.¹⁴⁷⁸

D. Defining the methodology for carrying out the review

Having set a body for taking control of the review and a team for carrying out the review, it is time to define the methodology through which the review is going to be carried out. When doing the review, 'how each stage of the review will be undertaken and within what time frame' plus 'assigning specific responsibilities to team members and determining the scope of the review' need to be accurately specified.¹⁴⁷⁹ The review team is responsible for the methodology of the review. Along the guidelines of the COP, during this preparatory phase, it is important that 'members of the review team reach a common understanding for the purposes of the review of what is meant by wetland in the country concerned'.¹⁴⁸⁰

In the guidelines adopted by COP, an example of a possible methodology for carrying out the review is presented. The pattern which can be used as a model for contracting parties including Iran is shown in Figure 3.¹⁴⁸¹ Different parts in Figure 3 will be elaborated and discussed hereafter.

Figure 3: Carrying out a legal and institutional review

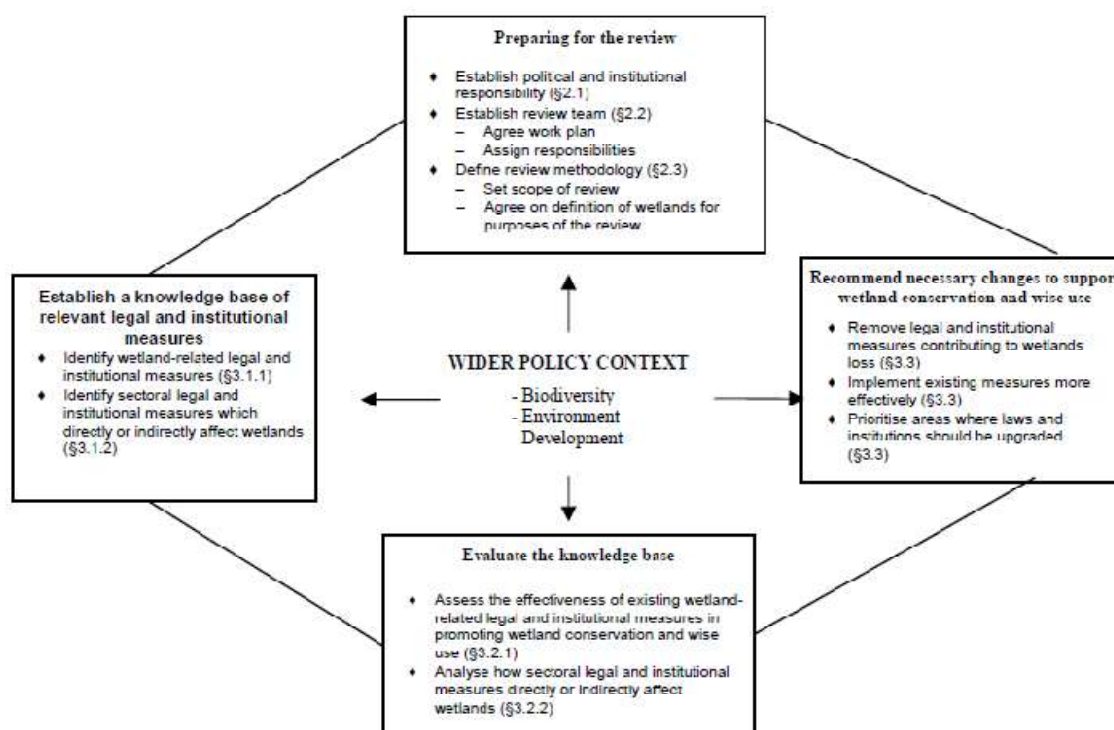
¹⁴⁷⁷ Ramsar Convention, *Guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands* (adopted by Resolution VII.7 (1999) of the Ramsar Convention)
<<http://archive.ramsar.org/pdf/laws-guide.pdf>> Accessed 8 Nov 2017

¹⁴⁷⁸ *ibid*

¹⁴⁷⁹ Ramsar Convention, *Guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands* (adopted by Resolution VII.7 (1999) of the Ramsar Convention)
<<http://archive.ramsar.org/pdf/laws-guide.pdf>> Accessed 8 Nov 2017

¹⁴⁸⁰ *ibid*

¹⁴⁸¹ Ramsar Convention, *Guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands* (adopted by Resolution VII.7 (1999) of the Ramsar Convention)
<<http://archive.ramsar.org/pdf/laws-guide.pdf>> Accessed 8 Nov 2017



According to the guidelines and with refer to the example illustrated in Figure 2, contracting parties may choose to begin the review at different stages within this cycle, depending upon their national situation. So, it is the job of each party to evaluate the situations and decide where to start. For example, some countries could already have an established scientific, legal and institutional knowledge base from developing National Wetland Policies¹⁴⁸² or implementing cross-sectoral planning obligations pursuant to the Convention on Biological Diversity (1992)¹⁴⁸³ or the Convention to Combat Desertification (1994)¹⁴⁸⁴. Other countries

¹⁴⁸² Some examples are: A) South Africa please see: Dini J and Everard M, *National Wetland Policy: South Africa*, Springer Science+ Business Media Dordrecht 2016 C.M. Finlayson et al. (eds.), *The Wetland Book*, DOI 10.1007/978-94-007-6172-8_157-1

B) Sri Lanka please see: Ramsar, *Sri Lanka launches National Wetland Policy* <<https://www.ramsar.org/news/sri-lanka-launches-national-wetland-policy>> Accessed 15 Nov 2017

C) Nepal please see: National Wetlands Policy (2003-2059) <http://www.rainwaterharvesting.org/happenings/National_Wetland_Policy_of_Nepal-1.pdf> Accessed 20 Nov 2017

D) China please see: Zongming Wang, Jianguo Wu, Marguerite Madden and Dehua Mao, 'China's Wetlands: Conservation Plans and Policy Impacts' [Nov 2012] *Ambio* 782, 785

E) India please see: Ministry of Environment, Forest and Climate Change, *National Wetland Conservation Programme (NWCP)* <<http://envfor.nic.in/division/national-wetland-conservation-programme-nwcp>> Accessed 09 Nov 2017

¹⁴⁸³ Convention on Biological Diversity <<https://www.cbd.int/information/parties.shtml>> Accessed 30 Nov 2017

¹⁴⁸⁴ United Nations, Convention to Combat Desertification <<http://knowledge.unccd.int/home/unccd-terminology/overview-countries-unccd-annex>> Accessed 15 Nov 2017

may recently have carried out a review for the purpose of codifying legislation or drafting modern environmental statutes.¹⁴⁸⁵

2. Steps when carrying out the review

According to the Ramsar guidelines, the first step in the guidelines of COP when carrying out the review is to establish a knowledge base of relevant legal and institutional measures.¹⁴⁸⁶ It is the responsibility of the review team to provide a comprehensive collection or knowledge base of the country's law and institutional measures which are relevant to wetlands. For providing the knowledge base, different sources of law can contribute. In general, these possible sources govern the procedures, decisions and actions of public bodies and the rights and duties of the private sector, communities and individuals (see the following Figure suggested in the guidelines of COP which includes examples of possible sources).¹⁴⁸⁷

Figure 4: examples of possible sources of law as suggested in the guidelines of COP

Possible sources of law (§ 3.1)	
◆ Obligations under international law	◆ Relevant constitutional provisions
◆ Primary legislation (statutes)	◆ Secondary (implementing) legislation
◆ Common law (including case law)	◆ Formal government policies
◆ Municipal regulations	◆ Ministerial technical/planning guidelines
◆ Rules on land tenure and resource use	◆ Contracts and concessions
◆ Customary laws and practices	◆ Relevant religious norms

In these possible sources, both very formal and customary laws of the country have been taken into consideration.

‘At the more formal end of the spectrum, statutes and implementing regulations provide the legal basis for regulatory powers, planning rules, public expenditures, taxation and economic measures for projects or activities which may positively or negatively affect wetlands. At the

¹⁴⁸⁵ Please see for example; A) Finland: Ministry of the Environment, *Finland's Ramsar Wetlands Action Plan 2016–2020*, (Marianne Laune Publication, Helsinki 2016), ISBN 978-952-11-4623-7 (PDF)

B) Malta please see: Ministry for Justice, Culture and Local Government, Environment Protection Act(31 January 2016) <<http://justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=12446&l=1>>

Accessed 12 Nov 2017 C) Sweden please see: Swedish Environmental Protection Agency, *The Swedish Environmental Code (1 Jan 1999)* <<http://www.swedishepa.se/Guidance/Laws-and-regulations/The-Swedish-Environmental-Code/>> Accessed 19 Nov 2017

¹⁴⁸⁶ Ramsar Convention Secretariat, *wetlands Laws and institutions: Reviewing laws and institutions to promote the conservation and wise use of wetlands*, (Handbook3, 4th edition, vol. 3, Switzerland 2010)

¹⁴⁸⁷ *ibid*

other end of the spectrum, customary laws may be the main source of law governing the rights and duties of indigenous and local communities with regard to wetland resources.¹⁴⁸⁸

After establishing the knowledge base, according to the guidelines of the COP, ‘it would be useful to divide relevant sources of law into two categories: (1) Wetland-related legal and institutional measures and (2) Sectoral legal and institutional measures which directly or indirectly affect wetlands’¹⁴⁸⁹ A. Recognising the wetland related legal and institutional measures

Identifying the wetland related legal and institutional measures at the first step will make the job of review easier. According to the guidelines of COP, ‘Wetland-related legal and institutional measures are those types of law which directly promote conservation and wise use of wetlands, including those directly supporting the implementation of the Ramsar Convention.’¹⁴⁹⁰ Having gathered the wetland related laws, the contracting parties are recommended in the guidelines of COP to divide the laws into 4 subcategories of (1) non-Site specific measures; (2) site-specific measures; (3) jurisdictional and institutional coordination; and (4) mechanisms for transboundary and international cooperation.¹⁴⁹¹ (See the following figure proposed in the guidelines of the COP). The purpose is to facilitate the evaluation procedures which will be discussed in the following section.

Figure 5: wetland- related legal and institutional measures¹⁴⁹²

¹⁴⁸⁸ *ibid*

¹⁴⁸⁹ Ramsar Convention, *Guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands* (adopted by Resolution VII.7 (1999) of the Ramsar Convention)
<<http://archive.ramsar.org/pdf/laws-guide.pdf>> Accessed 8 Nov 2017

¹⁴⁹⁰ *Ibid*, .4

¹⁴⁹¹ the four categories are set out in the additional guidance on wise use

¹⁴⁹² Ramsar Convention Secretariat, *Handbook 3: Laws and institutions: Reviewing laws and institutions to promote the conservation and wise use of wetlands* (4th, Ramsar Publications, Gland, Switzerland 2010) 13-17

Identify wetland-related legal and institutional measures (§3.1.1)

- ◆ Non-site specific or generally applicable measures (e.g., integrated planning, environmental permit systems, impact assessment and audit procedures, habitat and species conservation, incentives)
- ◆ Site-specific measures (e.g., protected areas, site planning, participatory management)
- ◆ Institutional coordination between different levels of government and between sectors
- ◆ Transboundary and international cooperation mechanisms

When carrying out the review, the review team should identify ‘which institutions and agencies have functional responsibility for wetland conservation and wise use, including transboundary wetland-related issues.’¹⁴⁹³

B. Recognising the sectoral legal and institutional measures which directly or indirectly affect wetlands

Having identified the wetland- related laws in the first step, according to the COP guidelines the second step for making the review easier would be to identify the sectoral legal and institutional measures which directly or indirectly affect wetlands. The reason to find sectoral legal and institutional measures which directly or indirectly affect wetlands is that the review team look for the activities which could lead to the loss of wetlands so later when evaluating the review and recommending the necessary changes, such activities be harmonized with the concept of wise use. To approach this end, the review team could use the already provided scientific and policy reports, studies and inventories to determine the main threats to wetlands in the country concerned.¹⁴⁹⁴

The relevant sectors based on the guidelines of COP might encompass agriculture, forestry, fisheries, public health, territorial development, energy, industry, investment, mining, navigation, tourism, trade and transport as shown in the Figure 6. Having prepared such information, the review team will be provided with the appropriate technical foundation for an effective evaluation of legal and institutional basis.

¹⁴⁹³ Ramsar Convention, *Guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands* (adopted by Resolution VII.7 (1999) of the Ramsar Convention) P5 <<http://archive.ramsar.org/pdf/laws-guide.pdf>> Accessed 8 Nov 2017

¹⁴⁹⁴ Ibid

Figure 6: Sectoral legal and institutional measures which directly or indirectly affect wetlands¹⁴⁹⁵



In sum, what was described in this section is that the review team needs to prepare the information on the relevant legal and institutional measures for carrying out the review. To make the job of review effective and efficient, the review team is guided to look into the prepared information and identify the wetland related legal and institutional measures on the one hand and the sectoral legal and institutional measures which directly or indirectly affect wetlands on the other hand. After establishing the required knowledge base, it is time to evaluate the knowledge base.

C. Evaluate the knowledge base

The aim of evaluating the currently existing laws is to find the legal constraints on the preservation of wetlands at national level. In fact, before the COP recommends the guidelines on legal and institutional changes necessary to support wetland conservation and wise use, the national laws need to be reviewed precisely.¹⁴⁹⁶ Based on the guidelines of COP, once the knowledge base is prepared, it is time to evaluate the knowledge base. In the guidelines of the COP, it is recommended that two steps should be taken in to consideration when evaluating the components already discussed in the previous part (the wetland related legal and institutional measures and the sectoral legal and institutional measures which directly or

¹⁴⁹⁵ Ramsar Convention Secretariat, Handbook 3: *Laws and institutions: Reviewing laws and institutions to promote the conservation and wise use of wetlands* (4th, Ramsar Publications, Gland, Switzerland 2010) 14-15

¹⁴⁹⁶ Ramsar Resolution VII.10, *Wetland Risk Assessment Framework* (Costa Rica, May 1999) <<http://archive.ramsar.org/pdf/guide/guide-risk-e.pdf>> Accessed 30 Nov 2017

indirectly affect wetlands).¹⁴⁹⁷ The 2 steps are as follows: the review team should *firstly* assess the effectiveness of existing wetland-related legal and institutional measures in promoting wetland conservation and wise use; and *secondly* it should analyse how sectoral legal and institutional measures directly or indirectly affect wetlands.¹⁴⁹⁸

It is important to note that the review team recruited by contracting parties including Iran should take this point into consideration that the national laws and institutions ‘have traditionally evolved in piecemeal fashion, with little cross-sectoral coordination and few references to wetlands.’¹⁴⁹⁹ Therefore, there are some issues which must be paid enough attention to when evaluating the review:

‘The conflicts between wetland-related and sectoral legal and institutional measures which make it difficult to achieve wise use throughout a country, to implement cost-effective wetland policies, to regulate or manage potentially damaging activities, or to build long- term partnerships with wetland owners, users, local communities and the private sector.’¹⁵⁰⁰

Besides, there are other issues which constrain efforts in achieving wetland conservation and wise use and so the recruited review team should take them into consideration as well:

- ‘a) conflicting sectoral policies, laws, taxes and institutional priorities;
- b) Weak or incomplete laws applicable to wetlands (e.g., exclusion of coastal wetlands, no legal safeguards for water supply of appropriate quality and quantity);
- c) Land tenure and resource use regimes which undermine wise use;
- d) Poor design or operation of wetland administrative authorities;
- e) Jurisdictional constraints on ecosystem management of river basins and coastal areas;
- f) Absence of effective monitoring procedures, enforcement and remedies; and
- g) Lack of provisions for compensation for lost wetland habitats or functions’

¹⁴⁹⁷ Ramsar Convention Secretariat, Handbook 3: *Laws and institutions: Reviewing laws and institutions to promote the conservation and wise use of wetlands* (4th, Ramsar Publications, Gland, Switzerland 2010) 15-17

¹⁴⁹⁸ Ramsar Convention, *Guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands*, Resolution VII.7 (1999) of the Ramsar Convention <<http://archive.ramsar.org/pdf/guide-laws-e.pdf>> Accessed 07 Nov 2017

¹⁴⁹⁹ *ibid*

¹⁵⁰⁰ *ibid*

When taking these issues into consideration for the evaluation, it would be a good idea that the review team identify and describe the gaps, overlaps and inconsistencies in their review.¹⁵⁰¹

D. Assess the effectiveness of existing wetland-related legal and institutional measures in promoting wetland conservation and wise use¹⁵⁰²

The effectiveness of the currently existing wetland related laws at the national level needs to be assessed at the first stage of the evaluation process. The purpose is to promote the already existing laws for wetland conservation and wise use.¹⁵⁰³ In the guidelines of COP, the review team is recommended to use the Wise Use Guidelines as a starting point when evaluating the country's existing legal and institutional measures. The review team based on the current conditions of the wetlands within their territory can amend the considerations in the guidelines. In the guidelines of COP, the considerations which need to be taken into account when carrying out the review are presented under the 4 separate subcategories of non-site specific measures, site-specific considerations, considerations related to jurisdictional and institutional coordination and finally the trans-boundary and international cooperation considerations. Some important considerations under each section are picked to be discussed here.¹⁵⁰⁴

E. Analyse how sectoral legal and institutional measures directly or indirectly affect wetlands¹⁵⁰⁵

Section 2.2.2.1.2 described sectoral legal and institutional measures that support activities contributing degradation of the wetlands and consequently undermine effective implementation of the Ramsar obligations. Once the threatening activities to wetlands are identified, the review team should investigate how these activities encourage the loss of wetlands. In order to accurately analyse the effectiveness of the threatening activities, COP set a list of questions.

¹⁵⁰¹ *ibid*

¹⁵⁰² Ramsar Convention, *Guidelines for reviewing laws and institutions to promote the conservation and wise use of wetlands*, Resolution VII.7 (1999) of the Ramsar Convention <<http://archive.ramsar.org/pdf/guide-laws-e.pdf>> Accessed 07 Nov 2017

¹⁵⁰³ Ramsar Convention Secretariat, *Handbook 3: Laws and institutions: Reviewing laws and institutions to promote the conservation and wise use of wetlands* (4th, Ramsar Publications, Gland, Switzerland 2010) 17

¹⁵⁰⁴ *ibid*

¹⁵⁰⁵ Ramsar Convention Secretariat, *Handbook 3: Laws and institutions: Reviewing laws and institutions to promote the conservation and wise use of wetlands* (4th, Ramsar Publications, Gland, Switzerland 2010) 20-21

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