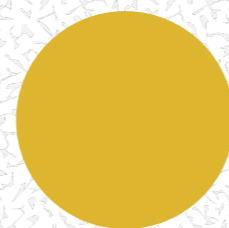




PARADISE LOST?

Developing solutions to Iran's environmental crisis



PARADISE LOST?

Developing solutions to Iran's environmental crisis

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About Heinrich Böll Foundation

The Heinrich Böll Foundation, affiliated with the Green Party and headquartered in the heart of Berlin, is a legally independent political foundation working in the spirit of intellectual openness. The Foundation's primary objective is to support political education both within Germany and abroad, thus promoting democratic involvement, sociopolitical activism, and cross-cultural understanding. The Foundation also provides support for art and culture, science and research, and development cooperation. Its activities are guided by the fundamental political values of ecology, democracy, solidarity, and non-violence.

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About Small Media

Small Media is an organisation working to support civil society development and human rights advocacy in the Middle East. We do this by providing research, design, training, and technology support to partners across the region, and by working with organisations to develop effective and innovative digital advocacy strategies and campaigns. We also work to ensure that advocates can work safely and securely, and provide digital security support to a range of partners to help

SMALL MEDIA 

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EXECUTIVE SUMMARY °

The greatest threat facing the Islamic Republic of Iran today is not political, nor economic, but environmental. Iran, like a number of its neighbours throughout the wider Middle East, faces an unprecedented crisis of water resources that threatens to render vast swathes of the country near-uninhabitable within the coming decades. Groundwater reserves are being exhausted, rainfall is declining, and the country's greatest lakes and rivers are evaporating into nothing, to be replaced by vast, dead salt pans.

In the face of this crisis, however, Iranian citizens are organising to rescue the country from such a dark fate. This report - developed in a collaboration between the Heinrich Böll Foundation and Small Media - takes stock of the urgent environmental crisis looming over Iran, and assesses the capabilities of civil society and the Iranian authorities to develop and implement effective solutions.

This research is based upon a rich array of sources, ranging from large-scale surveys, through to interviews with Iranian policymakers, activists, and academics, and a comprehensive review of current debates within Iranian academia and government. Also within this report, we examine some of the most

effective ways that Iranian environmental activists have been using technology and digital platforms to raise awareness and develop public understanding of the crisis.

Our report reveals an urgent need for Iran's environmentalists to engage with the global environmental community, and for the government to engage in knowledge sharing with experts and activists across the Global South, as well as Europe and North America. The lifting of international sanctions against Iran offers a golden opportunity for Iran to confidently engage with the international community, and take a leading role in confronting the great environmental challenges of our age. Likewise, the international community should support Iran as it looks to confront its environmental crisis, by providing support to capacity-building efforts for Iranian journalists, activists, and NGOs, many of whom find themselves under-resourced, under-trained, and unable to exert influence over the direction of Iranian environmental policy.

In its environmental crisis, Iran faces an existential threat. It must act decisively to empower community organisations and environmental groups, to reform its confused and paralysis-stricken environmental agencies, and to engage proactively with the global community to develop much-needed solutions. At the same time, Iranian environmental activists should be empowered with the digital campaigning and advocacy tools they need to push environmental issues to the very top of the political agenda.

Iran is blessed with a highly-educated, youthful, and politically engaged population, and could be a world leader in the battle against climate change and environmental decay. It is our hope that this report will prove instructive for Iranian environmentalists, policymakers, and the international development community as they plot the course ahead.



INTRODUCTION °

The Iranian Plateau is facing an unprecedented environmental crisis which threatens to reshape the economic, social, and political landscape of the Islamic Republic of Iran. Across the country, lakes and rivers have been withering and dying as the result of climate change and short-termist water management policies implemented over many decades. Resultant soil erosion is accelerating the destruction of forest ranges across the country, and contributing to a sharp increase in dust storms and air pollution (Iran's cities already possessing some of the world's dirtiest air owing to choking traffic and low quality fuel).

Ecosystems are collapsing, and some of Iran's most iconic wildlife is on the brink of extinction. The agricultural sector faces an emerging crisis, food prices are on the rise, and immense new strains will be placed upon the Iranian economy in the years to come.

The situation facing Iran is dire, and the challenges are great. But there is hope— Iran's environmental activists are organising in ever-greater numbers to campaign

for policy changes, to educate the public about the dangers of environmental degradation, and to develop initiatives that can protect local communities from the worst effects of the crisis.

This report will provide an overview of the current situation facing environmental activists in Iran, with a primary focus on the water crisis. It will map out the potential areas in which activists are able to engage with the government, highlighting the institutional openings and barriers to greater collaboration between government and civil society. Through this, we will be able to identify the areas in which environmental NGOs and advocates might best be able to engage in advocacy efforts, and make recommendations to the Iranian government that would allow them to work with civil society in a more open and effective way.

We will also provide an assessment of the ways that civil society has been able to interact with Iran's traditional news media—whether through print journalism, TV, or online news agencies (inside Iran and around the world). As carriers for environmental news and information, media outlets are the best positioned to provide the Iranian public with accurate, scientifically-grounded information about the challenges the country faces. This report will offer recommendations about how civil society might be able to engage more effectively with the existing media landscape to ensure that their excellent work achieves the impact it deserves.

Finally, we will document the efforts currently being undertaken by activists to develop online campaigns and initiatives to inform and advocate around environmental issues in Iran. As well as informing the public, online spaces are facilitating the development of strong, locally-rooted campaigns around specific issues, such as the death of a local lake, or the unbearable levels of urban pollution in a particular city. We will discuss the strengths of these campaigns, and signpost potential areas for future development that may help to magnify their impact.



MAPPING THE TERRAIN °

1

Before we talk about the environmental problems facing Iran, it is worth us briefly mapping out the regulatory landscape, and introducing some of the leading actors working in the field. Iran is, after all, one of the few countries in the world to enshrine environmental protections in its constitution, and it possesses a very extensive set of laws and regulations to guarantee these obligations. However, the sheer number of organisations acting in the area, and the ongoing lack of coordination between them has meant that Iran's environmental policies are being poorly implemented, and critical problems are being ineffectively managed.

In this chapter, we will introduce Iran's environmental protection obligations as laid out in international law, and assess the extent to which the Iranian government is compliant with them. We will then provide a who's who guide to the high-profile environmental agencies set up by the Iranian government, and the key actors working to support them. Then, we will present a summary of the laws and regulatory frameworks in place to protect Iran's environment, and discuss their implications for environmental advocates working in the country.

We will also chart the history of Iran's environmental movement, and map the ecology of actors currently engaged in the sector. Finally, we will turn to the media landscape, and identify the platforms and mediums that are exerting the greatest influence over the development of public discourse around environmental issues in Iran today. This research will form the basis of a series of recommendations for capacity building and media development work to be conducted by national and international actors in the environmental field.

1.1 GLOBAL SOLUTIONS – IRAN'S INTERNATIONAL OBLIGATIONS

Iran has a set of clear obligations to defend the environment, as established under international law. This section will briefly introduce the concept of international law, and will set out some of the treaties and conventions to which Iran is party. It will then discuss Iran's compliance with these laws by examining its submissions to international monitoring mechanisms, and will assess the extent to which international environmental law has been effective at supporting Iran's shift towards sustainable, environmentally conscious forms of development.

1.1.1 THE DEVELOPMENT OF ENVIRONMENTAL LAW

In its early stages, the development of international environmental law primarily consisted in responding to urgent environmental problems such as marine pollution or wildlife and habitats conservation, of which the **1971 Ramsar Convention on Wetlands** is a notable example, signed in the Iranian city of Ramsar¹. The convention provided a definition of wetlands and internationally-accepted standards for identifying wetlands of international importance, as

¹ Ramsar Convention Secretariat, (2014), 'History of the Ramsar Convention', last accessed 24/8/2016, available at: <http://www.ramsar.org/about/history-of-the-ramsar-convention>

well as guidelines for managing and planning conservation programs and protected areas.²

The **1972 Stockholm UN Declaration on the Human Environment** was the first global meeting of developed and developing countries that was set up to address environmental issues at the global level³. As a result, the Stockholm Declaration espouses generally broad environmental policy goals and objectives rather than detailed normative positions. However, following Stockholm, global awareness of environmental issues increased dramatically⁴, and many countries established government ministries for the environment, to better coordinate environmental planning and management at a national level⁵.

Growing public awareness around the importance of environmental protections and sustainable development led to the adoption of the UN Declaration on Environment and Development in Rio de Janeiro in 1992 (commonly known as the **Rio Summit**). It not only reaffirmed the Stockholm Declaration, but also brought together developed and developing countries in order to provide a benchmark to measure future development, as well as to define the concept of 'sustainable development' and determine its applications⁶.

² Ramsar Convention Secretariat, (2013), 'The Ramsar Convention Manual: a guide to the Convention on Wetlands (Ramsar, Iran, 1971), 6th ed.', Ramsar Convention Secretariat: Gland, Switzerland. last accessed 24/8/2016, available at: <http://bit.ly/RamsarM>

³ Kiss, A., Shelton, D. (2007), Guide to International Environmental Law, Martinus Nijhoff Publishers: Boston, MA, p. 34

⁴ Handl, Günther, (2012), 'Declaration of the United Nations Conference on the Human Environment & Rio Declaration on Environment and Development', Audiovisual Library of International Law, last accessed 24/8/2016, available at: <http://legal.un.org/avl/ha/dunche/dunche.html>

⁵ Palmer, GWR, (1995), Environment: The international Challenge: Essays, Victoria University Press: Victoria, pp. 116-117

⁶ Sands, P., (2003), Principles of International Environmental Law, Cambridge University Press: Cambridge, pp. 52-54

The Rio Summit was the occasion for the adoption and opening for signature of three more ‘sister conventions’⁷ that were developed to encourage states to improve their sustainable development strategies with regard to a number of specific environmental issues:

The United Nations Framework Convention on Climate Change (UNFCCC)

UNFCCC is a multilateral environmental agreement that aims to “achieve, in accordance with the relevant provisions of the convention, stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.”⁸

The United Nations Convention on Biological Diversity (UNCBD)

The UNCBD establishes and upholds global standards for sustainable economic development. The convention has three primary goals: the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits from the use of genetic resources.

The United Nations Convention to Combat Desertification (UNCCD)

The UNCCD represents a global authority and normative reference on desertification, land degradation and drought and is the sole legally binding international agreement linking environment and development to sustainability. It particularly encourages the participation of local people in combating desertification and land degradation.⁹

⁷ UNFCCC (2014), ‘First steps to a safer future: Introducing The United Nations Framework Convention on Climate Change’, last accessed 26/8/2016, available at: http://unfccc.int/essential_background/convention/items/6036.php

⁸ UNFCCC, (2012), ‘United Nations Framework Convention on Climate Change’, last accessed 26/8/2016, available at: <http://bit.ly/UNFCCC>

⁹ UNCCD, (2012), ‘About the Convention’, last accessed 26/8/2016, available at: <http://www.unccd.int/en/about-the-convention/Pages/About-the-Convention.aspx>

1.1.2 IMPLEMENTATION OF INTERNATIONAL ENVIRONMENTAL LAW

Having established in broad terms the trajectory and development of international environmental law over the second half of the twentieth century, we now turn to an examination of how these legal frameworks are implemented and enforced, through an examination of multilateral environmental agreements, and a number of UN development mechanisms.

Multilateral Environmental Agreements

Most present international environmental law is adopted and enters into force through non-binding multilateral environmental agreements (MEAs)¹⁰, which form the overarching international legal basis for global efforts to address environmental challenges¹¹. The corpus of global MEAs is divided into three main thematic clusters, listed below with composite MEAs attached¹²:

- **Biological diversity**
 - Convention on Biological Diversity
 - Ramsar Convention
 - Convention on Migratory Species
 - Convention on International Trade in Endangered Species of Wild Fauna and Flora
 - World Heritage Foundation,
 - Plant Treaty

- **Chemicals and Waste**
 - Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal

¹⁰ UNEP, (2006), ‘Training Manual on International Environmental Law’, p. 24, last accessed 26/8/2016, available at: <http://bit.ly/UNEPtraining>

¹¹ UNEP, (2016), ‘MEA Implementation Support’, last accessed 26/8/2016, available at: <http://bit.ly/UNEPmea>

¹² InforMEA, (2016), ‘Treaties’, last accessed 26/8/2016, available at: <https://www.informe.org/treaties#Global>

- Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade
 - Stockholm Convention on Persistent Organic Pollutants
 - Minamata Convention on Mercury
- **Climate Change and Atmosphere**
 - United Nations Convention to Combat Desertification
 - United Nations Framework Convention on Climate Change (including the Kyoto Protocol and the Paris Agreement)
 - Vienna Convention for the Protection of the Ozone Layer
 - Montreal Protocol on Substances that Deplete the Ozone Layer

As a signatory to an MEA, the Iranian government is responsible for reporting on its progress in implementing the agreement on an annual or biennial basis. In these reports, Iran details the work it has been doing in collaboration with domestic NGOs and CBOs, with reference to the original objectives and obligations of the relevant MEA. These reports can offer a wealth of insights into Iran's development of environmental policy, linking its policymaking and implementation initiatives to the international obligations and norms laid out in the MEAs.

Development Support

Iran is supported in the implementation of MEAs at the international level through the work of the UN's sustainable development programs. The primary institution dedicated to this objective is the United Nations Development Programme (UNDP), which sets global development strategies for tackling environmental, social and economic problems. It cooperates with development stakeholders including local governmental authorities, NGOs and academia through the implementation of country programs, and by assisting the contracting countries in the implementation of conventions¹³.

The Global Environment Facility (GEF) is a separate financial mechanism that functions by developing strategic investments with various partners to tackle environmental problems. It provides developing countries and transitional economies with funding to meet their international environmental obligations. It

¹³ UNDP in Iran, (2016), 'Overview', last accessed 26/8/2016, available at: <http://www.ir.undp.org/content/iran/en/home/ourwork/overview.html>

supports and cooperates with government agencies, civil society organisations, private sector companies, and research institutions¹⁴.

The GEF was established on the eve of the 1992 Rio Summit, and serves as the exclusive financial mechanism for several MEAs, including the UNCBD, UNFCCC, UNCCD, the Stockholm Convention on Persistent Organic Pollutants and the Minamata Convention on Mercury.

According to Iran's GEF Country Profile, the GEF funds a number of programs inside Iran, although the archive's outdated data makes it difficult to ascertain the exact extent of the GEF's involvement. The website currently lists nine ongoing projects in Iran, seven of which are developed in cooperation with the UNDP¹⁵. However, a number of these projects have projected end dates dating to the early 2000s, suggesting that reliable data about its work in Iran is no longer publicly available. Although little can be gleaned from the publicly available GEF data about Iran's environmental work, other opportunities for insights exist in the Iranian government's reports to MEA-related mechanisms, as we shall now discuss.

Monitoring and Reporting

No international bodies are authorised to enforce international environmental law directly. The governments of the contracting parties are responsible for the direct implementation of these laws, through the introduction of appropriate legislation at the national level. The process of implementation is usually monitored by administrative instruments created in the treaties. Environmental agreements create their own administrative structures to guide governments in the implementation of international obligations, and rely on voluntary compliance. The administrative structures include a Conference of the Parties (COP), a Secretariat, and subsidiary bodies¹⁶.

The parties report on their progress in meeting the provisions under the agreements by submitting annual, biannual or triennial reports to the COP.

¹⁴ Global Environmental Facility, (2016), 'Funding', last accessed 26/8/2016, available at: <http://beta.thegef.org/about/funding>

¹⁵ Global Environmental Facility, (2016), 'Results Based Management', last accessed 26/8/2016, available at: <https://www.thegef.org/gef/RBM>

¹⁶ UNEP, (2006), 'Training Manual on International Environmental Law', p. 11, last accessed 26/8/2016, available at: <http://bit.ly/UNEPtraining>

Although they are not entitled to bring enforcement actions against governments, COPs form the primary policymaking organ of the treaty, help to monitor national compliance by requiring contracting parties to submit annual reports, and provide a forum to discuss and debate issues associated with the implementation of the agreement¹⁷.

1.1.3 IRAN'S COMPLIANCE WITH INTERNATIONAL ENVIRONMENTAL LAW

Having established the international environmental law landscape, and having detailed a number of the mechanisms used to enforce these laws, we can begin to confront the question of Iran's compliance with these international obligations.

Overall, Iran has been somewhat engaged with the monitoring processes outlined above, and has taken some form of action on all the MEAs outlined in Chapter 1.1.2. As has already been explained, the conventions are not binding but the parties are required to submit a report on an annual or biennial basis in order to respond to the Conference of the Parties (or any other monitoring instrument) on the progress of the conference's implementation in national law. Therefore, in order to ascertain Iran's compliance with international environmental law, it is necessary to review the reports submitted by Iran to the monitoring mechanisms outlined above.

With regard to water management – the primary focus of this report – Iran has responded to a number of international conventions focused on the issue. In this section, we will assess the level of Iran's engagement with international monitoring mechanisms, and the extent to which the Iranian government has upheld its international duties.

Ramsar Convention

Under the Ramsar Convention, contracting parties are obligated to include wetland conservation considerations in their national land-use planning, according to Article 3.1:

¹⁷ *Ibid* p.12

“*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.*”¹⁸

*“The Conference of the Contracting Parties has approved guidelines on how to achieve ‘wise use’, which has been interpreted as being synonymous with ‘sustainable use’. Contracting Parties have also undertaken to establish nature reserves in wetlands.”*¹⁹”

Accordingly, Iran is required to design policies to implement environmental protection measures related to wetlands. In its most recent ‘National Report on the Implementation of the Ramsar Convention on Wetlands’ in 2015²⁰, Iranian officials were asked specifically about the progress of implementation with regard to the convention's 2009-2015 strategy, which can be summarised as follows:

- Iran articulated ecosystem-based management systems for wetlands in Iran's ‘Fifth Five Year Plan’, and reported on its implementation;
- The government noted the establishment of a national committee for the rescue of the critically endangered Lake Urumieh – the Urumieh Lake Restoration Project (ULRP);

¹⁸ UNESCO, (1971), ‘Convention on Wetlands of International Importance, especially as Waterfowl Habitat,’ last accessed 26/8/2016, available at: <http://bit.ly/Ramsar71>

¹⁹ Ramsar Convention Secretariat, (2013), ‘The Ramsar Convention Manual: a guide to the Convention on Wetlands (Ramsar, Iran, 1971), 6th ed.’, last accessed 24/8/2016, available at: <http://bit.ly/RamsarM>

²⁰ Ramsar Convention Secretariat, (2015) ‘National Report To Ramsar COP12 - Iran’, last accessed 28/8/2016, available at: <http://bit.ly/RamsarR>

- Priorities for future implementation of the convention include the ratification of a national law for the conservation and restoration of Iranian wetlands;
- The main difficulties Iran has identified in the implementation of the convention include: drought and climate change, lack of inflow in some transboundary wetlands, water and soil pollution, overgrazing, soil erosion, water drainage in wetlands basin, unsustainable development in infrastructure projects;
- All wetlands in Iran are being conserved and managed by the DoE;
- Iranian authorities blame the deterioration of wetlands on continuing drought and climate change;
- Sustainable development-focused projects relating to wetlands include: supporting sustainable agriculture practices in Parishan and Urmia; supporting traditional fisheries in the Shadegan wetlands; the promotion of ecotourism in Kanibarazan wetland, managed by local communities; the restoration programme of the Kamjan wetlands has been implemented successfully by a local NGO, leading to the rehabilitation of local communities' livelihoods;
- Concerning participation of communities on the field, Iranian authorities reported on a number of local communities that have been actively participating in the management of wetlands, such as Kamjen, Kaniborazan, Yadegarloo, Hasanloo, Dorge Sangi, and Parishan, among others. Moreover, the government claimed that it had consulted with a number of local communities in a participatory approach to determine potential candidate wetlands for new Ramsar sites.

The UNDP has been involved in the implementation of a number of programs related to the Ramsar Convention in Iran. In 2012 the UNDP launched a water management program: 'Sustainable Management of Land and Water Resources' (SMLWR). The project focuses on an "integrated management of watershed basins in the arid and semi-arid regions of Iran. Also, it envisions enhancing intersectoral cooperation and materialising the participatory approach at the local level²¹."

²¹ UNDP in Iran, (2016), 'Sustainable Management of Land and Water Resources (SMLWR) - Phase II', last accessed 30/8/2016, available at: <http://bit.ly/UNEPirP2>

The UNDP in Iran built upon this programme in 2013, when it set up the 'Conservation Of Iranian Wetlands Project' (CIWP). CIWP is a 3-year project with the stated goal to "enhance the sustainability of Iran's protected wetland areas and conserve its globally-significant biodiversity. It will do so by establishing ecosystem-based wetland management plans and inter-sectoral coordination structures for ten important Iranian wetlands²²." The project also includes the participation of local communities and farmers from 75 villages to be involved in sustainable agriculture workshops.

The authorities in charge of implementing the convention and reporting to the Conference of the Parties are listed in Iran's 2015 submission to the Ramsar COP:

- Ministry of Foreign Affairs' Environment and Sustainable Development Office - Ramsar administrative authority and designated focal point for implementation;
- Department of the Environment - designated focal point for matters related to scientific review, communication, education, participation and awareness (CEPA) program;
- Baabgroup NGO - designated non-government national focal point for matters relating to the CEPA program²³.

Although Iran states that the NGO Baabgroup is responsible for the implementation of the convention, very little information is available about the organisation online. The only digital markers of Baabgroup's existence are an infrequently-updated and relatively content-free Facebook page²⁴, and a blog that has been out-of-date since 2012²⁵. As we shall see, a lack of transparency and public information is a hallmark of Iran's environmental reporting, complicating efforts to develop an entirely clear understanding of civil society's role in the implementation process.

²² UNDP in Iran, (2016), 'Conservation Of Iranian Wetlands Project - Phase II (Scale-up)', last accessed 30/8/2016, available at: <http://bit.ly/UNEPirSU>

²³ Ramsar Convention Secretariat, (2015), 'National Report on the Implementation of the Ramsar Convention on Wetlands', last accessed 24/8/2016, available at: <http://bit.ly/RamsarR>

²⁴ Gerooh-e Bacheha-ye Ab, (2016), Facebook, last accessed 25/8/2016, available at: <http://bit.ly/GBachAb>

²⁵ Gerooh-e Bachehaye Ab, (2014), Blogfa, last accessed 25/8/2016, available at: <http://bachehayeab.blogfa.com>

As noted above, Iran has set out an ambitious agenda for responding to the crisis facing wetlands under the Ramsar Convention, although it has achieved mixed success in implementation, as we shall explain in Chapter 2.

UNCCD

The UNCCD is currently implemented in accordance with the 2008–2018 ‘10-year strategic plan and framework to enhance the implementation of the convention’, which specifies in Article 4 that parties are obligated “to operationalise the implementation of the strategy, in accordance with their national priorities in a spirit of international solidarity and partnership”²⁶. More specifically, affected developing country parties are urged to align their national action plans with the strategic plan, addressing five operational objectives:

- Advocacy, awareness-raising and education
- Policy frameworks
- Science, technology & knowledge
- Capacity-building
- Financing and technology transfer²⁷

Iran submitted its most recent progress report about the progress in enacting the 10-years strategy of the Convention to Combat Desertification in 2014 and it is due to submit the next biannual report this year. The report included the following key items related to policy design and implementation:

- Iran reported that “Even though we have formed the National Committee to Combat Desertification, desertification is still not among the priorities of different stakeholders and the UNCCD focal institution should provide [funding] for national action plan (NAP) alignment, and [...] convince [the] Department of Planning and Strategic Supervision to [provide funding] for NAP implementation. At the national committee, we are trying to convince different stakeholders to set desertification, land degradation and drought (DLDD) issues as priority in their respected institutions.

²⁶ UNCCD, (2008), ‘Decision 3/COP.8 The 10-year strategic plan and framework to enhance the implementation of the Convention, 2008’, Art. 4, last accessed 25/8/2016, available at: <http://bit.ly/UNCCD10yp>

²⁷ *Ibid.* Art. 5.

Fortunately, some desertification features have been highlighted during recent years and government is very concerned about the environment, so we hope we can mainstream NAP alignment and implementation”²⁸.

- This passage suggests that DoE stakeholders are struggling to convince other national stakeholders to invest significant levels of time and resources to bring their policies into line with an NAP designed to combat processes of desertification, although the report does note that attitudes within government are starting to shift owing to heightened awareness of the threat posed by the phenomenon.
- With regard to undertaking initiatives to increase the participation of civil society organisations (CSOs) in desertification, land degradation and drought-related projects, Iranian authorities reported that according to the 5-years development plan “all executive agencies should allocate part of their budget to involve science, technology and innovation organisations (STIs) to fill the scientific gaps. In addition, [the] FRWO, as the UNCCD focal institution (NCCD), is forming [a] network of active civil society organisations including NGOs [working in the areas of] desertification, land degradation and drought. [The] Department of the Environment is also forming a network of active civil society organisations [working in the environmental] field... including [on] Biodiversity and Climate Change”²⁹.

In its 2015 report to the UNCCD, Iran lists a number of examples of CSO and NGO networks, including the Asian Leopard Specialist Society’s development of a network of 1,000 members drawn from specialist and local communities, developed in collaboration with the DoE. The report also names the Hormod Environmental Institute, which cooperates with Iran’s UNCBD secretariat in the implementation of the Nagoya Protocol³⁰.

²⁸ UNCCD, (2014), ‘UNCCD Performance Review and Assessment of Implementation System, Fifth reporting cycle, 2014-2015, Report from Islamic Republic of Iran as affected country Party’, last accessed 25/8/2016, available at: <http://bit.ly/UNCCDPR>

²⁹ *Ibid.*

³⁰ UNCBD (2015), ‘The Fifth National Report to the Convention on Biological Diversity’, last accessed 25/8/2016, available at: <https://www.cbd.int/doc/world/ir/ir-nr-05-en.pdf>, p. 62

- Iran's Ministry of Energy is also developing a network of relevant water management stakeholders. The ministry will seek to benefit from the potential of STIs and CSOs in DLDD related projects and programs and in general convention-related processes³¹.
- The UNCCD has engaged NGOs in an international network: "The UNCCD Secretariat maintains contacts with a range of non-governmental actors as well as parliamentarians who participate in the regular meetings of the COP and its subsidiary bodies, and who are also engaged in national and regional implementation efforts."

NGOs are seen as a key stakeholder and play a fundamental role in representing the marginalised communities who are most affected by desertification: "The Convention Secretariat has asked NGOs to contribute to the national reports, encouraging them to contact their Government Focal Points for the Convention, and to make their contributions directly to their national CCD Focal Points. NGOs also have created an active network – the International NGO Network on Desertification or RIOD (Reseau Internationale des ONGs sur la Desertification) – which has regional and sub-regional focal points throughout the world, and helps [to] coordinate the non-governmental activities around the convention process." The network's overall goal is to put in place a structure that ensures full involvement of community-based organisations and NGOs in the preparation, implementation, and review of national action programmes, in compliance with provisions of the UNCCD³². The most recent Conference of the Parties took place in November 2015 and the Iranian NGO that participated was the Centre for Sustainable Development Studies and Application (CENESTA)³³.

- The reporting mechanism also enquires about whether Iran had established monitoring systems covering desertification, land degradation and drought. Iran expressed its desire to establish a proper monitoring system in 2018. For the time being, it has provided partial monitoring systems: "There are a number of monitoring systems covering part of DLDD issues. [A] vast area of the country on one side, and distribution of the existing monitoring systems

³¹ UNCCD, (2014), 'UNCCD Performance Review and Assessment of Implementation System, Fifth reporting cycle, 2014-2015, Report from Islamic Republic of Iran as affected country Party', last accessed 25/8/2016, available at: <http://bit.ly/UNCCDPR>

³² UN Non-Governmental Liason Service, (2015), 'United Nations Convention to Combat Desertification (UNCCD)', last accessed 22/8/2016, available at: <http://bit.ly/UNNGLSDes>

³³ UNCCD, (2015), 'Updated list of civil society organizations accredited to the Conference of the Parties as of November 2015', last accessed 23/8/2016, available at: <http://bit.ly/UNCCDCivSoc>

across the country hinders [the] establishment of a comprehensive monitoring system for DLDD. During the NAP alignment process, these issues should be addressed, otherwise we can not manage NAP implementation and even monitor the impacts of routine activities"³⁴.

Iran's 2014 report to the UNCCD details the NGOs and partner organisations it worked with over the reporting period. The report notes that 1,596 NGOs and 204 research organisations were consulted in 2012 and 2013, although these numbers appear to be inflated by the inclusion of city and town branches of Islamic Azad University, and a very large number of local cooperatives (comprising the vast majority of listed 'NGOs').

Although the involvement of cooperatives seems to be indicative of a community-led, participatory approach to implementation, in Iran the cooperative model does not always operate in such a manner. "Soroush", a former environmental activist based in Turkey told us that he was skeptical of cooperatives' value as a vehicle for grassroots action, noting that they sometimes clashed with the work of local NGOs on the ground:

“Cooperatives we worked with weren't very efficient.... Their work wasn't really done in a bottom-up way, and their members had been appointed... They had a hostile and territorial attitude since their powers came from the government³⁵.”

The full list of UNCCD participating NGOs and CBOs are available in Iran's 2014 report³⁶.

³⁴ *Ibid.* p.71

³⁵ "Soroush", phone interview (3/6/2016)

³⁶ *Ibid.* pp. 5-67

UNFCCC

The most recent document submitted to the Framework Convention on Climate Change is the 'Intended Nationally Determined Contribution' (INDC). Through it, contracting governments communicate their

long-term strategy for implementing the convention and tackling climate change up until 2030, on the basis of the 2015 Paris Agreement. It is a relatively new instrument, and was first established at the UN's 2013 climate negotiations in Warsaw³⁷.

The communication was drafted by the Department of the Environment (DoE), which is the Iranian authority in charge of overseeing the development and implementation of national environmental protection policy. The document sets out a plan of action from 2015-2030, and the DoE notes that Iran's three forthcoming National Development Plans will be in compliance with this INDC³⁸.

Iranian authorities also used the report to note the negative impact of international sanctions on the implementation of its environmental programs. In their UNFCCC report, Iran states that sanctions prevented the country from accessing certain technologies that would help reduce greenhouse gas (GHG) emissions:

“*[The] dependence of the national economy on revenues from [the] production and export of oil and its byproducts – that are high-carbon intensive – have made the economy, public welfare, resources and technology of the country vulnerable to mitigation of GHG emissions [...] This intended programme [...], is in its entirety,*

³⁷ Carbonbrief, (2015), 'Explainer: What are 'Intended Nationally Determined Contributions'?', available at: <http://bit.ly/CarBriefINDC>

³⁸ Department of the Environment, (2015), 'Intended Nationally Determined Contribution', p.10, last accessed 24/8/2016, available at: <http://bit.ly/DoEINDC>

subject to the removal of economic, technological and financial restrictions and in particular termination of unjust sanctions imposed on Iran during the past several decades, as well as non-imposition of restrictions or sanctions in the future”³⁹.

With regard to water resources, Iranian authorities incorporated a description of direct impact of climate change on Iranian water resources and wetlands, and the strategy for adaptation in the coming years:

- “It is predicted that in the next 15 years (up to 2030) the amount of surface runoffs will continue to decrease by 25% and the mean temperature will rise by more than 1.5° C. This increase in temperature is equal to increased losses of national programmable water by about 20 to 25 billion cubic meters. Moreover, in the last ten years, the amount of renewable water of the country has decreased from 130 to 90 billion cubic meters per year”⁴⁰.
- According to the country's environmental development plans, protecting natural resources and ensuring food security, requires total investment of approximately 40 billion USD. Also, investment in water resources infrastructure will be costly, at an estimated 100 billion USD. It should focus on “demand management, increasing productivity in the water sector, increasing efficiency and reducing losses in water yield, water networks and providing new water resources”⁴¹.

³⁹ *Ibid.* p.1-2,p.1-2.

⁴⁰ *Ibid.* p.8

⁴¹ *Ibid.* p.9

- The DoE has highlighted the need to utilise modern, environmentally friendly technologies for supplying water, including desalination, recycling, and water treatment plants⁴².

As we shall argue in Chapter 2, demand management and investment in increasing agricultural efficiency are among the most powerful items in the Iranian government's toolkit in developing a solution to the water crisis. Iran's stated objectives in this report therefore are promising, although doubts remain about Iran's actual implementation of these objectives.

A Mixed Record

Iran's levels of participation with the MEAs and other international environmental and developmental mechanisms is generally sufficient, at least on paper. Iran frequently articulates ambitious plans for the development of management processes and regulatory bodies, although their record in terms of delivery is frequently inconsistent, as we shall discuss in the following chapters.

In addition, although the government boasts of high levels of civil society engagement in its reports, the data presented provides plenty of room for skepticism about actual outputs. It is not clear exactly what role, for instance, the many hundreds of Iranian co-operatives played in the design and implementation of Iran's UNCCD-related programs, or the extent to which academia and relevant expertise was involved in decision-making processes.

Nonetheless, the existence of these international obligations has pushed Iran towards greater levels of engagement with environmental issues, and has forced the government to at least frame its environmental initiatives in a long-term, strategic manner. They have also helped to spur the development of a wide array of domestic environmental legislation, which we shall now turn to examine.

⁴² *Ibid.* p.10

1.2 STEMMING THE TIDE – IRANIAN ENVIRONMENTAL LAW

Having assessed Iran's reporting processes to international environmental mechanisms, and found them to contain a wealth of promises, hopes, and long-term objectives, we now turn to an analysis of the legislation and regulations that have been introduced at the national level to protect Iran's environment. Such domestic law has seen the establishment of new regulatory bodies, new legal frameworks, and the integration of environmental principles into Iran's economic planning documents. This chapter will track these developments, and assess their effectiveness in halting environmental degradation in Iran.

1.2.1 EARLY ENVIRONMENTAL LEGISLATION

Inside Iran, national environmental laws have been developed against the backdrop of global and regional debates about the scope and intensity of environmental protections that have been ongoing since the 1970s, as well as the one of new regulations concerning domestic petroleum operations.

Until the early 1970s, Iran's domestic regulation of the environment pertained almost exclusively to the preservation of wildlife, and the regulation of hunting. In 1956, as a first attempt to regulate wildlife exploitation, Iran's government established the Iranian Hunting Society to protect the reproduction of animals and provide regulations for issues relating to hunting⁴³.

In 1967, following the ratification of the Hunting and Fishing Act, the Organisation for Wildlife and Regulation of Hunting replaced the Iranian Hunting Society. On the basis of that law, the organisation was composed of the ministers of Agriculture, Finance, War, and six experts. Its duties and responsibilities concerned not only the control and supervision of hunting, but also the development of research related to Iran's wildlife, reproduction and nurturing, environmental protection, and the creation of zoos and zoology museums⁴⁴.

⁴³ Department of Environment, (2016), 'About', last accessed 24/8/2016, available at: <http://bit.ly/DoEAbout>

⁴⁴ *Ibid*

In 1971, the Organisation for Wildlife and Regulation of Hunting changed its name to the Organisation for Environmental Protection, and gained responsibilities relating to the prevention of environmental decline.

After the events of the 1972 Stockholm Conference on the Human Environment, and Iran's approval of the Environmental Conservation and Improvement Act, the Department of Environment (DoE) was finally established in 1974.

The 1974 Environmental Protection and Improvement Act not only mandated the establishment of the DoE and the Supreme Council of Environmental Protection (SCEP), but also ensured that it would be necessary for oil companies to secure authorisation from the SCEP for any petroleum explorations or operations in national protected areas⁴⁵. The DoE continues to exist to this day, and oversees the development and implementation of government environmental policy. The Supreme Council of Environment was re-established in 2013, and is the country's highest decision-making body on environmental matters. A detailed overview of these bodies is available in Chapter 1.3.

Among the revolutionary outcomes of the 1979 Iranian Revolution was a constitutional commitment to preserve and defend Iran's environment. According to Article 50 of the Iranian Constitution, "The preservation of the environment, in which the present as well as the future generations have a right to flourishing social existence, is regarded as a public duty in the Islamic Republic. Economic and other activities that inevitably involve pollution of the environment or cause irreparable damage to it are therefore forbidden." As such, the founding document of the Islamic Republic provides clear obligations for the government to uphold environmental protections. The government would introduce a range of legislation to build upon these foundations in the years to come.

1.2.2 IRANIAN ENVIRONMENTAL LEGISLATION

Iran has passed an expansive collection of environmental legislation over the past decades, in an effort to greater regulate the environmental sphere, and prevent the depletion and decay of Iran's natural resources. For the purposes of this report, which is primarily focused on the water crisis facing Iran, we offer an

⁴⁵ Chambers and Partners, (2016), 'Iran - Law & Practice', last accessed 25/8/2016, available at: <http://bit.ly/CandPIr>

overview of the legislation relating to water management, agriculture and land use, and the conservation of water resources.

Legislation relevant to water use and management includes:

- Law on the Protection of Forest and Rangelands (1967)
- Nationalisation of Water Resources Act (1968)
This act formally defined Iran's water bodies as public property.
- Law for the Formation of Farm Corporations (1968)
- Law for the Establishment of Companies for the Development and Utilisation of Lands Downstream from Dams (1968)
- Environmental Protection and Enhancement Act (1974)
This Act established the Department of Environment and outlined its duties and responsibilities, such as producing scientific reports about environmental protection, and assessing the health of Iran's rivers and lakes⁴⁶.
- Law for Endangered Species of Wild Fauna and Flora (1974)
- Law for Protection of the Natural Parks, Protected Areas, and Sensitive Areas (1975)
- Law for Proper Use of Water Resources (1982)
This was the first water-related law passed in the post-revolutionary period. This law states that the Ministry of Energy is responsible for allocating and issuing permits for the use of water for domestic, agricultural, and industrial purposes. The Ministry of Agricultural Jihad is appointed as responsible for distributing water for agriculture among farmers, and collecting fees for its use. Water and wastewater companies are responsible for the distribution of water for domestic use in urban and rural areas, and for collecting fees⁴⁷.
- Law for Environmental Protection Against Water Pollution (1984)
- Law on Economic, Cultural, and Societal Development (1989)
- Law for Protection Against Natural Environmental Damage (1991)
- Law for Environmental Protection and Development (1991)
- Fifth Five-year Economic, Cultural, and Societal Development Plan (2010–2015)

⁴⁶ Iranian Expediency Council, (2016), 'Environmental Protection and Enhancement Act', last accessed 25/8/2016, available at: <http://bit.ly/IrExpEnv>

⁴⁷ Library of Congress, (2016), 'Legislation on Use of Water in Agriculture: Iran', last accessed 25/8/2016, available at: <http://bit.ly/LoCWAagri>

Legislation relevant to forest management includes:

- Forest Nationalisation Law (1963)
- Law on Protection and Exploitation of Forests (1967)
- Environmental Protection and Enhancement Act (1974)
- Law for Endangered Species of Wild Fauna and Flora (1974)
- Law for Protection of the Natural Parks, Protected Areas, and Sensitive Areas (1975)
- Law on Forest Lands and Pastures Management (1988)
- Law on Plant Preservation (1967)
- Law on the Conservation and Spread of Green Areas (1980)
- Law on the Preservation of Iranian Natural Resources and Forests (1992)
Following the 1992 Law on the Preservation of Iranian Natural Resources and Forests, the DoE was legally empowered to hold portions of state-owned forest resources as environmentally protected areas where no timber harvesting is permitted⁴⁸.
- Fifth Five-year Economic, Cultural, and Societal Development Plan (2010–2015).
- The Forest Protection Act, which was drafted by the Department of Environment and calls for a ban on exploiting forest resources for 10 years, has been on hold in the Iranian parliament for almost a year (as of September 2016).

The following bills are currently under consideration (as of September 2016):

- Green Tax;
- Clear Air Act;
- Soil and Natural Resources Act;
- Wetland Conservation, Improvement and Management Act;
- Environment Impact Assessment.

⁴⁸ Yachkaschi, A. K. Adeli, H. Latifi, K. Mohammadi Samani and M. Seifollahian, (2007), 'Trends in Forest Ownership, Forest Resources Tenure and Institutional Arrangements: Are They Contributing to Better Forest Management and Poverty Reduction? A Case Study From The Islamic Republic of Iran', Food and Agriculture Organization of the United Nations, last accessed 25/8/2016, available at: <http://bit.ly/FAOForlr>

Development Plans

The implementation of regulations, laws and projects concerning environmental protection was included for the first time in a state development plan in the most recent Five Year Development Plan (FYDP).⁴⁹ This FYDP determines not only domestic policy but also policies related to UN international development planning. Indeed, The DoE has included UNDP-related policies in its Fifth National Report to the Convention on Biological Diversity, published in 2015.

Seven articles in the Fifth National Development Plan (2010–2014) have been dedicated to the government's environmental obligations. According to these articles, the government should:

- Develop and implement an integrated ecosystem management programme and action plan.
- Develop and implement a programme to support the protection and sustainability of biodiversity in the country's fragile and sensitive ecosystems.
- Develop bylaws to promote public awareness and achieve sustainable development with the aim of protecting the environment.

That such steps are being taken to integrate environmental planning into the state's wider economic planning initiatives is a hopeful sign, although the objectives remain somewhat vague, and could be framed in more ambitious ways in order to make clear the government's commitment to resolving the environmental crisis.

⁴⁹ Nachmany, Michal, Sam Fankhauser, Jana Davidová, Nick Kingsmill, Tucker Landesman, Hitomi Roppongi, Philip Schleifer, Joana Setzer, Amelia Sharman, C. Stolle Singleton, Jayaraj Sundaresan and Terry Townshend (2015), 'Climate Change Legislation in Iran', in The 2015 Global Climate Legislation Study. A Review of Climate Change Legislation in 99 Countries, last accessed 25/8/2016, available at: <http://bit.ly/NachmanyIr> p. 3

1.2.3

ASSESSING THE EFFECTIVENESS OF IRAN'S ENVIRONMENTAL LEGISLATION

As stated above, it is a positive signal that Iran is beginning to include some environmental considerations in its economic development plans, although it is our belief that these considerations should be granted more precise language about ambitious and achievable objectives. At the same time, new environmental legislation currently languishing in the Iranian parliament should be expedited, and implemented urgently if the government is serious about confronting Iran's environmental challenges head-on.

1.3

MANAGING THE CRISIS – IRAN'S ENVIRONMENTAL AGENCIES

With an overview of Iran's domestic legislation concluded, we now turn to a mapping of the major state-aligned stakeholders and actors within the environmental sphere, including ministries, committees, and purpose-built environmental regulators. The responsibilities of each often appear to overlap, and there is frequently a lack of real clarity over their powers and functions.

1.3.1

MAPPING IRAN'S KEY ENVIRONMENTAL STAKEHOLDERS

The Supreme Council for the Environment

The Supreme Council for the Environment (SCE) was created in 1974 and suspended in 2006, when its responsibilities were granted to Iran's National Infrastructure Committee. It was re-established in 2013, and is the country's highest decision-making body on environmental matters, overseeing the implementation of environmental law. The membership of the body is as follows:

- President of Iran (serves as Chairman of the SCE)
- Director of the Department of Environment
- Minister of Agriculture Minister of Industry, Mines and Commerce
- Minister of Transportation and Housing
- Minister of Health and Medical Education
- Head of the Planning and Budget Institution
- Four additional authorities recommended by the head of Environment Department⁵⁰.

National Committee for Sustainable Development

Affiliated with the Supreme Council of the Environment, the National Committee for Sustainable Development is designed to ensure national coordination amongst all stakeholders. The National Committee includes representatives from:

- Department of the Environment
- Ministry of Energy
- Ministry of Industries, Mining, and Commerce
- Ministry of Foreign Affairs
- Ministry of Agricultural Jihad
- Ministry of Transportation and Housing
- Ministry of Science, Research and Technology
- Ministry of Oil
- Ministry of the Interior
- Ministry of IT and Communications
- Ministry of Health and Medical Education
- Management and Planning Organisation
- Meteorology Organisation
- NGO Networks
- Academy of Science

Some representatives of other governmental or non-governmental organisations are also invited to attend the meetings as observers⁵¹.

⁵⁰ UNCBD (2015), 'The Fifth National Report to the Convention on Biological Diversity', last accessed 25/8/2016, available at: <https://www.cbd.int/doc/world/ir/ir-nr-05-en.pdf>,

⁵¹ UNEP, (2011), 'Format for National Report of Parties on the Implementation of the Convention on the Conservation of Migratory Species of Wild Animals', last accessed 25/8/2016, available at: http://www.cms.int/sites/default/files/document/063_iran_e_0.pdf

Department for the Environment

The Department of the Environment (DoE) is responsible for the preparation of environmental protection policies, and the laws, directives and systems necessary for evaluating the environmental impacts of social and economic development projects⁵². It operates under the supervision of the Supreme Council for the Environment.

The DoE's duties and responsibilities relate to the protection and management of wildlife, hunting and fishing in inland waters, as well as protection of the natural environment. It undertakes long-term environmental studies and management projects, with responsibilities including the conservation and enhancement of wildlife resources and prevention of pollution. It puts forward regulations on habitat management, and has introduced environmental legislation regarding pollution⁵³.

In practice however, the Department operates within a margin of action determined by other more powerful government ministries, such as the Ministry of Energy and Ministry of Agricultural Jihad⁵⁴. A lack of clarity in the delineation of powers has at various points led to bitter conflicts within government that have badly affected the management of water resources, forests, and environmental regulation in general. According to Kaveh Madani, a leading Iranian scholar engaged with environmental issues:

“*The government blames the current crisis on the changing climate, frequent droughts, and international sanctions, believing that water shortages are periodic. However, the dramatic water*

⁵² FAO, (2016), 'Aquastat Country Profile: Iran', last accessed 25/8/2016, available at: http://www.fao.org/nr/water/aquastat/countries_regions/irn/index.stm

⁵³ UNCMS, (2005), 'National Report for Central Asian Flyway Meeting (10-13 June 2005, New Delhi, India)', last accessed 25/8/2016, available at: http://www.cms.int/sites/default/files/document/inf_04_9_Iran_0.pdf

⁵⁴ Madani, Kaveh (2014), 'Water management in Iran: what is causing the looming crisis?', *Journal of Environmental Studies and Sciences* 4.4, p.9

security issues of Iran are rooted in decades of disintegrated planning and managerial myopia⁵⁵.”

The DoE's actions are further limited by a somewhat byzantine funding structure. Although the central office of the DoE receives funding directly from the Presidential Office, it is not able to directly fund regional DoE offices, which must instead apply for funding from provincial governors. The government allocates the DoE's central budget, but the sums are contested by some high-ranking officials in the organisation. The DoE's Director of Education and Public Participation Mohammad Darvish described the current funding levels as "pitiful," when in 2015 the Rouhani administration allocated the DoE 1.74 trillion IRR (131.52 million USD), out of a total national budget of 2.19 quadrillion IRR (70.34 billion USD)⁵⁶. According to Darvish, this sum is barely enough to pay the wages of the DoE's 6,000 employees.

The DoE is headed by the Vice President for the Environment, and is organised into five main departments:

- Education and Planning
- Human Environment
- Marine Environment
- Natural Environment and Biodiversity
- Administrative and Parliament Affairs

The DoE operates through local offices at the provincial level. Underneath the Office of Education and Planning, the DoE established the Public Participation Bureau, which is in charge of monitoring and empowering the activities of NGOs and CBOs, involving them in decision-making and policy formation processes,, and designing strategies to encourage public participation in environmental protection⁵⁷.

⁵⁵ *Ibid.* p.1

⁵⁶ Radio Zamaneh, (2015), 'Iran's environmental needs dwarf actual budget allotment', last accessed 25/8/2016, available at: <https://en.radiozamaneh.com/articles/irans-environmental-needs-dwarf-actual-budget-allotment/>

⁵⁷ Department of the Environment – Public Participation Bureau, (2016), 'Future plans of the bureau for 2016-2017', last accessed 25/8/2016, available at: <http://bit.ly/DoEPPB>

In our conversation with “Hooman”, a journalist and environmental activist, there is quite a wide gap between the Public Participation Bureau’s stated mission, and the effectiveness of its engagement initiatives in practice:

“*The Department of Environment has a list of about 400–500 NGOs across Iran, and the organisation has attempted to create a network of NGOs in each province [...] usually there is a very limited outcome produced by this, just enough so that people are familiarised with these matters and topics and start talking about them — only to this extent. There isn’t much practical work done.*⁵⁸”

Ministry of Energy

The Ministry of Energy is responsible for managing water supplies and water resources. According to the Act for the Establishment of the Ministry of Energy (1974), it is in charge of the protection, control and management of water resources, including rivers, wetlands, lakes etc. It also manages the construction of canals, irrigation systems, dams and drainage systems, and is responsible for the exploitation of water resources and secure water storage⁵⁹. It is among the Ministry’s duties to draft new laws related to water resource management, water fees and the right to water and sanitation.

⁵⁸ “Hooman”, phone interview (4/9/2016)

⁵⁹ Ministry of Energy, (2016), ‘Description of Duties’, last accessed 25/8/2016, available at: <http://bit.ly/MoEDuties>

Ministry of Agricultural Jihad

The Ministry of Agriculture is responsible for supervising rainfed and irrigated crop development. It is in charge of subsurface drains as well as farm development and irrigation techniques, planned and operated by the Provincial Agricultural Organisations and the Deputy Ministry for Infrastructure Affairs of the Ministry of Agriculture⁶⁰.

Supreme Council of Water

According to Article 10 of the Act for the Establishment of the Ministry of Agricultural Jihad (2000), the Minister of Agricultural Jihad is a member of the Supreme Council of Water, which acts to coordinate policy related to water supply, distribution and consumption.

According to the same act, the Council is composed of representatives from:

- The Ministry of Energy
- The Ministry of Industry, Mines, and Commerce
- Head of the Management and Planning Organisation
- Director of the Department of Environment
- A member of the Parliamentary Committee for Agriculture, Water and Natural Resources
- Two appointed experts⁶¹

Although described as a key coordinating stakeholder by Ardakanian in 2005, the Supreme Council of Water’s activities and responsibilities since that period are difficult to establish. Indeed, we were unable to identify any sources pointing to the activities of such a body since that time, suggesting that the Supreme Council may no longer exist to coordinate the activities of the bodies listed above.

⁶⁰ FAO, (2016) ‘Aquastat Country Profile: Iran’, last accessed 25/8/2016, available at: http://www.fao.org/nr/water/aquastat/countries_regions/irn/index.stm

⁶¹ Department of the Environment, (2016), ‘2000 Act for the Establishment of the Ministry of Agricultural Jihad’, last accessed 25/8/2016, available at: <http://bit.ly/DoEAgri>

Forests, Rangelands and Watershed Organisation

The Forests, Rangelands and Watershed Organisation (FRWO) is affiliated with the Ministry of Agricultural Jihad and is in charge of the rehabilitation, protection, exploitation and development of forests, rangelands and watersheds. The head of the FRWO is the Deputy Minister for Forests, Rangelands and Watershed Management Affairs, and the organisation is divided into five departments⁶²:

- North Forest Department (Hyrcanian, including humid and sub-humid forests)
- Irano-Turanian and Khaliho-Omanian Region Department (Semi-dry and dry forests)
- Land Affairs Department
- Watershed Department
- Financial Affairs Department

The FRWO is granted a number of key responsibilities, including: Forest Management, Afforestation and Parks, Range Management, Sand Dune Fixation and Combating Desertification, Extension and Public Relations, Training, Protection, Legal Affairs, Land Survey, Planning and Programming, and Institutional Affairs. The organisation's strategic plans need to be approved by the High Council for Forests, Rangelands and Soil. At a local level, there are 32 FRWO provincial offices, each of which manage a number of forestry sub-units and ranger offices⁶³.

The FRWO is responsible for managing protected areas in order to preserve unique varieties of plant species. In this regard, UNESCO recognises 9 biosphere reserves in Iran:

- Arasbaran
- Arjan Plain
- Mount Geno
- Golestan Forest
- Mangrove Forest
- Kavir Plain
- Lake Urmia
- Lake Miankaleh
- Turan Plain

⁶² Sagheb Talebi, Khosro, Toktam Sajedi, Mehdi Pourhashemi, (2014), *Forests of Iran: A Treasure from the Past, a Hope for the Future*, Springer: London, p. 48

⁶³ *Ibid.*

Iran's forests and wooded lands cover 10,692,000 ha, comprising 5.8% of total Iran's land area (about 184,806,000 ha). 81.6% of Iran's forest reserve areas are under FRWO management⁶⁴.

Parliamentary Environmental and Development Sub-Committee

The Iranian Parliament has several permanent and ad hoc committees responsible for carrying out initial discussions about proposed bills, and reviewing them in parliament for approval. The Environmental and Development Sub-Committee is also responsible for reporting the findings of DoE monitoring assessments and research to parliament, and for mobilising parliamentary action on environmental issues⁶⁵.

1.3.2 ORGANISED CHAOS

Our research suggests that for all the coordination efforts that have been undertaken, Iran's key environmental stakeholders remain poorly-coordinated in their response to the environmental crisis. The organisations with the most explicit commitment to environmental protections – the DoE and FRWO – are those with the least power to actually enforce existing regulations. The Energy and Agricultural Jihad ministries retain power to overrule these bodies, and coordination bodies such as the Supreme Council for the Environment, and the Supreme Council of Water appear to be either ineffective at resolving disputes, or completely inactive.

We would recommend that the Iranian government therefore takes greater efforts to reorganise the institutional landscape of environmental organisations, to ensure that effective coordination takes place, and that environmental regulators are empowered to execute environmental protection legislation to the full possible extent.

⁶⁴ FAO, (2015), 'Global Forest Resources Assessment 2015', last accessed 25/8/2016, available at: <http://www.fao.org/3/a-i4808e.pdf>

⁶⁵ ISNA, (2014), 'Explosive dossier on the table of Parliamentary Environmental and Development Sub-Committee', last accessed 25/8/2016, available at: <http://www.isna.ir/news/93052110285/>

1.4 DEEP ROOTS – ENVIRONMENTAL ACTIVISM IN IRAN

Iran's environmental movement is hardly new to the country's civil society landscape – it is an established movement with deep roots. Developing rapidly in the 1990s, it sought to confront the myriad environmental catastrophes unleashed as a result of weak post-revolutionary government, and a decade of horrific, destructive war with Iraq. Sky-high rates of population growth, air pollution, rapid development and water and soil contamination were all pressing issues that had to be urgently confronted⁶⁶. Since the birth of the movement, activists have been working hard to organise and campaign to this end.

What work are activists doing in the country today? Simin Fadaee notes that activists have been working towards change on two levels: firstly, “on consciousness raising and educational campaigns by organising seminars, exhibitions, conferences, festivals, trips, publications, etc. Through these actions, new values, attitudes, and lifestyles have been introduced.” Secondly, she notes that “by criticising governmental attitudes towards the environment, and through campaigns, demonstrations, and lobbying, they actively challenge the state and its inefficient institutions.”⁶⁷ In this manner, environmental activists are not only working to address specific and urgent problems facing the Iranian public, but are opening up increased spaces for civil society organisation, public debate, and critical discussions of public policy and government effectiveness.

1.4.1 THE NATIONAL ENVIRONMENT NETWORK

Environmentalists have developed a number of networks of organisations at the regional and national levels to facilitate cooperation, collective action, networking, and information sharing. One key organisation – the National Environment Network (NEN) – has proven particularly central to activists' efforts to organise and develop their capacities. The network aims to empower Iranian environmental NGOs by providing trainings in a variety of core development

⁶⁶ Fadaee, Simin, (2012), *Social Movements in Iran: Environmentalism and Civil Society*, Routledge: Abingdon, p. 93

⁶⁷ *Ibid.* p. 91

skills, including: participatory management, project development, and monitoring and evaluation techniques. Additional workshops are also carried out focusing on the role of local communities in environmental protections, thereby boosting the community engagement skills of member NGOs. The NEN has regional networks of civil society organisations and activists operating in each of Iran's provinces, each with an elected head. The NEN's activities are supported by the Global Environment Facility (GEF)⁶⁸.

“Hooman” is somewhat skeptical of the NEN's ability to effectively boost the skillsets of Iranian journalists however, stating that regional NEN groups receive limited engagement, and suggesting that too few Iranian journalists recognise the need to develop their skillsets:

“I do not think that most news reporters have a systematic relationship with these networks. In my opinion there isn't even a systematic network as such... The problem is an internal one, and if environmental journalists in Iran reach the conclusion that they are weak, we have already made progress. But if they haven't yet reached this conclusion, then the force of the Department of the Environment, or specialists, or NGOs will not change anything, the same way that throughout the years nothing else has changed. If individuals have improved and grown, that's because they themselves have decided to grow⁶⁹.”

⁶⁸ National Environment Network, (2016), 'About', last accessed 25/8/2016, available at: <http://bit.ly/NENAbout>

⁶⁹ “Hooman”, phone interview (4/9/2016)

1.4.2 GEF SMALL GRANTS PROGRAMME & INTERNATIONAL SUPPORT

Also central to the success of civil society actors in Iran is the GEF-funded, and UNDP-implemented Small Grants Programme (SGP)⁷⁰. The SGP provides financial support to environmental NGOs and CBOs whose work contributes to one of the GEF's five focal areas: climate change, biodiversity, land degradation, international waters, and chemicals. In Iran, the SGP has eight clusters – or topic areas – that it can deliver support to. These include: Marine & Coastline, Wetlands & Water, Eco-Agriculture, Renewable Energy & Energy Efficiency, Indigenous & Community Conserved Areas (CCAs/ICCA), Forest & Rangeland, Participatory Wildlife, and Community-Based Ecotourism⁷¹.

The SGP has come in for substantial praise from activists who have been working in the field, who have described it as a central actor that works to empower CBOs and NGOs to effect change on a local level. "Soroush", a former environmental activist, said:

“ *[The SGP] has a modern and very participatory ethos. They are very trusting with CBOs, and they've been very helpful in leading these community organisations to be sustainable. [The SGP] also arranges NGO networking events that allow for NGOs to share their experiences in workshops and conferences.*

The SGP also works well because it operates with government approval. This is partly

⁷⁰ *Ibid* p. 96

⁷¹ UNDP in Iran, (2016), 'GEF Small Grants Programme (GEF SGP)', last accessed 25/8/2016, available at: <http://bit.ly/UNDPIrGEF>

because the SGP engages with government by allowing larger funds to be released to the Department of Environment and other sectors, while asking the government to involve CBOs in their projects. So the SGP incentivises the government to involve CBOs. It doesn't just build horizontal networks, but networks of different sizes⁷².”

The SGP occupies a very unique position in that the UNDP gives it more cover to work with NGOs and CBOs than any other international organisation. "Reza", a senior government official, told us that the Iranian government was open to collaborating with the program:

“ *There are so many projects that are running with the help of international organisations, including the Asian Leopard and Caspian Seal projects, or educating people around Lake Urumieh. From the perspective of the Iranian government, there are no problems in working with international organisations on environmental projects⁷³.*

⁷² "Soroush", phone interview (3/6/2016)

⁷³ "Reza", phone interview (2/8/2016)

“Reza” noted that while the government was open to increasing partnerships between international organisations and environmental groups inside Iran, the state security services remain incredibly guarded about foreign involvement:

“*I believe the relationship between activists, NGOs, and government experts, and the international community is very limited. The problem is that as soon as anyone develops a close relationship with international organisations, the security institutions become really sensitive. And if you want to be able to do work and develop campaigns, it’s much easier to avoid working with international organisations. That’s why Iranian NGOs rarely work with international organisations, and have a limited presence at international conferences. As a result, 85% of our NGOs are just focused on work inside Iran, and they’re not getting in touch with international organisations*⁷⁴.

This being said, some larger environmental organisations operating in Iran appear to be able to partner with non-UN international development organisations. Iran’s Centre for Sustainable Development (CENESTA) publicly lists its partners on its website, including the Iranian DoE, the Agriculture Ministry, Iran’s Tourism and Heritage Foundation, but also the Christensen Foundation, the Swiss Agency for

⁷⁴ Ibid

Development and Cooperation, and the World Wide Fund for Nature (WWF)⁷⁵. As one of the oldest environmental organisations in Iran, with strong relationships at numerous levels of government, it appears that CENESTA is established and trusted enough to engage with international environmental organisations. Smaller, comparatively unknown groups are more likely to face suspicion and intimidation if they engage with external actors.

1.4. GOVERNMENT ENGAGEMENT WITH CIVIL SOCIETY

There are also important questions to ask around the extent to which the Iranian government involves civil society in the formulation and implementation of environmental policies. “Reza” noted that apart from giving civil society

more opportunities to work with international environmental organisations, government should work to provide greater material support to activists and NGOs:

“*The last problem is a lack of budgeting and funding for environmental projects. There are so many independent NGOs that can do a lot to resolve our environmental issues, but there is no funding for it. Also, fundraisers and rich people in Iran would prefer to spend their money on either building schools or mosques, and they are not interested in providing funding for the environment. So these are the top barriers*

⁷⁵ CENESTA, (2016), ‘Network’, last accessed 25/8/2016, available at: <http://www.cenesta.org/en/category/network-en/page/2/>

to the work of civil society in protecting Iran's environment⁷⁶.”

“Reza” also offered some suggestions for innovations that might be able to allow civil society to act in a more informed manner, and hold government to account more effectively:

“*I believe that first of all, more than anything, civil society needs a platform for free information about Iran's environment – a platform that can provide accurate and correct information. Also, civil society needs supportive laws and regulations to allow NGOs to conduct their activities without any barriers. Once they have these tools, then they will be better able to confront the government about their work⁷⁷.”*

“Amin”, an Iranian academic working on the water crisis criticised the lack of engagement between the government and environmental experts, stating that the government had a responsibility to do more to exploit the knowledge of environmental experts in developing environmental policies. He noted that introducing consistent policies of multistakeholderism in decision-making was the only way Iran could develop a solution to the crisis it faces:

⁷⁶ “Reza”, phone interview (2/8/2016)

⁷⁷ Ibid

“*Personally I think activists and community groups are mostly involved when we get into crises and major problems. But it shouldn't be like this. NGOs and community groups should be involved before we reach this point. Also, I believe protests and conflict don't do anything but make things worse. I think we need to develop some organisations and activists that can help develop positive ideas and solutions for the water crisis.*

I think it's the responsibility of both NGOs and central government to help each other to solve this issue. Without collaboration between the two I can't see any chance of improvement in Iran's water crisis. Government, communities, and NGOs must sit down and find solutions together, or invite academics and experts in to help⁷⁸.”

⁷⁸ “Amin”, phone interview, 3/8/2016

1.4.4 CIVIL SOCIETY AND THE ENVIRONMENTAL CRISIS

Based on our discussions with Iranian officials and activists, it seems that there is a need for the Iranian government to fundamentally revise its policies of engagement with civil society organisations operating in the environmental field. In the current security environment, it is very difficult for organisations to engage in knowledge-sharing or capacity-building initiatives with the most experienced international actors in the environmental field. Given the importance of developing the skillsets of Iranian activists and environmental organisations, it is crucial that the security apparatus' policy of forbidding international engagement be suspended.

At the same time, environmental stakeholders inside Iran should invest more resources into the development of environmentalists' capacities, and involve civil society actors in policy development and implementation in a more structured and comprehensive manner.

1.5 MORE HEAT THAN LIGHT - MEDIA, THE ENVIRONMENT, AND PUBLIC ATTITUDES TO THE CRISIS

In order to develop sound strategies for environmental organisations operating inside Iran, it is necessary to consider the current state of public discourse around environmental issues inside Iran. Such assessments are important in order to identify areas in which the public are most concerned and engaged with the environment, as well as areas in which enthusiasm and knowledge are lacking. Such an understanding of public attitudes will allow governmental and non-governmental stakeholders to plan the development of relevant and properly-targeted public advocacy campaigns.

1.5.1 PUBLIC PERCEPTIONS OF THE CRISIS

So how much research is there into the state of public discourse around environmental issues in Iran? Unfortunately, data is very limited. Polling data is limited, and academic surveys are few and far between. One of the most enlightening surveys of public attitudes was undertaken in Tehran in a 2004 study from Daniele Calabrese et al.⁷⁹, but this data is admittedly somewhat out of date. Interestingly, a similar survey was undertaken in 2016 by the Iranian organisation Karo.tech, providing some insights into how attitudes have shifted about environmental concerns over the past twelve years.

There appears to be a notable shift in attitudes towards environmental problems. In 2004, 56% of respondents agreed with the statement that 'Many claims about environmental problems are exaggerated', whereas in 2016 only 6.8% of respondents agreed with this statement. Similarly, in 2004 53% of respondents said that a solution to the economic crisis should take precedence over a solution to the environmental crisis. The 2016 survey asked a similar question, and only 7.7% agreed that a solution to the economic crisis should be prioritised over the environmental crisis.

Notably, the 2016 survey found that the public feels generally negative about the prospects facing Iran's environment. 40.3% feel uncertain, 24.8% feel somewhat negative, and 18.0% feel completely negative about the future. Only 10.1% expect any improvement in the general environmental situation over the next five years, 7.0% expect an improvement in air quality, and 13.0% think that Lake Urumieh will increase in size over the same period. Importantly, all hope is not lost - 71.2% of respondents stated that Iran's environment is in a very bad state, but believed it could be saved with a lot of effort.

So which issues are Iranian citizens most concerned about? Interestingly, air pollution tops the 2016 list, with 24.9% of respondents identifying it as one of their top three concerns. Drought comes in at second on 16.3%, and water pollution at third with 12%. Littering, deforestation, and climate change follow. The low position of climate change as a concern is particularly striking - only 5.6% of respondents identified it as one of their top three environmental concerns, indicating that there is a considerable gap in public knowledge about the role played by climate change in Iran's ongoing environmental crisis.

⁷⁹ Calabrese, Daniele, Khalil Kalantari, Fabio M. Santucci and Elena Stanghellini, (2008), *Environmental Policies and Strategic Communication in Iran The Value of Public Opinion Research in Decisionmaking*, The World Bank: Washington D.C.

This observation supports the claims of a 2013 study on the knowledge of Tehran high school students about global warming, which suggested that only around 5% of respondents could accurately and completely describe the greenhouse effect⁸⁰. Such gaps in public awareness of climate change are concerning, and suggest that the media's discussions of the environmental crisis lack any significant mention of climate change as a root cause.

1.5.2 THE EXISTING LANDSCAPE & DEVELOPMENT NEEDS

So where are Iranian citizens going for their environmental information, and where should campaigners be targeting in order to make the greatest impacts on public debate? The 2016 data provides a mixed picture. Digital media appears to be dominant – 33.1% of respondents go to social media for their environmental news, and an additional 14.0% go to websites, demonstrating a need for activists, NGOs, and governmental actors to invest greater resources into the production of high-quality, informative, and engaging online campaigns and resources.

Such media consumption patterns should be viewed as an opportunity for environmental activists and NGOs, who are well-positioned to interact with this segment of the public. Mike S. Schäfer notes in his 2012 paper that online methods of communication are ideal for environmental NGOs owing to their minimal resources, and their need to mobilise the public to achieve their policy objectives⁸¹. Online communications, he notes, allow NGOs to achieve a number of objectives effectively and cheaply:

1. **To provide information**, in a manner free from mediation by larger media organisations.
2. **To address news media**, and influence the discourse promulgated by traditional media outlets.

⁸⁰ Yazdanparast, Taraneh, Sousan Salehpour, Mohammad Reza Masjedi, Seyed Mohammad Seyedmehdi, Eddie Boyes, Martin Stanisstreet and Mirsaeed Attarchi (2013), 'Global Warming: Knowledge and Views of Iranian Students', *Acta Medica Iranica* 51.3, p. 179

⁸¹ Schäfer, Mike S., (2012), 'Online communication on climate change and climate politics: a literature review', *Wiley Interdisciplinary Reviews: Climate Change* 3.6, p. 530

3. **To increase outside support**, through fundraising, attracting volunteers, and strengthening movement networks by giving supporters a sense of 'belonging' to a cause or social movement.
4. **To change behaviours and mobilise action**, by offering users concrete calls to action that could help to resolve environmental problems⁸².

Academics and NGO workers inside Iran are similarly enthusiastic about the potential offered by social media. "Mansour", an academic working with the Urumieh Lake Restoration Project stated that:

“*There's no way you can be successful without social media. Social media and online campaigns have a key role in drawing attention to Iran's environment. We can use them to educate and teach people about Iran's environmental issues. They are the things connecting people with NGOs and activists, so they're really important*”⁸³

Examples of existing digital campaigns can be found in Chapters 2.7, 3.1.3, 3.2.2, 3.3.2, and 3.4.

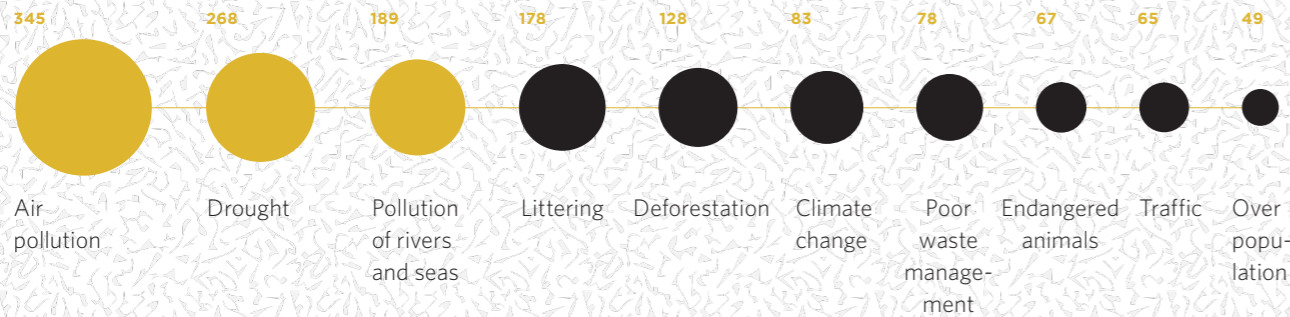
While digital media is rapidly advancing in influence in Iran, 'traditional' media remains a potent force within the country. Although newspapers struggled to influence the respondents of our survey (at 2.5%), state broadcaster Islamic Republic of Iran Broadcasting (IRIB) appears to be far more influential than satellite broadcasters when it comes to environmental programming – 27.7% identified the former as a primary news source, against 6.5% for the latter.

⁸² *Ibid*, pp. 530-532

⁸³ "Mansour", personal interview (12/6/2016)

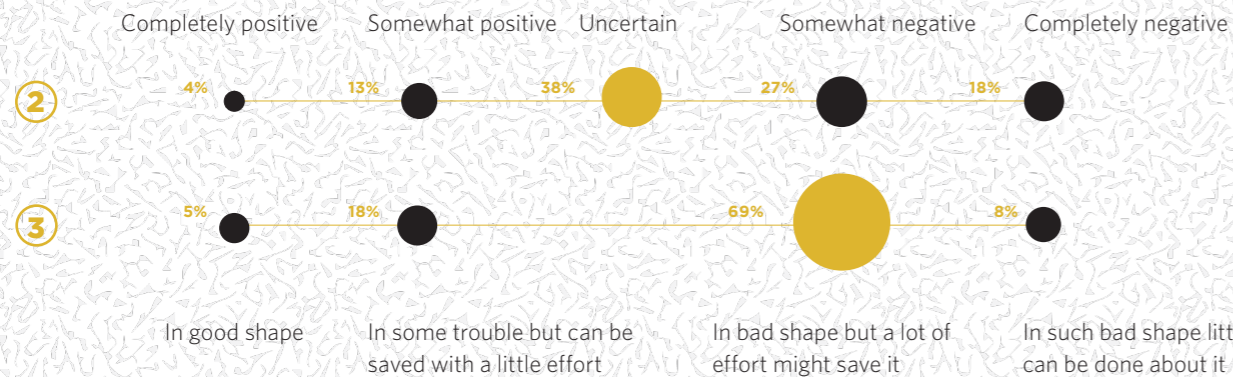
FIG. 1.5.2 IRANIAN CITIZENS ON THE CRISIS - 2004 VS. 2016

1 Which three of these issues concern you the most?



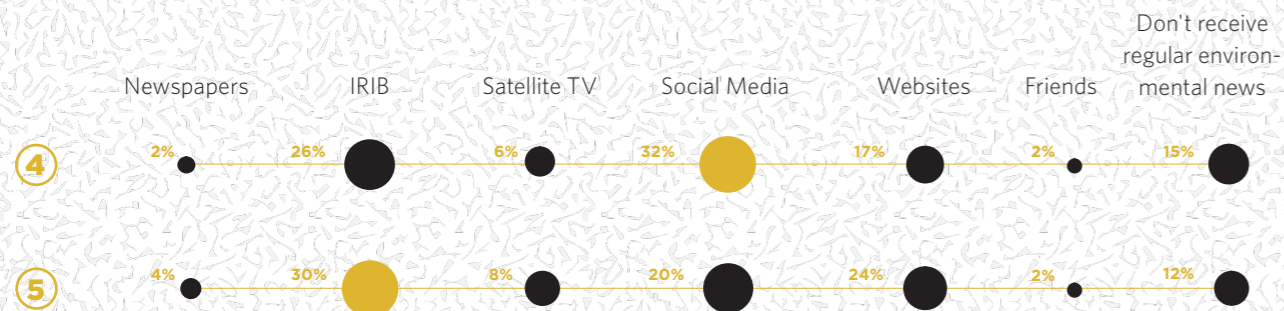
2 How do you feel about the future of Iran's environment?

3 Our environment is:



4 Where do you most regularly get environmental information?

5 Which is your most trusted source for high-quality environmental information?

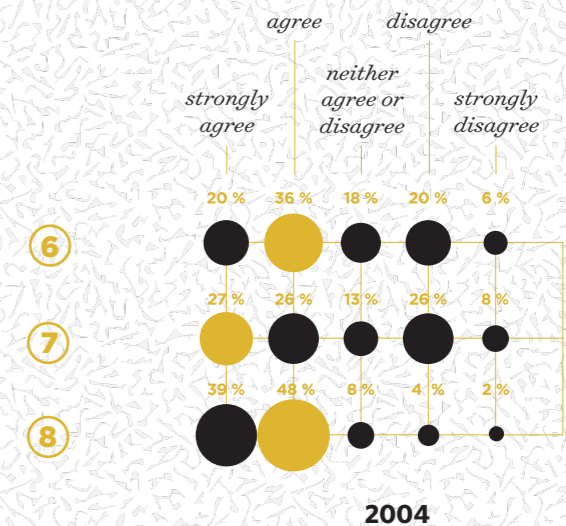
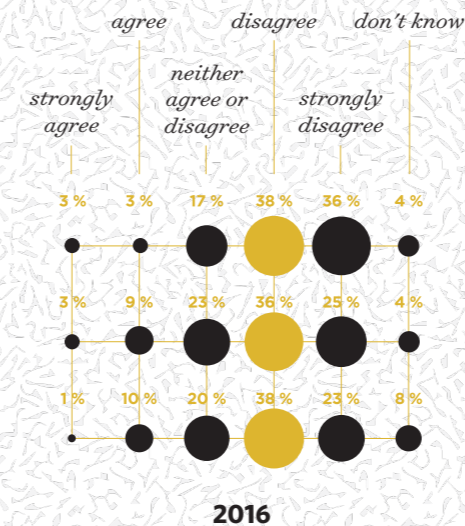


6 "Many of the claims about environmental problems are exaggerated."

How do you feel about this statement?

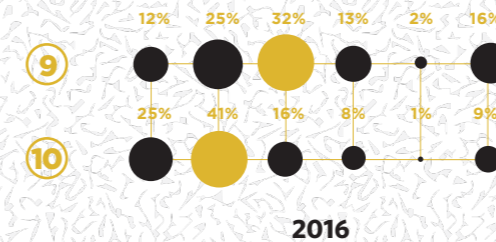
7 "Developing solutions to existing economic problems is more important than protecting the future environment." How do you feel about this statement?

8 "I think that the environmental situation will improve over the next 5 years." How do you feel about this statement?

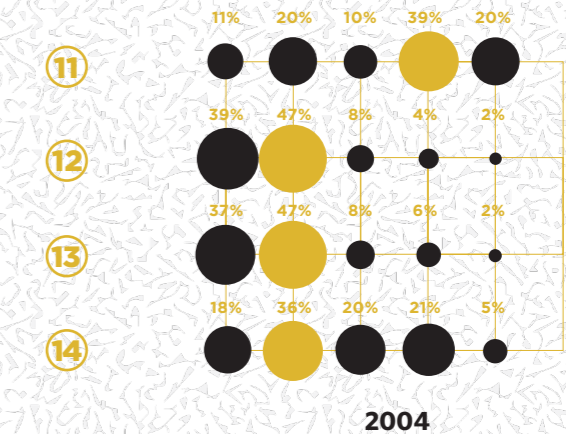


9 "I think that Lake Urmia will increase in size over the next 5 years." How do you feel about this statement?

10 "I think that the air quality in Iran's cities will improve in the next 5 years." How do you feel about this statement?

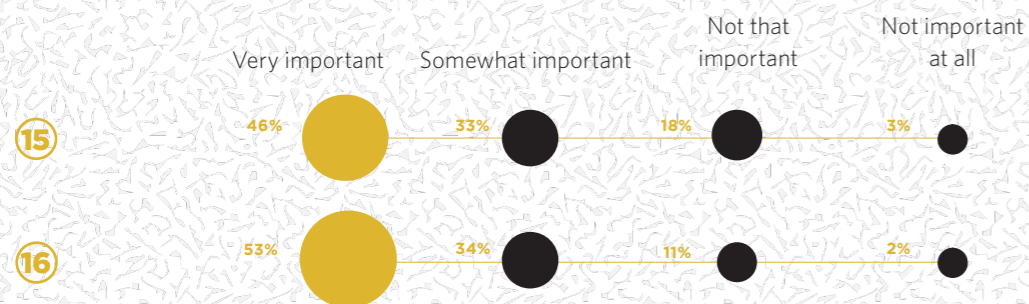


11 Humans have the right to modify the natural environment to suit their needs.
12 It is possible to have good economic growth and to protect the environment at the same time.
13 Interfering with nature has bad consequences
14 Modern technology can solve environmental problems.



15 How important is it that local communities and environmental NGOs are involved in the development of government environmental programmes?

16 How important is it that scientists and academics are involved in the development of government environmental programmes?



Source
Karo.tech (2016), 531 respondents
Calabrese et al. (2008), 1200 respondents

Although IRIB appears to be the most influential of Iran's 'traditional' media channels, the quality of its environmental programming has been questioned by the environmental activist and journalist "Hooman", who noted that environment-focused shows are generally low-budget, and of limited quality:

“The problem that we're facing in IRIB is that the people who want to produce environmental programs have no experience or knowledge in this field. So imagine a producer or director commenting on specialised issues. The other issue is funding – there is very little funding available to make environmental programs. Also, the IRIB directors are always looking for sponsorship deals to make environmental shows, but in Iran finding partners or sponsorship deals for these kinds of programs is the toughest job in the world⁸⁴.”

Said Sarabi's paper on IRIB's existing approach to environmental problems notes that despite the opportunities offered by the broadcaster's dominant position in the media landscape (wide reach, ability to coordinate strategies with other state bodies, abundant resources, ability to produce local programming), it is currently struggling to develop accessible and entertaining content, or coordinate effectively with government stakeholders⁸⁵. Subsequently, Sarabi advocates a number of policy shifts and initiatives for IRIB to improve the quality of its communication on environmental issues:

⁸⁴ "Hooman", phone interview (4/9/2016)

⁸⁵ Sarabi, Said, (2016), 'Development Optimal Strategies for Media Policy of IRIB on Issue of Climate Change', *Modern Applied Science* 10.2, p. 119

1. Stepping up cooperation and coordination of activities with relevant environmental actors within Iran, including the DoE, Ministry of Energy, and Ministry of Agricultural Jihad.
2. Develop a website and mobile phone app targeted at young people, with the objective of educating them about the environmental issues affecting Iran, and the role of climate change in driving them.
3. Develop a range of content for radio and TV broadcast to educate the public about environmental issues, which should have the following features:
 - a. Content should be critical and probing with regard to environmental issues.
 - b. Some content should be produced for local broadcasters about issues relevant to consumers.
 - c. Content should be tailored to the characteristics of the channel on which it is broadcast.
4. Attracting finance and expertise support from relevant governmental, NGO, and international organisations to train employees, consult with them about developing climate change-related content, and assist in the development of dynamic and informative campaigns⁸⁶.

Sarabi's research suggests a number of interesting paths forward for media engagement with environmental issues, and there is no reason that his suggestions should be limited to IRIB. Although the development of high-quality TV broadcast content is budget-intensive, and should be spearheaded by major broadcasters (such as IRIB, Manoto1, or BBC Persian), the development of dynamic and informative websites and mobile phone apps is a comparably low-budget means of media engagement that could be pursued by Iranian environmental NGOs and the activist community with some support from Iran's burgeoning design and tech sectors.

On the basis of Sarabi's research, and our discussions with experts and journalists, we would advise that IRIB invest in high-quality environmental programming with support from knowledgeable environmental experts, scientists, and conservationists. Similarly, satellite broadcasters should take environmental programming more seriously, and devote greater resources to

⁸⁶ Ibid p. 121

engaging and informative environmental output. The polling above demonstrates that Iranians are deeply concerned about the environment, and are hungry for reliable information. It is the duty of broadcasters to help provide this information in a way that equips citizens with the knowledge to engage fully with the urgent environmental challenges of the day, and to place pressure on their elected officials to develop intelligent, far-sighted policy responses.

1.5.3

THE STATE OF ENVIRONMENTAL JOURNALISM

As a component of this research project, Small Media conducted a survey of Iranian environmental journalists, asking them about their perspectives on the environmental crisis, the challenges they face in their daily work, and the support they most urgently need in order to work more effectively.

The vast majority of journalists were clear in expressing that there was a high or very urgent need for increased media coverage of a whole host of environmental issues, with air pollution, drought, and deforestation coming out as the topics noted as having the highest levels of existing public interest.

"Hooman" confirmed our findings, stating that there is a major skills and knowledge gap amongst environmental journalists that presents a major obstacle to the development of fact-based, provocative, and probing environmental journalism:

“The first thing that I'd say journalists need support to develop is their knowledge. Our environmental journalists haven't got enough knowledge to cover their own field. Also, most of the time journalists don't know how to write articles that people can understand. Sometimes we use really technical and overcomplicated words that people don't understand, so then they

don't bother to read our stories. So it's really important to know how to write for people, and to be effective.

These days journalist either just copy and paste, or they just take quotes directly from officials – if you go and read the papers you will see so many: “so-and-so said...” or “Mr. X mentioned that...”. So what we need are more investigations, and some cool environmental stories. Otherwise, why are we even using journalists, and not just using software to transcribe what officials are saying?

The other problem is that journalists do not ask proper questions of officials, so it's not only a problem of knowledge. If you knew some numbers and statistics from previous years, then you'd definitely be able to come up with some questions. I think Iranian environmental journalists just don't have enough motivation in their work, whether that comes from low income or a lack of job stability⁸⁷.”

⁸⁷ “Hooman”, phone interview (4/9/2016)

These findings were confirmed by “Shirin”, an Iranian environmental journalist, who criticised many of her colleagues for their lack of knowledge, and even interest in environmental issues:

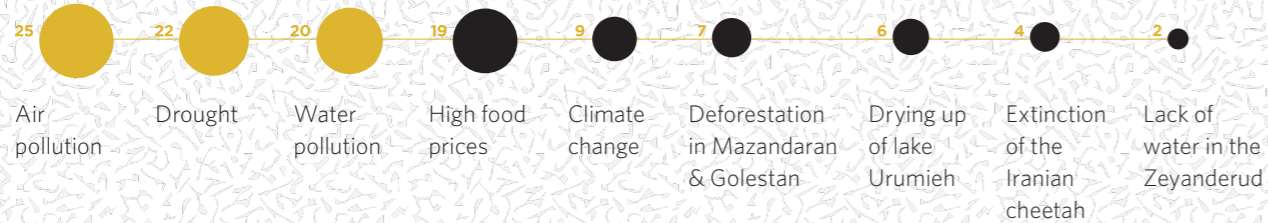
“One of the biggest flaws I can see in this field among my co-workers is that they don't have expert knowledge in the topic... I feel that a bit of research and focus on the field will allow one to make up for their shortcomings, but unfortunately professional journalism doesn't have much meaning. Journalists will cover sport today, art and literature tomorrow, social issues the next day, and politics another day.

The number of professional environmental journalists in Iran at the beginning of the 1990s was better than it is now. Many of these good journalists are now living outside of Iran, and I could tell you that the number of professional environmental journalists in Iran can now be counted on one hand⁸⁸.”

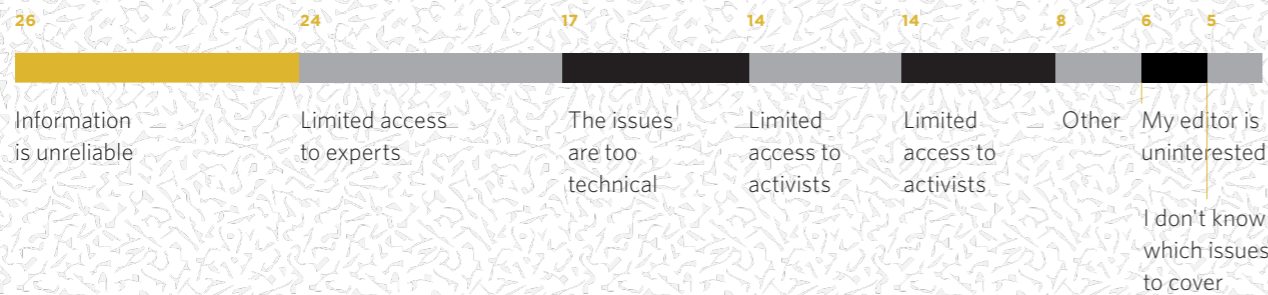
⁸⁸ “Shirin”, phone interview (4/8/2016)

FIG. 1.5.3 IRANIAN JOURNALISTS ON THE ENVIRONMENTAL CRISIS

1 I think the public would be most interested in stories about... (Pick 3)



2 What are the main challenges you face in covering environmental issues?



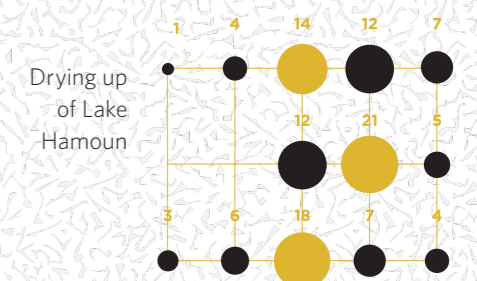
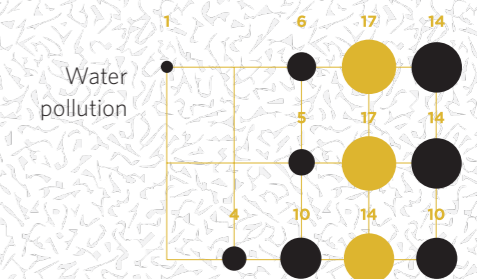
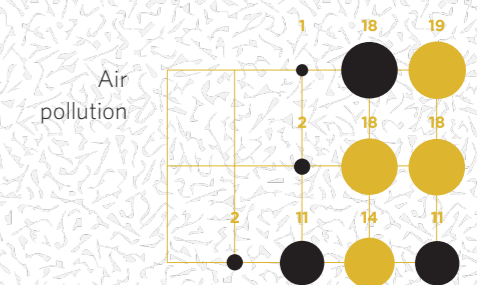
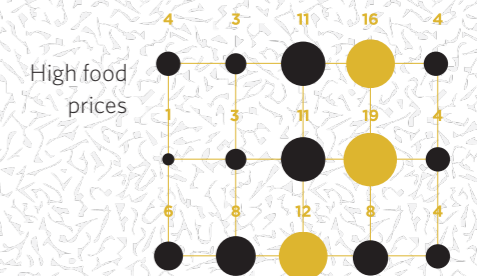
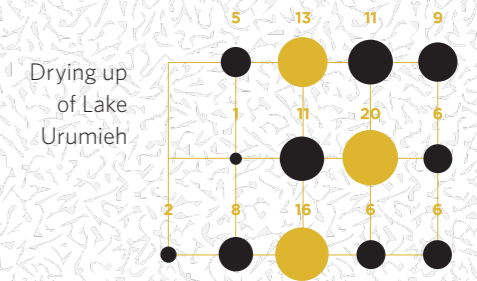
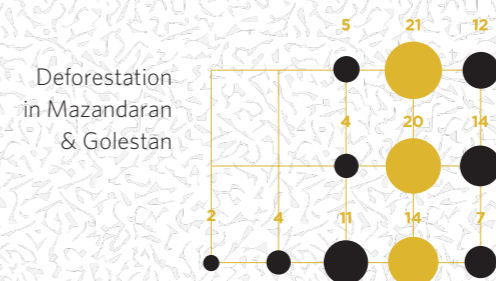
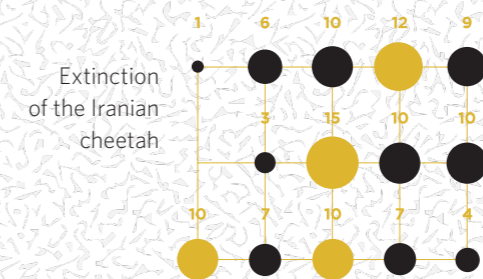
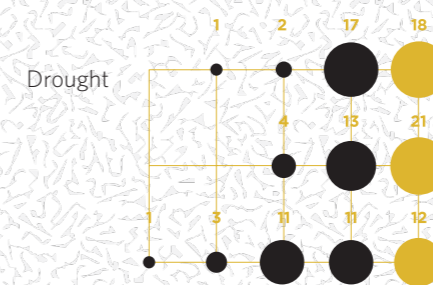
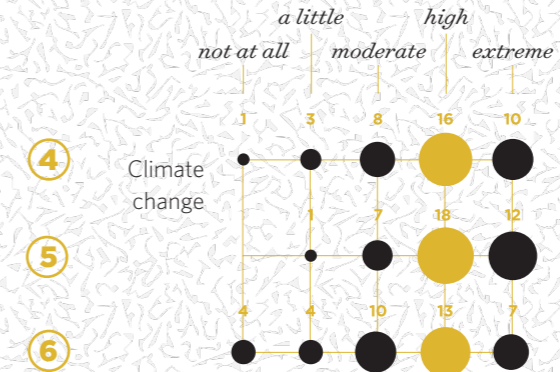
3 What kind of support would you like in order to cover environmental issues more frequently and effectively? (Pick 3)



4 How worried are you about...

5 Do you think there is a need for these issues to receive more media coverage?

6 How interested are you in writing stories about...?



At the same time, “Shirin” criticised the government for its failure to invest in developing the skills and capacities of environmental journalists, and accusing authorities of purposefully stunting the development of good journalists in order to preclude tough questions being asked of officials:

“Unfortunately in previous years, the very least effort has been made by the responsible organisations such as the Department of Environment or the Forest Range and Watershed Organisation to set up educational workshops to improve the level of knowledge among journalists in this field.

Environmental organisations and political officials are very welcoming to the idea that journalists don't have the right knowledge, because it means that in press conferences, no questions get asked. If questions are asked then they're very general questions – for example, a journalist will ask Ms. Ebtekar a question like: “So, how's the environment doing?” which in my opinion is rude and ludicrous.

Sometimes we see that the Forest Range Organisation encourages this – they prefer that journalists with less knowledge are present at their press conferences rather than experienced journalists, and

sometimes we see that those few expert journalists don't even get invited to these conferences so that they don't ask any questions officials won't know how to answer. They want journalists to be mere listeners, writing exactly whatever Ms. Ebtekar or anyone else states⁸⁹.”

This being said, in August 2016 the Society of Environmental Journalists of Iran (SEJI) was established, with the objective of providing support and training to Iranian environmental journalists⁹⁰. The fact that SEJI is independent from government, and that its board is made up of experienced journalists like Hamid Mirzadeh and Arzoo Mirzakhani is a hopeful sign, although it is as yet unclear how effective (and how well-resourced) SEJI will be in its efforts to build the capacities of Iran's environmental journalists.

Our research demonstrates that there is a very urgent need to develop the capacities of Iran's environmental journalists by developing their depth of knowledge of the key environmental issues affecting Iran today, not least the science of the water crisis, air pollution, and deforestation. If journalists are to effectively inform the public about the challenges facing the country, and if they are truly to hold government officials to account, then they must have a solid grasp of the issues themselves.

⁸⁹ *Ibid*

⁹⁰ Mehr News, (2016), 'The Society of Environmental Journalists of Iran has been established', last accessed 27/8/2016, available at: <http://bit.ly/MehrSEJI>

THE WATER CRISIS °

Iran is facing a water crisis that is unparalleled in its modern history. Lakes and rivers are dying, droughts are increasing in frequency, and even Iran's deepest groundwater reserves are being sucked dry by Iran's growing population and its thirsty agricultural sector. Iran's government is pouring resources into developing solutions to the water crisis, but experts are bitterly divided over the course of action to take: whereas some experts advocate for ambitious, large-scale engineering projects to transfer desalinated water from the Persian Gulf and Caspian Sea to Iran's parched interior, others insist that an anthropogenic, development-rooted crisis should not be resolved with yet more anthropogenic, development-focused solutions.

In this chapter, we will offer an overview of the water crisis facing Iran — its causes, its impacts, and the solutions being proposed to resolve it. Then, we will turn to examine some of the civil society initiatives that have emerged to either campaign for policy changes, educate the Iranian public about water issues, or to develop local community groups with specific policy agendas.

2.1 BLEAK PROSPECTS – DROUGHT AND THE WATER CRISIS IN IRAN

The Iranian Plateau is an arid and semi-arid region with an average annual precipitation rate of 250mm (ranging from 50mm to 1500mm in certain regions)⁹¹, receiving a total annual precipitation of 417 billion cubic metres (bcm)⁹². Frequent droughts cause substantial damage to forests, agriculture, water resources, and an array of economic sectors, while rapid population growth, climate change, wasteful agricultural practices, overuse, and mismanagement of water resources have all contributed to a crisis of water scarcity that threatens Iran's future food and water security⁹³.

The impact of the water crisis on the agricultural sector is dramatic, and the declining availability of water resources leaves Iran very vulnerable to extreme drought conditions. A 2001 report from the UN Office for the Coordination of Humanitarian Affairs estimated that extreme drought that year affected around 75 million livestock, and a caused a 35–75% reduction in wheat and barley production⁹⁴. A paper from Habibollah Salami et al. suggested that the same drought delivered Iran a 4.4% drop in GDP, along with notable falls in the value

⁹¹ Saravi, M.M., R. Shahbazi & A. Malekian (2015), 'Drought and water scarcity in Iran: How to cope with and prepare for it?' *Drought: Research and Science-Policy Interfacing*, p. 481

⁹² Ardakanian, Reza, (2005) 'Overview of Water Management in Iran', *Water Conservation, Reuse, and Recycling: Proceedings of an Iranian-American Workshop*, p. 21

⁹³ Saravi, M.M., R. Shahbazi & A. Malekian, (2015), 'Drought and water scarcity in Iran: How to cope with and prepare for it?', p. 481

⁹⁴ Office for the Coordination of Humanitarian Affairs (OCHA), (2001), 'Iran – Drought OCHA Situation Report No. 1.' last accessed: 04/09/2016, available at: <http://reliefweb.int/node/83752>

of the cropping, manufacturing, and service sectors⁹⁵. With water resources increasingly scarce across the country, and agriculture already in crisis, the impact of future droughts is likely to be even more intense.

Iran's water crisis is not just a protracted 'drought', however – droughts are short-to-medium term falls in precipitation that eventually pass. The crisis facing Iran is one of a consistent, long-term decline in water resources, in which surface water and groundwater resources are being consumed more rapidly than they are being replenished. This is not a temporary crisis – if the root causes of the water crisis continue to go unaddressed, then it has the potential to lead to the long-term destruction of entire ecosystems and inhabited regions.

2.2 A THIRSTY COUNTRY – GROUNDWATER DEPLETION AND THE CRISIS OF AGRICULTURE

One of the clearest signs of the scale of Iran's water crisis is evident in the country's significant loss of groundwater reserves. In many regions of Iran, water supplies depend solely on groundwater supplies⁹⁶, making their exhaustion one of the most alarming possibilities for Iran's future. In Fars province, more than 70% of water in use is being drawn from groundwater aquifers – such policies are not at all sustainable.

A study based on data collected from 1,346 wells between 1994–2006 showed an average annual decline of water tables in 80 percent of aquifers of 0.5 metres, ranging from 0.03 to 1.97 meters annually⁹⁷. This excessive usage is subsequently contributing to a deterioration in the quality of groundwater, with a 2010 study

⁹⁵ Habibollah Salami, Naser Shahnooshi, Kenneth J. Thomson, (2009), 'The economic impacts of drought on the economy of Iran: An integration of linear programming and macroeconomic modelling approaches', *Ecological Economics* 68, p. 1039

⁹⁶ Faramarzi, Monireh, Nazanin Rahbar, Hong Yang, (2009), 'Assessing the Impact of Climate Change on Water Resources in Iran', *Water Resources Research*, p. 15

⁹⁷ Hojjati, Mohammad Hossein, Fardin Boustani, (2010) 'An Assessment of Groundwater Crisis in Iran Case Study: Fars Province', *World Academy of Science, Engineering and Technology*, 4.10, p. 2067

demonstrating that water salinity is increasing in 37 of 57 plains monitored⁹⁸. Increasing water salinity is itself having a calamitous impact upon the agricultural sector, with relative wheat yields falling by around 50% in some of Fars province's hardest-hit aquifers⁹⁹. Increases in salinity also occur more frequently in areas worked by freehold farmers, as noted by Qureshi et al.: "Generally, the worst situations of salinity impacts in Iran occur where the farming communities are relatively poor and face economic difficulties. Therefore, they are unable, even reluctant, to employ new technologies without financial help from the government¹⁰⁰." With groundwater reserves plummeting, and increasingly unfit for farming, there is a real danger that Iran's agricultural sector will wither and die in some regions in the coming decades.

Though the agricultural sector finds itself in a vulnerable position at present, it would not be unfair to describe this crisis as being partly of the sector's own making. Agricultural efficiency in Iran is staggeringly low, and as a result vast quantities of water are being wasted.. Whereas only 15% of Iran's land area is cultivated, the agricultural sector is responsible for 92% of the water consumption in the country (compare that with 7% for domestic water use, and 1% for industrial use)¹⁰¹. Farmers receive massive government subsidies for water and energy use, providing little incentive for farmers to increase their production efficiency. On average, irrigation efficiency sits at less than 35%, and only around 5% of farmed land is under pressured irrigation¹⁰². The agricultural sector is responsible for more than 90% of groundwater consumption (compared to 8% for domestic groundwater use and 2% for industrial groundwater use)¹⁰³. According to Kaveh Madani, this depletion of groundwater has left 277 of 609 plains inside Iran in a critical condition, and triggered widespread land subsidence across the country¹⁰⁴.

⁹⁸ *Ibid*

⁹⁹ *Ibid*

¹⁰⁰ Qureshi, Asad Sarwar, Manzoor Qadir, Nader Heydari, Hugh Turrall and Arzhang Javadi (2007), 'A Review of Management Strategies for Salt-prone Land and Water Resources in Iran', *International Water Management Institute, Working Paper 125*, p. 4

¹⁰¹ Madani, Kaveh (2014), 'Water management in Iran: what is causing the looming crisis?', *Journal of Environmental Studies and Sciences* 4.4, p. 5

¹⁰² *Ibid* p. 6

¹⁰³ *Ibid*

¹⁰⁴ *Ibid* p. 6

But "Hossein", an Iran-based agricultural expert, insisted to us that the Rouhani government is taking substantive steps towards modernisation and increased efficiency within the sector, and is investing resources to boost the efficiency of the agricultural sector:

“*The government is very serious about encouraging the agricultural sector to use new irrigation methods and technologies. One of the main government initiatives consists of subsidising farmers and agricultural activities by providing up to 80% of the starting capital for the installation of micro- and deep root-irrigation systems, which will be of great help for the farmers.*

The government is also installing micro-injection and deep irrigation systems across the country as well as developing the conservative agriculture sector to maintain the soil water and organic matter. Other strategic plans being followed up by the government include redefinitions of the planting benchmarks and developing watershed management to inject surface water and precipitations in sub-surface resources¹⁰⁵.”

¹⁰⁵ "Hossein", phone interview (11/7/2016)

Some experts are less optimistic about the potential of government interventions into the agricultural sector to offer an effective solution to the water crisis. Nasser Karami, a Europe-based academic suggested that government subsidies for equipment modernisation would likely be exploited by farmers who saw little long-term gain in continuing to work on their land:

“Iran is been expanding the farming industry all over the country without looking to the future. Even if you use very modern and efficient techniques and equipment for irrigation, there’ll still be so much waste... but remember that improving Iran’s irrigation system would cost 1 billion rials (around \$32,300) per hectare. Iranian farmer families own an average of 5 hectares, which would mean a 5 billion toman payout. They’d get the money, sell their land, and move straight to the city instead of improving of their watering system. Even with all the help that government provides to them, agriculture is just not profitable in Iran¹⁰⁶.”

In their 2014 paper, Amir Agha-Kouchaka et al. also argue that increasing irrigation efficiency cannot offer a solution to the water crisis by itself, and may even exacerbate existing problems. Contrary to Karami, they argue that modernised, highly efficient irrigation systems may open the door for farmers to

¹⁰⁶ Nasser Karami, phone interview (7/7/2016)

grow high-value cash crops with high water needs¹⁰⁷. They hypothesise that the only sustainable solutions are those that reduce the demand for water, especially for irrigation: “Future adaptation strategies may consider providing farmers with incentives for cropping change and water conservation to reduce agricultural water demand and irrigation losses, development of socio-economic strategies for improving the efficiency of water use through water pricing and market mechanisms, establishing environmental water accounts, increasing water and energy prices, revising land use and regional development plans, and empowering farmers¹⁰⁸.”

The rate of groundwater depletion has been accelerated substantially by the widespread practice of drilling illegal wells, which are getting deeper and deeper every year. Agricultural expert “Hossein” noted that for many farmers, the wells were a necessary evil, regardless of their poor sustainability:

“Many illegal wells were constructed during the two Ahmadinejad presidencies. Many problems that Rouhani’s government is being forced to solve have been inherited from the Ahmadinejad era. But at this stage, it’s very difficult to solve these kinds of problems: the farmers who use these illegal wells are only able to work because of them. If the government closes them, they will cause unemployment and numerous social problems¹⁰⁹.”

¹⁰⁷ Agha-Kouchaka, Amir, Hamid Norouzib, Kaveh Madani, et al. (2015), ‘Aral Sea syndrome desiccates Lake Urmia: Call for action’, *Journal of Great Lakes Research* 41, p. 310

¹⁰⁸ *Ibid* p. 310

¹⁰⁹ “Hossein”, phone interview (11/7/2016)

It is clear that tackling illegal and irresponsible groundwater extraction will have unquestionably negative impacts upon communities across rural Iran, many of which depend on such methods for their continued survival. Some experts believe that long-term solutions to the water crisis necessitate such difficult decisions, with Nasser Karami calling upon the government to radically cut its ties to the agricultural sector:

“I believe that Iran should shut down a big part of its farming sector, but many people disagree with me! They say: “So many farmers will lose their jobs!” But I believe a lot of poorer people become farmers with political motivations. In the past decade, so many people were given land just so they’d support a particular political party. For example, in the last year of Ahmadinejad’s presidency, 80,000 wells were built in places they shouldn’t have been. Why? Because [the government] tried to get more support from farmers... the system and the government couldn’t give them good jobs, so they were given land and water taken from our natural resources¹¹⁰.”

Although political factors may have contributed to failures of regulation over the past decade, agriculture continues to account for a huge chunk of Iran’s employment, if not its GDP. In a speech at the Iran Heritage Foundation’s ‘Iran’s

¹¹⁰ Nasser Karami, phone interview (7/7/2016)

Natural Heritage’ conference, Kaveh Madani – one of Iran’s leading voices on the water crisis – explained how the agricultural sector remained bloated and inefficient, while noting the practical challenges of finding alternative jobs for agricultural workers in the midst of an economic crisis, and the political risks of reducing food security given Iran’s isolation on the world stage:

“[Agriculture] used to be about 33% of GDP, but now it’s down to 13% of GDP. So it’s not really contributing economically, but in terms of food security it’s an important sector. There are some statistics saying Iran is at #8 or #9 [globally] in terms of food production, which is a good thing. But 15% of the area of the country is under cultivation, and it keeps 23% of people busy. And so that’s another problem: unless we develop and get new industries we can’t move people – if we don’t want to do agriculture, what should those people do? Unless we provide them with alternatives, we can’t shut down this sector and say “We’re gonna import”, plus if your country has international instabilities and relational problems then you’d want to keep food security high¹¹¹.”

¹¹¹ TheIHF, (2014), YouTube, ‘Iran’s Natural Heritage: Dr Kaveh Madani - Iran’s Water Crisis’, last accessed: 04/09/2016, available at: <https://www.youtube.com/watch?v=PIY3JErgEqY>

The crisis facing Iran's environment cannot be boiled down completely to failures of the agricultural sector – whether of education, technology, or mismanagement. There are numerous political considerations that make a resolution to the agriculture questions unlikely in the short-term.

2.3 PARALYSIS – INSTITUTIONAL CAUSES OF THE WATER CRISIS

So who is to blame for this crisis? Although Madani attributes some of the blame for the crisis on exogenous factors such as sanctions (for delaying modernisation), political instability, and poor economic performance, he notes that these are “crisis catalyzers, not the main cause of the water crisis¹¹².” Instead, Madani blames “disintegrated decision making and problem solving by knowledgeable experts who act independently,” and a muddled water governance structure “which involves too many stakeholders and an undesirable hierarchy in water resources management¹¹³.” He notes that Ahmadinejad-era reforms to the water management boundaries served only to politicise water management, and encouraged short-termist planning by mapping responsibilities to provincial boundaries, rather than watershed boundaries¹¹⁴. As a consequence, Iran's provinces are clashing over the management of transboundary water systems including Urmieh, Karkheh, Ghezel-Ozan, and the Zayandehrud¹¹⁵. Such problems can only be resolved through a far-reaching programme of reform to the state's water management structures.

One of the major problems identified by experts and activists is the ambiguous role of the Department of the Environment (DoE) in managing Iran's environmental problems. Directly nested under the Presidency (with an attached ‘Vice President for Environmental Protection’), the DoE does not have the powers of a government ministry, and its precise responsibilities are rather loosely defined, falling into the four sectors of education, human

¹¹² *Ibid* pp. 7-8

¹¹³ *Ibid* p. 7

¹¹⁴ *Ibid*

¹¹⁵ *Ibid* p. 3

environment, biodiversity, and parliamentary affairs. According to “Soroush”, a former environmental activist based in Turkey, the DoE lacks the authority and the resources to effectively push environmental initiatives forward, and should instead be reshaped into an organisation that can deliver support to grassroots, civil society-led initiatives:

“*The DoE doesn't play a central role in developing government-level initiatives. Rouhani created a makeshift task force for Urmieh drawn from a number of ministries because the DoE doesn't have the authority to act by itself.*”

Although a stronger DoE would be helpful, if it turns into an authoritarian institution that doesn't involve local actors like CBOs and NGOs, then it could become a threat to CBOs and NGOs instead.

[The DoE] should have an agenda which includes plans to allocate money and support projects with these organisations, and set decision making in a shared framework with grassroots movements. Of course, the DoE is more open to participation compared to other Iranian institutions, but it is still very backwards¹¹⁶.”

¹¹⁶ “Soroush”, phone interview, (3/6/2016)

Nasser Karami echoed these concerns, noting that the DoE lacked the power to develop and implement far-reaching environmental programs:

“I believe Iran’s DoE doesn’t have enough power, and would say that it’s not in charge of Iran’s environment. Logically and lawfully they lack the power to take action or get involved in solving the water crisis. The most powerful organisation with power in these matters are the Ministry of Energy and the Ministry of Agriculture, and of course the government itself¹¹⁷.”

Even within government, there is recognition that the existing governance structures are inefficient and confused. “Reza”, a senior Iranian government official, told us that Ahmadinejad-era reforms to environmental governance structures overly politicised the regional DoE offices by subordinating them to provincial governors instead of the national DoE leadership, by forcing regional offices to obtain funding from provincial budgets:

“Usually the provincial DoE offices in Iran’s provinces got their funding directly from Iran’s Department of the Environment, but Ahmadinejad forced them to get their funding directly from each governor. Even now they still get their funding from

¹¹⁷ Nasser Karami, phone interview, (7/7/2016)

governors, and I believe as a consequence they end up listening to provincial governors instead of the Department of the Environment. What I can’t understand is why Rouhani’s government hasn’t taken action – it’s already had three years to make the right changes, and to be honest I haven’t seen enough will to make them... So right now I don’t blame Ahmadinejad, I blame those cowardly directors that have not made any changes, both in the Ministry of Energy and the Department of the Environment. And I personally think Rouhani is responsible for all of that¹¹⁸.”

“Mansour”, an academic working in Iran, and involved in the Urumieh Lake Restoration Project also called for Iran to reform the DoE into a strengthened Ministry of the Environment:

“I have suggested so many times that Iran needs an Environment Ministry. Iran’s environment protection system is quite broken. So many people have responsibilities, but they don’t have enough power, including the Department of the Environment, the Ministry of Energy, the

¹¹⁸ “Reza”, phone interview (2/8/2016)

Geology Survey, and even universities and governors.

The issue of Iran's environment should be under the control of a ministry – a ministry with power! ...One that can pass laws and take action on Iran's environment¹¹⁹.”

The consistency with which we heard this call from academics, activists and experts suggests that this issue of weak institutions and widely-dispersed and overlapping powers is a serious impediment to the formulation and implementation of effective solutions to Iran's water crisis. Encouragingly, the problem of “a lack of coordination between government units” is also highlighted in the Iranian Parliamentary Research Centre's 2016 report “An Examination of the General Situation of the Water Sector¹²⁰”, suggesting that the Iranian government is cognisant of the problem, although the research paper does not offer a clear plan of action for developing a solution.

Based on our research, we would recommend that the Iranian government works to develop a streamlined system in which a strong Ministry of the Environment is empowered to act decisively to formulate and deliver environmental programs. This new Ministry should be granted powers currently belonging to the Ministry of Energy's Department of Water Affairs, the Ministry of Agricultural Jihad, the DoE, and the FRWO. The new Ministry of the Environment should contain an empowered version of the DoE's Office of Education and Public Participation to ensure that the voices of CSOs, CBOs, and other activists and NGOs are integrated into any environmental development plans.

¹¹⁹ “Mansour”, personal interview (12/6/2016)

¹²⁰ Iranian Parliament, (2016), ‘The Report of the Representatives of the 10th Parliament Examining the Overall Situation of the Water Sector’, last accessed: 04/09/2016, available at: <http://rc.majlis.ir/fa/report/show/970068>

2.4 GLOBAL SHIFTS – CLIMATE CHANGE AND THE WATER CRISIS

Although poor management, aggressive overdevelopment, and the inefficiency of the agricultural sector have exacerbated Iran's water crisis dramatically, it would be remiss to gloss over the negative impact of global climate change upon Iran, and its contribution to increases in drought frequency and processes of desertification.

A modelling of future impacts of climate change in Iran, conducted by Monireh Faramarzi et al. demonstrates that climate change will likely lead to an ever-widening gap between Iran's wet and arid provinces. They note that “For future scenarios we found that in general, wet regions of the country will receive more rainfall while dry regions will receive less. Analysis of daily rainfall intensities indicated more frequent and larger-intensity floods in the wet regions and more prolonged droughts in the dry regions¹²¹.” Their models predict that in Iran's south and southeast, groundwater recharge will decline dramatically. Given the high quantities of irrigated wheat is grown in these regions, the authors note that “climate change will have a significant negative impact on the wheat production of the country¹²².”

The issue of global climate change has been raised by Iran's Vice President and Director of the Department of the Environment Massoumeh Ebtekar. In February 2015 she described global warming as “a serious threat to life on earth” that will “have a very dangerous process and will be followed by devastating impacts and consequences¹²³”.

Indeed, at the local level the projected impact of climate change appears catastrophic. A study undertaken by Zarghami et al. suggests that in East Azerbaijan, water resources will dwindle to critically low levels in the coming decades. The article suggests that the average climate of the province will change from semi-arid to arid, that rivers will become seasonal, and that inflows in three

¹²¹ Faramarzi, Monireh, Nazanin Rahbar, Hong Yang, (2009), ‘Assessing the Impact of Climate Change on Water Resources in Iran’, *Water Resources Research*, p. 1

¹²² *Ibid* p. 15

¹²³ Karami, Arash, (2016), ‘Top Iran official warns of climate change’, *AI Monitor* 18/02/2016, last accessed: 04/09/2016, available at: <http://www.al-monitor.com/pulse/originals/2015/02/iran-climate-change-ebtekar-water-crisis.html>

watersheds will be lost for the majority of each year¹²⁴. The situation has the potential to make regions of Iran near-uninhabitable, meaning that initiatives to manage water resources sustainably, and increased diplomatic efforts to minimise the impacts of climate change at a global level should be undertaken by the Iranian government with immediate effect.

2.5 “DROUGHT IS RESPONSIBLE FOR ALL MY WOES” – THE SOCIAL IMPACT OF THE WATER CRISIS

As discussed, a combination of climate change, seasonal droughts, underinvestment, and poor water resource mismanagement has led to a crisis in agriculture and rural Iran. We have spoken in abstract terms about what these trends may mean for the future of Iran’s environment, but what impact will these changes have upon the communities living in the most vulnerable regions of the country?

Although we were not able to conduct our own on-the-ground surveys of rural Iranian citizens, some excellent qualitative work has already been conducted to capture the stories of families working in the agricultural sector, and their experiences enduring recent droughts. Marzieh Keshavarz et al.’s research assesses the impact of drought upon fifteen farming families from very resource poor, resource poor, and less vulnerable social groups, all based in two villages in Fars province. She notes that all social groups have been adversely affected by the droughts, and are suffering from negative economic, social, emotional, and health impacts¹²⁵.

Limited access to irrigation water has driven some landowners to abandon their own land, with many choosing to move to urban centres to seek opportunities. Those that remain behind are often forced to undertake labour on other farms in order to earn a sufficient wage:

¹²⁴ Zarghami, M., et al., (2011), ‘Impacts of climate change on runoffs in East Azerbaijan, Iran,’ *Global and Planetary Change*, p. 9

¹²⁵ Keshavarz, Marzieh, Ezatollah Karami, Frank Vanclay, (2013), ‘The social experience of drought in rural Iran’, *Land Use Policy* 30, p. 120

“*Drought is responsible for all of my woes. I have many things but I own nothing. I have high quality land without a drop of water. It is terrible to own a three hectare farm, but to have to work as a laborer on someone else’s farm.*” – Male, Case 11¹²⁶

“I am a well-known man. My family has a good reputation. How can I work on someone else’s farm? How can I tell them, ‘Please let me work as a laborer for you?’”
– Male, Case 8¹²⁷

The struggle to maintain a living on struggling farmland is causing immense strains to the physical and mental health of rural inhabitants, with a lack of money limiting their ability to obtain support:

“*I don’t like my children to see me upset because it upsets them. I have gone to the farm and I’ll stay there for hours and cry loudly. I’ll cry for my son’s woes, my daughter’s destiny, my husband’s hopelessness and my family’s poverty. Then I go home and act as if nothing has happened.*” – Female, Case 9¹²⁸

¹²⁶ *Ibid* p. 123

¹²⁷ *Ibid* p. 124

¹²⁸ *Ibid* p. 125

“*My daughter suffered from headaches and vertigo. She was in pain most of the time. I said to my husband that she needs to go to a specialist. But he was penniless and told me that we must wait till harvest. But then it was too late. The doctors told us she had cancer and they couldn't treat her at all. My darling daughter died last year and I believe that if we had the money, my daughter would still be alive.*” – Female, Case 14 ¹²⁹

Keshavarz et al.'s study goes on to describe further social, emotional, and health impacts of the crisis upon local communities, and notes that the ability of less wealthy families to adapt to the situation is limited, as “constraints on the physical, natural and environmental assets prevented the majority of vulnerable families from effective drought mitigation and have forced them to select coping strategies which diminish their livelihood options¹³⁰.” As droughts are only likely to increase in frequency and intensity as the water crisis rumbles on, and as climate change accelerates, there is an increasingly urgent need for government, NGOs and CBOs to work together to develop support systems that can insulate rural communities from the worst effects of the crisis, while inhibiting their ability to drain scarce water resources for short-term benefits.

¹²⁹ *Ibid*

¹³⁰ *Ibid* p. 127

2.6 TROUBLED WATERS - IRAN'S DYING LAKES

The most visible symbols of Iran's water crisis are its lakes and rivers, which appear to be on a trajectory of near-terminal decline. We will offer an overview of the situation facing two of them: Lake Urumieh and Lake Hamoun. These are only some of the most famous examples, but many other bodies of water are at similar risk of vanishing completely, including Lake Bakhtegan, the Gavkhouni Wetlands, and the Anzali Lagoon.

Recently, environmental campaigners have elevated some of these bodies into matters of national importance, and the government appears to be taking the threat of their destruction seriously. Nonetheless, far more needs to be done to ensure the continued existence of Iran's lakes, and the survival of the ecosystems and local populations that depend upon them.

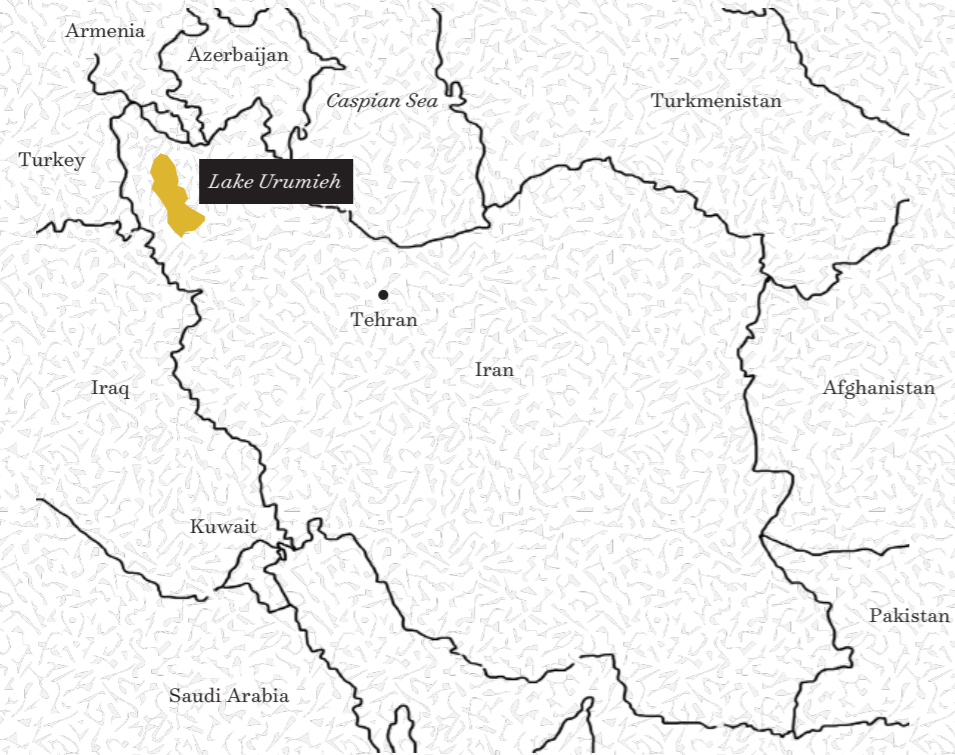
2.6.1 LAKE URUMIEH

Lake Urumieh is the largest lake in Iran, and (just about) remains the largest lake in the Middle East, although its rapidly retreating shorelines leave it increasingly open to challenges from Lake Nasser in Egypt. The lake has shrunk to 12% of its maximum extent in the 1970s, owing to frequent droughts, and aggressive, poorly-implemented water management policies upstream.

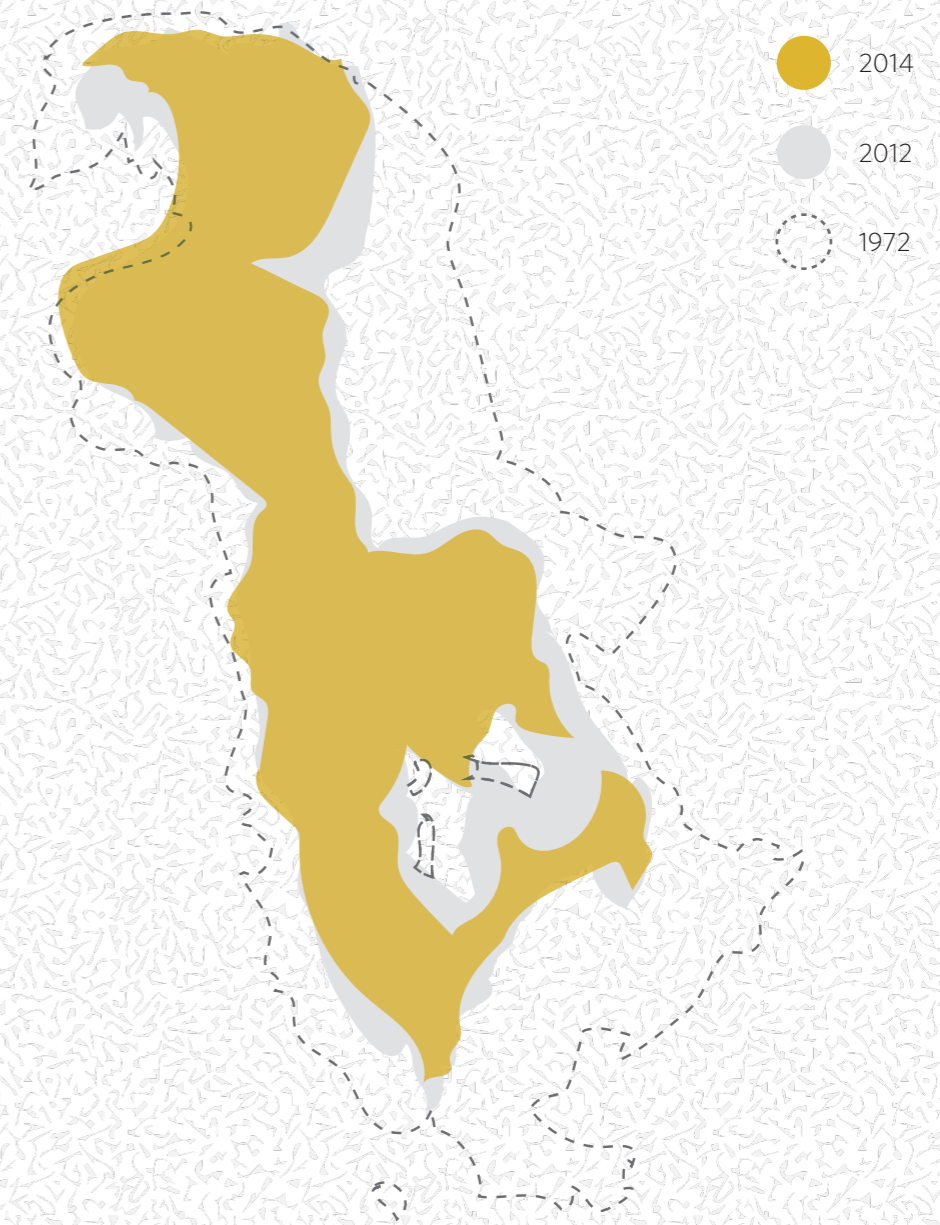
Formerly a major tourist destination, and a locally revered symbol of Azerbaijan (known as the “turquoise solitaire of Azerbaijan”), Lake Urumieh once provided economic stability and a proud way of life for the residents upon its shores. But as these shores receded, so did local inhabitants' prosperity. The construction of a

FIG. 2.6.1 LAKE URUMIEH

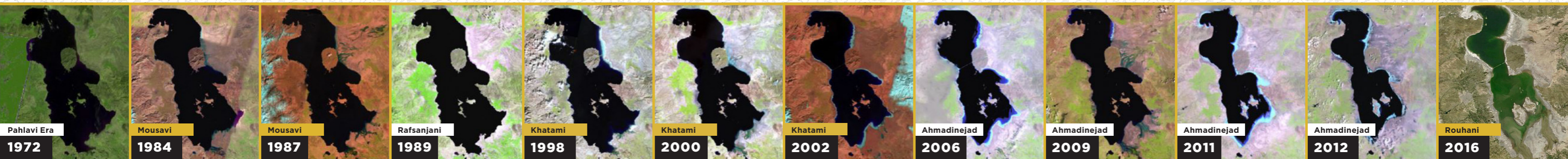
1 Location of Lake Urumieh in Iran



3 Lake Urumieh shrinking



2 The Decline of Lake Urumieh, 1972-2014



causeway over the lake in 2008 effectively bisected it, accelerating its decline¹³¹, and having disastrous consequences for the lake's unique ecosystem and the regional economy¹³².

The primary causes of the desiccation of Lake Urumieh are related to overexploitation of water resources, with a 2015 paper by Agha-Kouchaka et al. detecting no significant patterns of drought that could have contributed significantly to the lake's retreat¹³³. However, the authors did note that several large-scale irrigation projects have been developed, and numerous dams constructed in the three provinces surrounding Lake Urumieh, increasing the consumption of water from tributary rivers feeding into the lake¹³⁴.

The rescue of the lake has been an urgent priority for the Rouhani government, which established the Urmieh Lake Restoration Program (ULRP), which aims to restore the lake to its ecological water level (1274m above sea level) within ten years. The ULRP entails the suspension of a number of damming and irrigation projects, rent-for-fallow policies (paying farmers not to grow crops), and imposing limits on surface and groundwater withdrawal in the province¹³⁵. Agha-Kouchaka et al. note sensibly that such policies will not inevitably result in the restoration of the lake – effective implementation is paramount, as is ongoing communication with and support for local residents affected not only by the collapse of the lake, but also by the policies implemented by the ULRP. The authors insist that partnerships should be developed with international organisations such as UNESCO and the UNDP in order to foster knowledge exchange, and to develop a smart, sustainable plan to revive Lake Urumieh¹³⁶.

We spoke with “Mansour”, an academic participating in the ULRP, about the causes and potential solutions to the crisis:

¹³¹ Mirchi, Ali, Kaveh Madani, Amir Agha-Kouchak, (2015), 'Lake Urmia: how Iran's most famous lake is disappearing', *The Guardian* 23/01/2015, last accessed: 04/09/2016, available at: <https://www.theguardian.com/world/iran-blog/2015/jan/23/iran-lake-urmia-drying-up-new-research-scientists-urge-action>

¹³² Madani, Kaveh, (2014), 'Water management in Iran: what is causing the looming crisis?', p. 2

¹³³ Agha-Kouchaka, Amir, Hamid Norouzib, Kaveh Madani, et al. (2015), 'Aral Sea syndrome desiccates Lake Urmia: Call for action', *Journal of Great Lakes Research* 41, p. 309

¹³⁴ *Ibid*

¹³⁵ *Ibid* p. 310

¹³⁶ *Ibid* p. 311

“*Intensive farming around Lake Urumieh has had a very negative effect upon the lake. There are a great number of apple orchard and sugar beet fields there, which require a lot of water. All of the farms located around the lake are unsuitable for that area*¹³⁷.”

2.6.2 LAKE HAMOUN

Lake Hamoun and its surrounding wetlands existed as one of Central Asia's most prized and bounteous breadbaskets for thousands of years, providing fish and game, and feeding farmland for miles around. Now though, the lake and its wetlands are almost exhausted, having been slowly sapped by overambitious irrigation and development projects in the late 20th century, mismanagement, and ongoing transboundary conflicts over Afghanistan's damming and development projects upstream on the Helmand River¹³⁸. A death blow has been delivered over the past two decades, with a severe drought during the 1990s triggering a depletion from which it struggled to recover¹³⁹. Between 2005 and 2013, the situation worsened further, and the lake and surrounding wetlands effectively vanished from the face of Iran.

As a result, many local animals have died out, birds have stopped migrating, and dust storms have increased in intensity as Sistan and Baluchestan's harsh windy season (locally known as the “120 days of wind”) strips the exposed salt pans and carries particulates into nearby villages and towns.

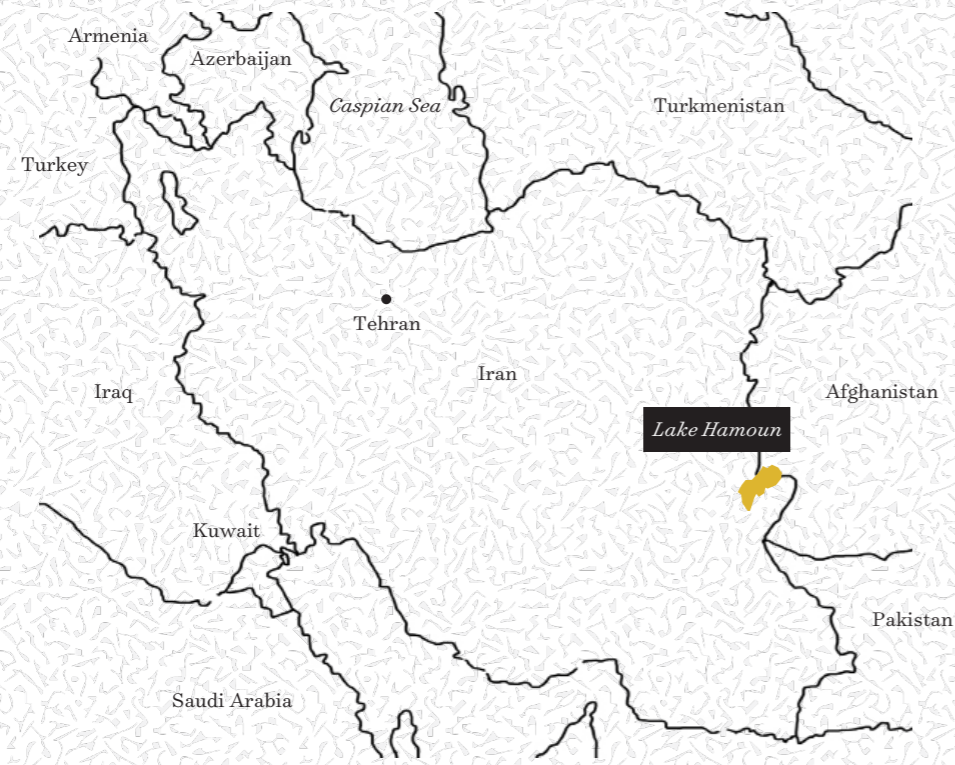
¹³⁷ “Mansour”, personal interview (12/6/2016)

¹³⁸ Madani, Kaveh, (2014), 'Water management in Iran: what is causing the looming crisis?', p. 2

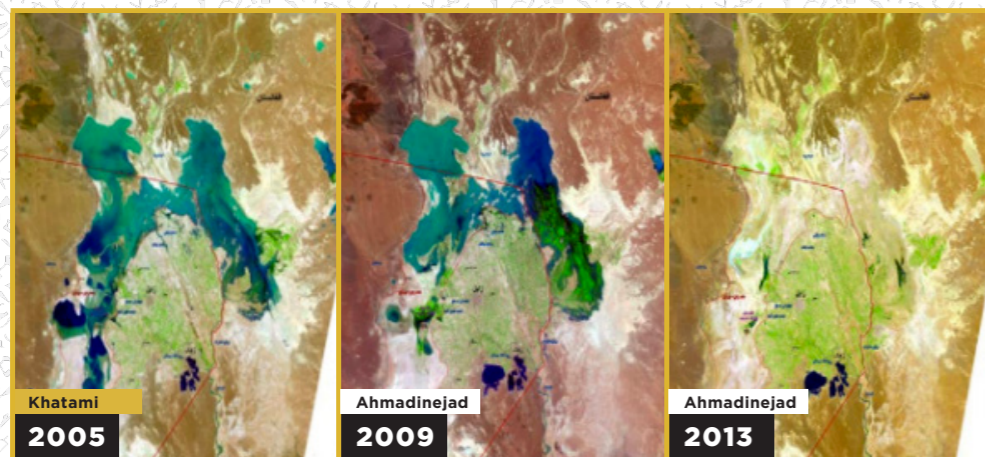
¹³⁹ Weier, John, (2002), 'From Wetland the Wasteland: The Destruction of the Hamoun Oasis', *NASA Earth Observatory*, last accessed: 4/9/2016, available at: <http://earthobservatory.nasa.gov/Features/hamoun/>

FIG. 2.6.2 LAKE HAMOUN

1 Location of lake Hamoun in Iran



2 Lake Hamoun



The nearby city of Zabol suffers the worst of it, and is currently ranked as the city with the worst air quality globally by the World Health Organisation¹⁴⁰.

In addition to the policy responses recommended generally for regions affected by water shortages (reducing demand for water, modernisation of irrigation systems, limits on groundwater extraction, rent-for-fallow policies), academics have also argued that political efforts should be intensified to resolve the conflict with Afghanistan over resource management and damming projects on the Helmand River. Elnaz Ettehad notes that such increased cooperation should include joint institutional mechanisms (such as a committee for the management of the Helmand Basin), which would coordinate efforts to educate and empower local people and CBOs in Iran and the Afghan portion of the Helmand Basin to manage water resources more efficiently¹⁴¹.

2.7 MAKING WAVES - DIGITAL CAMPAIGNING AND THE WATER CRISIS

As we have noted, the challenges arising from the water crisis are unprecedented, and the solutions required to even begin to confront them will require immense political will. Institutional paralysis and a lack of strategic planning has limited the development of effective government-directed public awareness and education campaigns, and as a consequence civil society is being forced to take on greater responsibilities. Similarly, regional environmental crises brought about by water shortages have stimulated the development of community groups and organisations, who are banding together to raise public awareness about local environmental issues, and to advocate for local concerns.

Digital platforms are playing an increasingly central role in the formation of community organisations, and in the development of effective and far-reaching

¹⁴⁰ Vidal, John, Saeed Kamali Dehghan, 'Which are the world's two most polluted cities - and why?', *The Guardian*, 12/05/2016, last accessed: 04/09/2016, available at: <https://www.theguardian.com/environment/2016/may/12/which-are-the-worlds-two-most-polluted-cities-and-why>

¹⁴¹ Ettehad, Elnaz, (2010) 'Hydropolitics in Hirmand/Helmand International River Basin And Application of Integrated Water Resources Management', MSc Thesis, *Swedish University of Agricultural Sciences*, pp. 61-65

awareness-raising and public advocacy campaigns. In this segment, we've collected a number of examples of environmental campaigns operating inside Iran. According to a 2016 Karo.tech survey, 33.1% of Iranians consider social media as their primary source of environmental news, demonstrating the importance of developing high-quality, informative, and engaging content for these platforms.

The case studies in this chapter are examples of some of the most engaging and interesting digital campaigns launched on the subject of the water crisis. They can provide lessons for other activists, and potentially foundations from which to construct new advocacy campaigns and digital initiatives.

2.7.1 A DROP OF WATER



“*The ‘A Drop of Water’ campaign is a movement to draw the attention of the Iranian people to the water crisis in Iran. Educating people about the water crisis will not be easy, but it is worth the effort!*

We're doing our best to act as an alarm bell to remind you that a drop of water means life for us. We know this is only a small step towards saving water and solving the issue, but it is better than nothing.

- A Drop of Water



Fig. 2.7.1a The *A Drop of Water* campaign's interactive website

A Drop of Water is a multi-platform social media campaign and website that is focused on raising public awareness about Iran's water crisis, and utilising high-quality e-cards to educate social media users about key issues. The campaign's Facebook page has more than 16,800 likes, whereas its Instagram page has more than 18,200 followers. The campaign also has a Telegram channel with more than 300 members, which continues to be updated on a frequent basis. The campaign posts a variety of different types of content across platforms, including e-cards (with and without text), and short descriptive posts.

In comparison with the majority of other online campaigns on the water crisis, the campaign is well-planned, professionally executed, and innovative in its methods. The campaign's website provides users with a wide variety of shareable images, ranging from e-cards, through to specially tailored Facebook, Twitter, and Instagram display pictures and cover photos, as well as desktop backgrounds and posters ready for printing. The idea of the site is to equip activists with a set of visually-appealing, engaging, and informative resources that they could then utilise in online and offline spaces to disseminate messages about preserving water and reducing waste.

As a result of its visually appealing and educational content, the campaign took off, and has attracted an impressive following on an array of social media platforms. Although the website has ceased the production of new content, it continues to offer a wide range of resources for environmental activists working inside Iran, and as such the site functions as a sustainable online bank for campaign efforts. New visual content is still being produced on a regular basis for social media channels, which can then be shared widely by the campaign's followers.

According to its website, the project appears to be supported by the design agency Kahroba Design¹⁴², demonstrating the importance of involving designers and creatives in the development of impactful and appealing environmental campaigns.



Fig. 2.7.1b A post on the *A Drop of Water* Facebook page, 16/03/2016

¹⁴² Kahroba Design, (2016), 'Homepage', last accessed: 6/9/2016, available at: <http://kahrobadesign.com>

The campaign received a moderate amount of media attention upon launch, attracting a number of prominent Iranian artists and actors to share its posts on their Instagram accounts¹⁴³. As well as engaging with high-profile public figures, the campaign undertook an organised advertising campaign, promoting its messages on billboards, and attracting media coverage from a number of national news outlets¹⁴⁴.

“ *It seems that as time passes, we forget our promises.*

It seems we comfortably forget the harshness of being wretched when a rain of blessings falls upon us.

It is no longer important how much rain we've had! What matters is that we pledged to use water conscientiously at home, work or wherever else on this earth.

It's important that we are loyal to ourselves, our families, our friends, our Iran and our land.

We said what we need to say and we managed to have an influence on our society. On this journey people thanked us

¹⁴³ Bultan News (2015), 'Images of faces from the "A Drop of Water" campaign', last accessed: 04/09/2016, available at: <http://bit.ly/BultanFaces>

¹⁴⁴ Mashregh News, (2015), 'Pictures and billboards of the "A Drop of Water" campaign in Mashhad', last accessed: 6/9/2016, available at: <http://bit.ly/MashBillb>

and they complained. It was sweet, and it was bitter.

But they saw us, they heard us! From the people to the government.

That is how we gave light to a movement that would start to bring change from within ourselves, a movement that has spread around the whole country, and that has become an example for others.

But we consider this country to be wider than social media, so there is still a long way to go!

We will carry on! We will share these messages in different ways with different tools!

We won't forget, and will remember our promises.

Fig. 2.7.1b is the 'sign-off' post for the A Drop of Water Facebook page, which ceased regular activities in March 2016. Even though the project was winding down on Facebook, it closed with a call to action to take the campaign materials beyond social media, and to share the messages of the campaign in a variety of new ways.

The 'A Drop of Water' Instagram page is updated on a near-daily basis with new content. Content is varied, and although the vast majority of posts maintain the campaign's trademark visual identity (dominated by a yellow and black palette), a number of photographs are also posted, to highlight news stories, campaign polls,

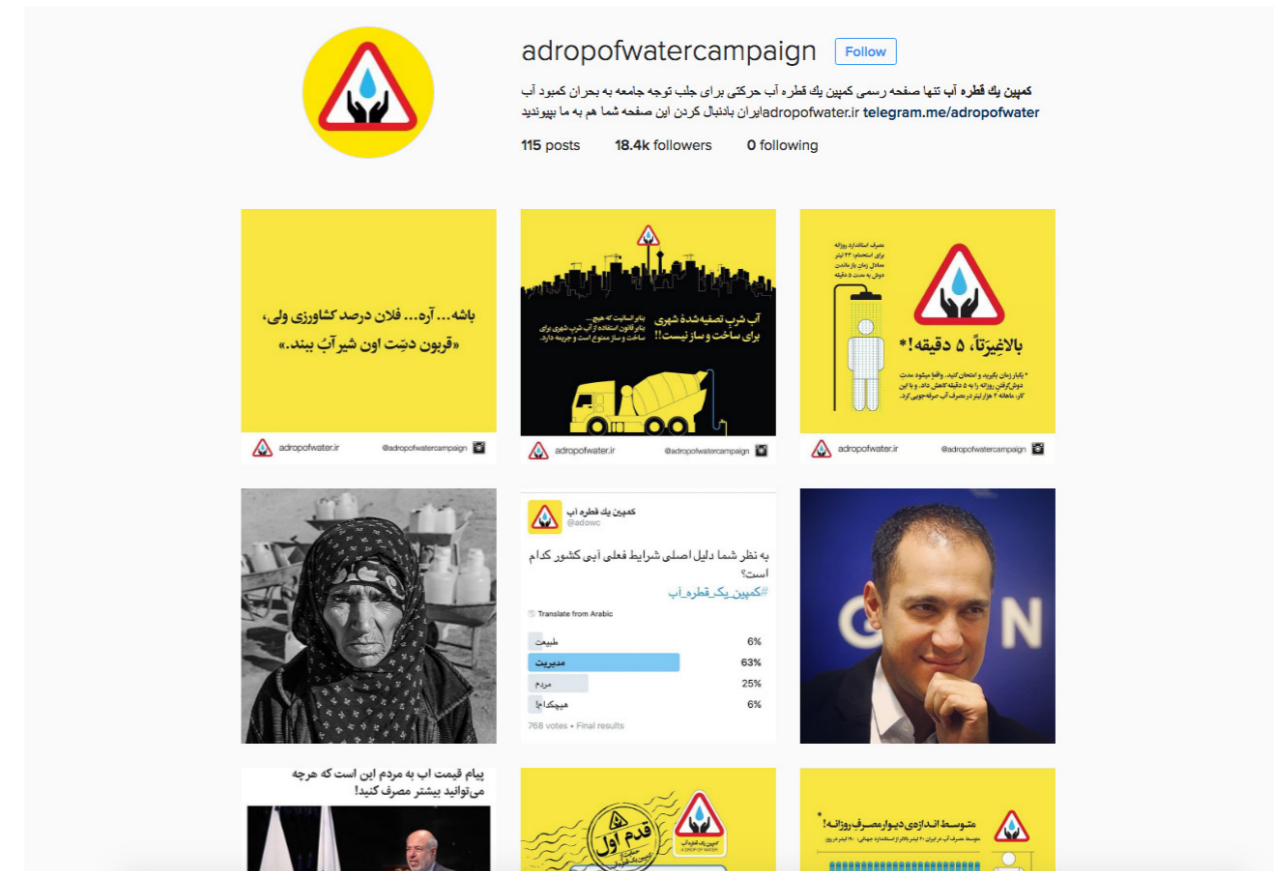


Fig. 2.7.1c A post on the *A Drop of Water* Facebook page, 16/03/2016

or striking images. These posts are accompanied by short, digestible descriptive text, contextualising the images and occasionally containing a call to action. The photos frequently receive over 1,000 likes each, and attract anywhere between 10-35 comments – some engaging with the topic in an in-depth way, and many briefly expressing support for the campaign's work.



Fig. 2.7.2a The Water's Footsteps Facebook page

2.7.2 WATER'S FOOTSTEPS



“*Iran's two main rivers (the Karoun & Zayandehrud) are in danger of dying. The people upstream understand water. They haven't muddied it. Us neither, so let's not muddy the water!*

- Water's Footsteps

The 'Water's Footsteps' campaign gets its name from a poem by the Iranian poet Sohrab Sepehri. Both the campaign's Facebook and Instagram pages primarily share content related to water crisis in Iran, although the two platforms vary with regard to the levels of engagement, and the frequency with which the content is shared.

The Facebook page has 5,300 likes and posts a mixture of original content and reshared posts from other profiles or environmental pages, although updates are only semi-regular. Users' engagement is high in terms of likes, but few posts manage to trigger sustained or in-depth debates.

The content includes brief news updates related to water issues in Iran, promotion of campaigns (mainly regional/local campaigns), reshare of other users' posts, like Iranian politicians or public figures involved in environmental management, as well as posts from the Telegram channel of the page.

The Telegram Channel counts 1,460 members and works as a newsfeed with new content being shared every few hours on a daily basis. Whether a post concerns a news article or campaign, a comment is usually posted by the channel's administrator, setting out their position.

The channel is informative, and performs an important function as a distributor of, and commentator upon environmental news. However, content is not always strong aesthetically, and shareable items of content are few and far between, with many items comprised of written analysis of environmental news. The format lends itself well to informing environmental activists, but seemingly struggles to stoke widespread engagement from those more casually interested in the water crisis.

A post made on Telegram seems to be an original comment by the administrator upon the Iranian government's announced budget allocations for 2016/17. The content is informative, but ultimately quite dry:

“*The proposal of the government to reduce the funding to defence is not logical. “The Committee for National Security and Foreign Policy is against cuts to defence expenditure,” said Mr. Nourian, a member of the National Security Committee. If we analyse the budget submitted, it turns out that the contribution of every Iranian citizen to the defence budget is around 466,715 toman... [A citizen's] contribution*

to the environment, as proposed by the government's 2016-2017 budget amounts to 5,688 toman. It is less than what an Iranian citizen spends on travelling to the city, and yet it's the budget the government allocates to confronting environmental issues, meaning that the game wardens of the Department of the Environment lack the most basic monitoring or protection tools.

In this process, the government should be blamed for allocating such budget for 2016-2017, but also the members of Parliament, who demand unreasonable shares for other parts of the budget that have already been allocated larger portions, without analysing the dimensions of the other parts of the ridiculous government-proposed budget."

The cartoon in Fig. 2.7.2b depicts Turkey's Southeastern Anatolia Project (SAP) – a hydroelectric development plan consisting of 22 dams on the Tigris and Euphrates – as the hand of the Turkish government cutting the two rivers' water supplies to the countries downstream – Syria, Iraq, Iran. The cartoon is part of the 'People's Campaign to Save Mesopotamia', which has the support of the 'People's Campaign for the Protection of the Zagros Mountains'.

This picture has been reshared from the Telegram channel of Mohammad Darvish, the DoE's Director of Education and Public Participation. The picture is accompanied by a post saying: "We have to transform the struggle to 'Save Mesopotamia' into a single 'Movement for Environmental Protection' against regional enemies of nature. We can do it."



Fig. 2.7.2b A cartoon on the Water's Footsteps Telegram channel, criticising Turkish water policies

As noted in Chapter 2.6.2, transboundary water conflicts are a significant feature within ongoing debates around the water crisis. Projects such as the SAP are draining the resources of other regional actors, and should be addressed on a regional basis. Although it is important to highlight areas where transboundary water management issues are contributing to declining water resources, it is also important to do so in a way that does not play on nationalism, or inter-state competition, but instead through the development of deep-rooted, cross-border environmental campaigns.

Another Telegram post from 'Water's Footsteps' reshapes an article from Mehr News Agency. The post's core message is highlighted at the top of the post: "Water transfer from the Zab River won't solve Lake Urumieh's problems. If water transfer plans were effective, the construction of water transfer tunnels from the Koohrang River would have solved the Zayandehrud's drought."

The following text summarises the main points of the article, which includes some statements on the water crisis from Mohammad Darvish, the DoE's Director of Education and Public Participation:

“*Mehr: The DoE’s Director of Education and Public Participation, Mohammad Darwish, mentioned that water transfer tunnels are a temporary palliative, saying: ‘Water transfers from the Zab River won’t solve Lake Urumieh’s problems. Water transfer plans to resuscitate Lake Urmia are just a palliative, and cannot solve the problems of this lake.*

The 360,000 ha increase in cultivable land around Lake Urumieh, the 30,000 wells, in addition to dams, are the most important problems facing the lake. As long as we fail to take bold steps to face such fundamental problems, any water transfer projects will be of little use.”

2.7.3 WHAT CHANCE WITHOUT LAKE BAKHTEGAN?



“*In ten years Lake Bakhtegan will be transformed into a salty marsh. This campaign was launched on 2 February 2016 – World Wetlands Day – with the support of the Sun of Estahban Pioneers*



Fig. 2.7.3a The ‘What Chance Without Lake Bakhtegan?’ Facebook page

Organisation. Send us your pictures, and they will be shared with your name online.

- What Chance Without Lake Bakhtegan?

The campaign “What Chance Without Lake Bakhtegan?” consists of a Facebook page with nearly 1,700 likes, an Instagram page with over 900 followers, and a Telegram channel with 150 members. It promotes the efforts of a local community organisation, the “Sun of Estahban Pioneers Association”, to protect Lake Bakhtegan, a saltwater lake in Fars province, not far from the city of Shiraz.

The social media accounts primarily share original content – mainly images, news updates about the lake, and the launch of new local initiatives. Through the latter, the campaign tries to reach out to social media users to engage them with awareness-raising initiatives, and to collect individual testimonies about the lake’s importance to people’s lives. As we have observed in the cases of the previous campaigns, content on the Telegram channel is shared on a much more frequent basis than Facebook, despite the smaller number of subscribers. The campaign’s Instagram page also shares a range of high-quality, branded, and shareable content, including images of children holding signs such as “Bakhtegan is thirsty because of dams!”, and images of a number of on-the-ground campaign initiatives.

The campaign has received high levels of media coverage as a result of its activities. Media outlets have reported on the campaign's efforts to engage with local communities in campaigning for the restoration of the lake¹⁴⁵. As one example, Khabar Online covered the campaign's initiative calling for people to scribble Bakhtegan in the streets¹⁴⁶.

The campaign often reports statements from the MP representing Estahban county, who appears to blame the drying-up of the Lake Bakhtegan on the government's indifference and inaction.



Fig. 2.7.3b A Facebook post from the 'What Chance Without Lake Bakhtegan?' campaign.

¹⁴⁵ Watan News, (2016) 'A Call to Join the Campaign 'What Chance Without Lake Bakhtegan?', last accessed: 29/8/2016, available at: <http://tnews.ir/news/1e3257059806.html>

¹⁴⁶ Khabar Online, (2015), 'People Scrawl Graffiti in the Streets in Protest at the Drying-up of Lake Bakhtegan', last accessed: 29/8/2016, available at: <http://www.khabaronline.ir/detail/507103/society/environment>

The picture shown in Fig. 2.7.3b is an example of the images shared by the 'What Chance Without Lake Bakhtegan?' campaign. The image bears the campaign logo, along with the logo of the Sun of Estahban Pioneers Association - the local group behind the campaign.

The text on the image says:

“*Asghar Masoudi, representative of Estehban and Neyreez county [in Fars province] gave his first speech in parliament on the subject of Lake Bakhtegan ..*

He blamed the drying-up of Lake Bakhtegan, and the increase in cancer cases in the villages and cities surrounding the wetlands on the government and authorities' negligence.”

2.7.4 WATER CRISIS IN IRAN

Facebook

“*Abundance of water is just an illusion. As you read this message, a child is dying because of a water-related illness.”*

- Water Crisis in Iran



Fig. 2.7.4a Water Crisis in Iran

'Water Crisis in Iran' is an active, albeit relatively low-profile Facebook page with just 460 likes. The administrator of the page – Malaysia-based PhD student Ali Seifaddini – publishes posts related to drought and the water crisis in both Persian and English. Seifaddini is primarily active on Twitter, where he retweets articles and images. On this Facebook page, Seifaddini generally reposts tweets from his Twitter timeline, and as a consequence the content is generally not very well-tailored for Facebook.

The page is not related to a wider campaign, nor to a grassroots environmental movement. Its main purpose is to share and disseminate regular news updates concerning drought and water shortages, with a shared focus on international and domestic challenges.

Other users can engage with the page by sharing its posts, but overall there is a very little interaction between them and the administrator. There is no real debate or discussion being triggered by any of the posts, which themselves rarely receive a great number of likes.

Although the page serves as a rich information source for environmentalists concerned about the water crisis, the information is structured in a suboptimal way, meaning that the information itself is difficult to access, and unappealing for purposes of sharing. In order to have a greater impact upon public discourse,

information-rich pages such as this one should work harder to make their content appealing, engaging, and properly-tailored to the platform on which it sits.



Fig. 2.7.4b A Facebook post from 'Water Crisis in Iran', resharing a tweet from Ali Seifaddini's Twitter profile

Fig. 2.7.4b shows a post by the admin of the page, Ali Seifaddini, which has been reshared from his Twitter account. It reads: "People shouldn't be hopeful for a solution to the issue of pollution within the next 50 years." The image in the post is a caricature of Vice President Masoumeh Ebtekar, Director of the DoE.

The content of the page is made up of posts very similar to this one. These kinds of posts trigger very little engagement, let alone debate, suggesting that poorly tailored 'news feed'-style posts are an ineffective investment of time for environmental campaigners.

For all of its flaws as a campaign, 'Water Crisis in Iran' did get on the radar of another high-profile media campaign. Fig. 2.7.4c shows a post from the Facebook page of the Persian satellite TV channel FARS11, mentioning the 'Water Crisis in Iran' page. The post is more generally about FARS11's own online campaign to spread awareness about the water crisis. The video posted by FARS11 is an animated video explaining the main causes of the water crisis in Iran:



Fig. 2.7.4c Facebook post from satellite TV channel FARS11 tagging 'Water Crisis in Iran'

“One of the factors causing this crisis is the growth of society, which has increased tenfold in the last 80 years, while renewable water resources have halved. 15% of Iran's surface is cultivated, and 93% of water resources are used for agriculture, 6% for domestic use and 1% for industry. The loss of lakes and wetlands, the depletion of underground water resources, decreases in rainfall and water mismanagement are other factors causing the water crisis in Iran. But you and I can save some drops of water. Share your opinion with FARS11 on social media.”

2.7.5 IRAN WATER SUPPLY

Facebook



Fig. 2.7.5a Iran Water Supply

“The purpose of this online magazine is to share the reflections of news, reports, experts and scholars concerning drought and the Iranian water crisis, and to study its solutions.

Drought is a reality. What shall we do for water supplies in Iran? Share your own suggestions and views on this Facebook page.

- Iran Water Supply

Iran Water Supply is a moderately popular Facebook page with 1,174 likes, where users are invited to share their own suggestions for potential solutions to issues of drought and the water crisis in Iran. Posts by the administrators primarily consist of a copied-and-pasted articles from major Iranian media outlets, such as ILNA, ISNA, and IRNA, along with (generally captionless) images.

As such, the content of the page has no specific nor personal view on water crisis in Iran.

The miscellanea of articles gives a quite complete overview on the topic, from an economic, industrial, environmental and political perspective.

User engagement is generally quite low, suggesting that this 'news feed'-style copy-and-pasting of articles is not particularly appealing or attention-grabbing for users, despite the reasonable number of followers who could interact on the page.



Fig. 2.7.5b A Facebook post concerning the crisis of Lake Urumieh

The post shown in Fig. 2.7.5b contains an image of Lake Urmia and an article from IRNA, titled "Lake Urumieh's desiccation due to mismanagement." The article reports on a speech from Iran's Energy Minister, who stated that Lake Urumieh is drying up as a result of widespread lack of knowledge about the water crisis,

resulting in the widespread misuse of water resources for agriculture. Despite the importance of the topics, the post failed to inspire any notable interaction or engagement with the issue.

The page publishes a vast quantity of posts in this fashion, but does not host any independent analysis or original editorial content. In this manner, the page suffers from similar problems to those afflicting the rest of Iran's environmental media environment, in that it is deemed effective to simply reshare public statements and the opinions of government officials and a small selection of experts, without really engaging in serious critique or substantive discussions about such content.

THE BROADER CRISIS °

Although this report is primarily concerned with the critical water crisis facing Iran, it cannot produce a complete picture of the country's environmental catastrophe. Air pollution is choking Iran's cities, and dust storms are devastating communities across the length and breadth of the country, ecosystems are collapsing, and Iran's rare flora and fauna are at risk of vanishing from the face of the earth. Finally, deforestation is tearing through the rich forests of Iran's mountainous north, and there are no robust plans in place to stop it.

Activists are working hard on each of these issues to support efforts to defend Iran's environment, and to ensure that the Iranian government is held to account for its environmental obligations. In this chapter we will provide a short overview of these other environmental disasters, and explore some of the campaigns that have been set up to raise awareness and inspire action.

3.1 IRAN'S VANISHING FORESTS – DEFORESTATION IN IRAN

Although it receives far less attention than the water crisis, mass deforestation is a major environmental crisis facing Iran. Although climate change is having a number of negative effects upon the vitality of Iran's forests, rapid population growth, weak governing structures, and agriculture-fuelled forest clearances are compounding these challenges. In this chapter we will provide an introduction to the issues most urgently affecting Iran's forests, and will discuss some of the ways that experts and activists have been working together to raise the profile of this frequently-neglected environmental crisis.

3.1.1 MAPPING IRAN'S FORESTS

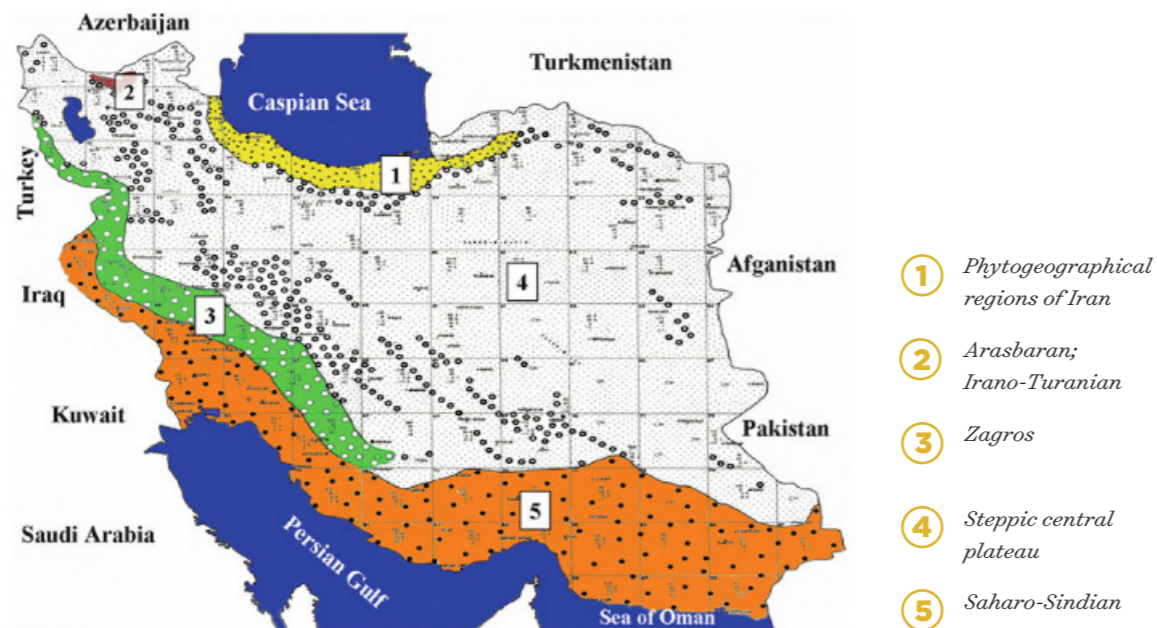


Fig. 3.1.1b Iran's Hyrcanian, Arasbaran, and Zagros forests

Despite its generally dry climate, Iran is host to a number of rich forest ranges, primarily located high in the country's wetter, cooler climates. The Hyrcanian forests of northern Iran line the country's Caspian coast, whereas the Arasbaran and Zagros forests are nestled within their eponymous mountain ranges.

The **Hyrcanian forests** are described by Talebi et al. as "the most important refuge and relic forests in West Eurasia, and an important biodiversity centre,¹⁴⁷" containing as they do such large quantities of endemic flora and fauna.

The **Zagros forests** comprise around 44% of Iran's forests, and play a crucial role in maintaining soil quality, water supply, and providing economic opportunities to communities living throughout western Iran¹⁴⁸.

The **Arasbaran forests** comprise one of Iran's UNESCO biosphere reserves, with 56% of the region classed as a protected area. It is home to some of the country's rarest species of flora and fauna¹⁴⁹.

3.1.2 THE CRISIS

Iran's forests are vanishing at an alarming rate. According to the estimates of Talebi et al., the total natural forest area of Iran has declined from roughly 19.5 million ha in 1942, to around 13.4 million ha in 2008¹⁵⁰. As in the water crisis, the crisis facing Iran's forests is being fuelled primarily by rapid and excessive human development (primarily related to agriculture-related forest clearances), in combination with long-term climate change trends¹⁵¹.

A 2013 study from Henareh-Khalyani et al. noted that the Zagros region had seen an average of 43% forest loss between 1972 and 2009, as well as a 63% drop in landscape connectivity (a measure of species dispersal across space,

¹⁴⁷ Sagheb Talebi, Khosro, Toktam Sajedi, Mehdi Pourhashemi, (2014), *Forests of Iran: A Treasure from the Past, a Hope for the Future*, Springer: London, p. 11

¹⁴⁸ *Ibid* p. 71

¹⁴⁹ *Ibid* p. 55

¹⁵⁰ *Ibid*

¹⁵¹ *Ibid* p. 10

showing numerous dimensions of environmental sustainability and stability¹⁵²). The authors note that the loss of forests over this period “implies the inability of Zagros landscapes to keep pace with human demands,” adding that “Zagros forest are affected by the interaction of local pulses such as wildfires, inappropriate landscape zoning for mining, and chronic stress from traditional utilisations (resulting in soil compaction and erosion).¹⁵³” They emphasise that “the stress from traditional uses by local people on the landscape structure and connectivity can be modified only if locals become economically less dependent upon the ecosystem services for their livelihoods,” noting that such outcomes can only be achieved through “socially accepted and sustainable restoration plans¹⁵⁴.”

The issue has been taken up by a handful of government officials, including the DoE’s senior environmental advisor Esmail Kahrom, who speaking to Mehr News asserted that “with the current rate of deforestation, Iran will have no forests left in 75 to 100 years¹⁵⁵.” However “Reza”, a senior government official, contested claims that this was a matter of urgent priority for the government:

“On paper it’s really important for the government, but in reality and practice it’s different. Deforestation is still happening, villas are still being built in the forests, and forests are being converted into farms. Over the past 20 years, 4 million hectares of Iran’s forests have been converted for other uses – lawfully, through the government. The government keeps saying they’re against deforestation,

¹⁵² Henareh Khalyani, Azad, Audrey L. Meyer, (2013), ‘Spatial and temporal deforestation dynamics of Zagros forests (Iran) from 1972 to 2009’, *Landscape and Urban Planning* 117, p. 6

¹⁵³ *Ibid* p. 11

¹⁵⁴ *Ibid*

¹⁵⁵ Mehr News, (2015), ‘Deforestation in Iran disturbing: Official’, last accessed: 04/09/2016, available at: <http://en.mehrnews.com/news/106786/Deforestation-in-Iran-disturbing-Official>

but give me one example where they’ve arrested someone and taken them to the court because of deforestation. They just keep talking¹⁵⁶.”

Indeed, in Gilan province the government is pressing ahead with plans to construct the controversial Shafaroud Dam, which will necessitate the destruction of vast swathes of the Hyrcanian forests. Although the DoE and FRWO oppose the move, the Ministry of Energy plans to push ahead with the scheme regardless, without conducting an environmental assessment. In an interview with Mehr News Agency, water expert Touraj Fathi said: “The DoE’s opposition makes no difference. The [Energy] Ministry has a habit of submitting construction proposals to the DoE right before work is set to begin. So even if the DoE rejects a proposal at that point, the project won’t be scrapped because of all the time and money spent on it.” Just as in the water crisis, the DoE’s weakness in the face of provincial government and government ministries is a notable obstacle to effective regulation.

With political paralysis setting in on the issue of deforestation, it’s left to civil society to try and raise the profile of the crisis facing Iran’s forests. So to what extent are activists engaged with this issue?

3.1.3

CIVIL SOCIETY CAMPAIGNS

Compared against the water crisis, deforestation attracts very little attention in the way of online campaigns and digital initiatives. Those we found were typically outdated, and no longer active. On many occasions, discussion of deforestation would take place on a Facebook page of a generic environment-focused page, rather than be the focus of a targeted, action-oriented campaign. Below is an example of one deforestation-focused campaign that was well-designed and met with relative success, although is now inactive. Civil society and experts should

¹⁵⁶ “Reza”, phone interview (2/8/2016)

work together to identify areas in which public advocacy and awareness-raising campaigns could help to ameliorate the effects of overdevelopment and poor forest resource management.

Planting 1392 Trees Across the Country



Fig. 3.1.3a Planting 1392 Trees Across the Country's Facebook page

“ This programme will take place on Tree Planting Day (6 March 2014), with the support of the Islamic Green Party Organisation and the participation of Blue Sky, and aims to plant 1392 trees across the country.

- Planting 1392 Trees Across the Country

From the analysis conducted on social media content regarding forest degradation, we have found many different local campaigns advocating for the restoration of forests, and urban tree-planting, the most high-profile of which was the campaign 'Planting 1392 Trees Across the Country'.

The Facebook page was created after the launch of the campaign promoted by the Green Party Organisation and Blue Sky Institute, in 2014. The final aim was to get Iranian citizens involved in the planting of 1,392 trees across the country, on Tree Planting Day (6 March).

However, as we shall demonstrate, the campaign lacked effective communication, and although the campaign was generally well-presented, its communications failed to clearly explain how citizens could get involved at a local level.

The Facebook page's primary function appeared to be to share pictures of different tree planting activities that took place across the country on 6 March, and was active in the short periods immediately preceding and following Tree Planting Day, between 18 February and 8 March 2014.



Fig. 3.1.3b A Facebook post promoting the campaign and inviting public participation

The post in Fig. 3.1.3b invites public participation in the tree-planting program, stating:

“With regard to the country’s need to raise awareness about trees and their protection, the Blue Sky Institute and the Green Party Organisation invite citizens interested in the environment to help in the project of planting 1392 trees across the country on Tree Planting Day.”

The first comments hint at the lack of any further detail about how people can support the campaign:

“Hi there. What should we do to contribute? Here in Sabzevar (Khorasan) we’re ready!”

“Please let us know about the programme and the meeting points in each city. Thank you.”

It is a positive sign that this on-the-ground environmental initiative decided that there was value in sharing news about its activities, although it generally failed to use online platforms to mobilise further action, or build momentum behind the campaign so that its objectives could be expanded, and sustainability secured.

3.2 SAND AND SMOG – THE CRISIS OF AIR QUALITY

The crisis of air quality is one that afflicts vast swathes of the Iranian Plateau, owing to a noxious combination of thick urban smog, and large dust storms swept up from Iran’s dry lake beds and the dead marshlands of southern Iraq. The air quality in some of Iran’s cities is catastrophically poor – the city of Zabol near the Afghan border has the joint-lowest air rating of any city in the world, largely as a result of dust storms blowing in from the decaying Hamoun basin (see Chapter 2.6.2). In this section, we’ll assess the main causes and impact of the crisis in air quality, and identify some of the best citizen-led initiatives that have been undertaken to confront the issue.

3.1.1 THE AIR QUALITY CRISIS

When considering a crisis of air quality, one might first imagine of the sulfurous smog of choking traffic, billowing smokestacks, and thick ashen clouds hovering over a low concrete cityscape. Such is Tehran. The terrible air quality in the Iranian capital is largely a self-created problem; the result of the dense traffic smothering the city’s streets. A 2009 study by Tehran’s regional DoE office suggested that more than 80% of the air pollution afflicting the capital was the result of vehicle emissions¹⁵⁷. Pourahmad et al. demonstrate that the last few decades have seen a staggering boom in private vehicle ownership within the city: whereas in 1971 car ownership was 19 families per 100, in 1996 it reached 42 per 100. Similarly, the number of motorcycles on Tehran’s streets has soared from 520,000 in 1996 to 2 million in 2006, a troubling statistic considering the high levels of pollution they emit¹⁵⁸.

The issue of urban pollution has been intensified in part as a result of international sanctions on Iran. Tom Lewis and Kaveh Madani note in their piece for The Guardian’s Tehran Bureau series that sanctions on the importation of

¹⁵⁷ Payvand, (2009), ‘Car exhaust fumes blamed for over 80% of air pollution in Tehran’, last accessed: 04/09/2016, available at: <http://www.payvand.com/news/09/jan/1007.html>

¹⁵⁸ Pourahmad, A., A. Baghvand, S. Zangenehe Shahraki, S. Givhechi, (2007), ‘The Impact of Urban Sprawl upon Air Pollution’, *International Journal of Environmental Research* 1.3, p. 256

high-quality fuel forced Iran to make use of substandard fuel for years, and are hopeful that the lifting of international sanctions might pave the way for dramatic improvements in urban air quality¹⁵⁹. That said, the authors are clear that it is crucial to impose greater controls on development in order to tackle the problem of air quality, and tackling the problem of growing private vehicle ownership must be an urgent priority in this endeavour.

The existing high levels of private vehicle ownership correspond to the rapid and uncontrolled processes of urban development and sprawl that have defined the city's growth in the twentieth century. Expanding from a population of 0.69 million in 1941 to 7.02 million in 2000, and 8.15 million in 2011, the pace of development in Tehran has outstripped the abilities of city planners to manage. As a consequence, and owing to the disruptive effects of the 1979 Revolution and the interminable, terrible Iran-Iraq War, Tehran's public transport infrastructure remained largely underdeveloped until the close of the twentieth century. The Tehran Metro was finally launched in 1999, and it now carries an annual ridership of 670 million people. The continued expansion of public transport infrastructure is a much-needed tool in city planners' battle against congestion and urban pollution, and should be paired with increased regulations on vehicle emissions.

Outside of Tehran, the situation is little better. Indeed, Iran's medium-sized cities are among the worst-polluted in the world. In 2011, a WHO report showed that out of the ten worst-ranked cities for air quality, four were Iranian: Yasouj (#9), Kermanshah (#6), Sanandaj (#3), and Ahvaz, which was ranked as the worst in the world for air quality¹⁶⁰. The poor state of air quality in Ahvaz is rooted in two major factors: the intensity of local industrial development (and particularly the oil sector), and dust storms, many of which sweep in from southern Iraq and the Gulf states. A study by Shahsavani et al. demonstrated that the intense dust storms of 2010 largely originated from the dried out marshes of southern Iraq, which were in a state of long-term decline since Saddam Hussein's draining

¹⁵⁹ Lewis, Tom, Kaveh Madani, 'End of sanctions may help Iran face an accelerating environmental crisis', *The Guardian* 20/01/2016, last accessed 24/08/2016, available at: <https://www.theguardian.com/world/iran-blog/2016/jan/20/iran-end-of-sanctions-prompt-environmental-crisis>

¹⁶⁰ Walsh, Bryan, 'The 10 Most Air-Polluted Cities in the World', *TIME* 27/09/2011, last accessed: 24/08/2016, available at: <http://science.time.com/2011/09/27/the-10-most-air-polluted-cities-in-the-world/>

of the marshes in the 1990s¹⁶¹. However, the marshes were granted UNESCO World Heritage status in 2016, and the dismantling of dams over the past decade promises at least a partial revival¹⁶². If such a rejuvenation can take hold in Iraq, the fate of Ahvaz may look somewhat brighter.

The city ranked as the worst in the world for air quality in 2016 shares much with the case of Ahvaz. Zabol, an Iranian city near the Afghan border endures a yearly '120 days of wind' each summer, in which strong gusts continuously move in from the north, sweeping up sand and dirt from across Sistan and Baluchestan province, including from the Hamoun basin. The loss of the Hamoun wetlands has exposed the weak top layers of sediment to these harsh seasonal winds, resulting in sandstorms of terrible intensity in Zabol and the surrounding region¹⁶³.

The experiences of Tehran, Ahvaz, and Zabol demonstrate the challenges for the Iranian government in developing solutions to the air quality crisis. Iran's terrible air quality has a variety of causes: choking traffic and urban pollution, poor urban planning, and dust storms arising from both transboundary environmental decay, and the dead lakes and farmlands of Iran itself. As such, a combination of radical social and economic reforms, and urgent regional collaboration is required to resolve the air quality catastrophe in an effective manner.

3.2.2

CIVIL SOCIETY CAMPAIGNS

Air pollution campaigns have been some of the most successful examples of attention-grabbing, headline-making digital campaigns in operation in Iran. Ranging from citizen-led initiatives such as the #KhuzestanCan'tBreathe

¹⁶¹ Shahsavania, A., K. Naddafia, N. Jafarzade Haghhighifardb, A. Mesdaghinia, M. Yunesiana, R. Nabizadeha, M. Arahamid, M.H. Sowlata, M. Yarahmadia, H. Sakib, M. Alimohamadia, S. Nazmaraa, S.A. Motevaliane, G. Goudarzib, 'The evaluation of PM10, PM2.5, and PM1 concentrations during the Middle Eastern Dust (MED) events in Ahvaz, Iran, from April through September 2010', last accessed: 24/08/2016, available at: <http://bit.ly/Shahsavania>

¹⁶² Reuters, (2016), 'Iraq's marshes, once drained by Saddam, named world heritage site', last accessed: 24/08/2016, available at: <http://www.reuters.com/article/us-un-heritage-iraq-idUSKCN0ZX05N>

¹⁶³ Vidal, John, Saeed Kamali Dehghan, 'Which are the world's two most polluted cities - and why?', *The Guardian*, 12/05/2016, last accessed: 04/09/2016, available at: <https://www.theguardian.com/environment/2016/may/12/which-are-the-worlds-two-most-polluted-cities-and-why>

campaign, to civil society-led (and later government-backed) campaigns such as Car-Free Tuesdays, air quality initiatives have been able to capture the imagination of Iranian citizens, and tap into their everyday experiences and concerns.

#KhuzestanCan'tBreathe



Fig. 3.2.2a A Twitter image shared by a Shargh journalist showing 'Hello Mr. Rouhani!' written in the dust

One of the longest lasting cross-platform environmental campaigns has been the #KhuzestanCan'tBreathe campaign. Uncoordinated, and springing out of users' frustration with the dust storms sweeping across Khuzestan province, the campaign has seen citizens tweeting images of the dust storms battering Ahvaz, and calling upon the government to take action.

The campaign was very successful in the Iranian and global media, likely in large part as a consequence of it utilising powerful imagery that can be easily republished in traditional media outlets. The campaign attracted attention in Fars News¹⁶⁴, Mashregh News¹⁶⁵, and Farda News¹⁶⁶, as well as foreign-based agencies such as Iranwire¹⁶⁷.

Car-Free Tuesdays

Website // Telegram // Instagram

Car-Free Tuesdays is an initiative launched in 2016 in the city of Arak. Since then, with the support of the DoE's Bureau of Education & Public Participation, the campaign has been rolled out nationwide to encourage Iranians to choose their bicycles and public transport over their cars.

In an interview with Niloofar Sabaghi et al., the founder of the campaign Mohammad Bakhtiari noted that he was nervous about the success of the project until the DoE stepped in, as the campaign was getting limited support from similar environmental campaign groups.¹⁶⁸ Niloofar et al. describe how the project is so effective chiefly as a result of its clear and simple call to action: to refrain from driving on Tuesdays.

A survey undertaken by Bakhtiari of the campaign's followers suggests that the vast majority of respondents – 73.8% of them – first heard about the campaign via Telegram, highlighting the central position that this app now occupies in Iran's

¹⁶⁴ Fars News, (2015), 'The 'We Can't Breathe' Campaign was Launched', last accessed: 04/09/2016, available at: <http://www.farsnews.com/newstext.php?nn=13940701000733>

¹⁶⁵ Mashregh News, (2015), 'The 'We Can't Breathe' Campaign was Launched', last accessed: 04/09/2016, available at: <http://bit.ly/MashreghWCB>

¹⁶⁶ Farda News, (2015), 'Image: Poster from the 'We Can't Breathe' Campaign', last accessed: 04/09/2016, available at: <http://bit.ly/FardaWCB>

¹⁶⁷ Iranwire, (2015), 'The "We Can't Breathe Either" Campaign', last accessed: 04/09/2016, available at: <https://en.iranwire.com/en/features/1372>

¹⁶⁸ Sabaghi, Niloofar, Anoosheh Soren, Siamak Shayanpour, Paria Jedi, Mahnaz Toorani, (2016), "Car-Free Tuesday" an environmental campaign to tame the malignant and wicked problem of air pollution in Iran", last accessed: 04/09/2016, available at: <https://storify.com/niloofarsbg/air-pollution-in-iran>

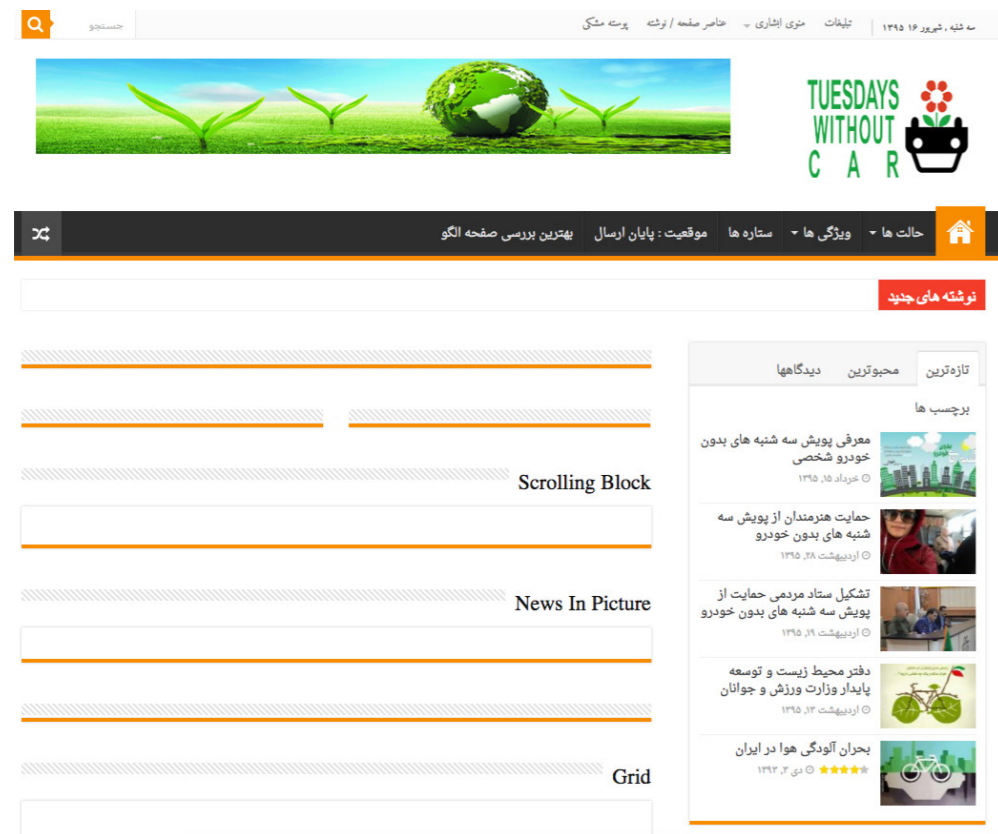


Fig. 3.2.2b The 'Car-Free Tuesdays' website

social media landscape¹⁶⁹. As such, we would suggest that future initiatives prioritise this platform in their advocacy efforts. The campaign has received a large volume of press coverage, likely owing to the DoE's heavy involvement in

¹⁶⁹ *Ibid*



Fig. 3.2.2c Cyclists participating in the campaign, from a Khabar Online article¹⁷⁰

promoting the initiative. Khabar Online¹⁷¹, ISNA¹⁷², IRNA¹⁷³, and YJC¹⁷⁴ have all covered the campaign, among others (see Fig. 3.2.2c). The success of the campaign shows how effective civil society initiatives can be when social media-driven campaigns can be empowered through enthusiastic government support.

¹⁷⁰ Khabar Online, (2016), 'Images: Mitra Hajjar cycles in support of the Car-Free Tuesdays Campaign', last accessed: 04/09/2016, available at: <http://www.khabaronline.ir/detail/576272/multimedia/picture>

¹⁷¹ Khabar Online, (2016), 'Images: Mitra Hajjar cycles in support of the Car-Free Tuesdays Campaign', last accessed: 04/09/2016, available at: <http://www.khabaronline.ir/detail/576272/multimedia/picture>

¹⁷² ISNA, (2016), 'Car-Free Tuesdays', last accessed: 04/09/2016, available at: <http://bit.ly/ISNACFT>

¹⁷³ IRNA, (2016), '40 Weekly 'Car-Free Tuesdays' events held in Bandar Anzali', last accessed: 04/09/2016, available at: <http://www.irna.ir/fa/News/82219606/>

¹⁷⁴ YJC, (2016), 'Car-Free Tuesdays' event held in Nesf-e Jahan', last accessed: 04/09/2016, available at: <http://bit.ly/YJCCFTE>

This being said, the campaign appears to require some technical support – the website of the campaign seems to be broken at the time of writing, and the social media presence of the campaign remains somewhat underdeveloped outside of Telegram.

3.3 VANISHING LIFE – WILDLIFE CONSERVATION AND BIODIVERSITY

Environmental degradation, declining water resources, and the effects of climate change are changing the face of Iran’s landscapes, and it is not only the country’s human inhabitants who are feeling the heat. Iran’s diverse wildlife is under threat from rapid environmental changes, and rampant illegal poaching. This chapter will lay out some of the key challenges Iran must overcome to preserve its rich biodiversity, and describe some of the civil society initiatives that have emerged to pressure authorities into taking decisive action.

3.3.1 IRAN’S COLLAPSING ECOSYSTEMS

Iran is home to diverse populations of wildlife, many of which are endemic to Iran. The Persian leopard and the Asiatic cheetah are two of the best-known, and most celebrated examples of Iran’s endangered wildlife, but similarly populations of the Caspian seal, the Persian fallow deer, and the Persian wild ass are perilously low. These species are at high risk of joining the Asiatic lion and the Mazandarani tiger in extinction.

So what are the root causes of the threats facing Iran’s wildlife? According to the DoE, population decline comes about as the result of three interlinking factors: human activities and development, environmental change, and the limitations of existing regulations¹⁷⁵. With regard to human activities, besides from the obvious

¹⁷⁵ Radio Zamaneh, (2014), ‘74 Iranian wildlife species red-listed by Environment Department’, last accessed: 28/8/2016, available at: <https://en.radiozamaneh.com/articles/74-iranian-wildlife-species-red-listed-by-environment-department/>

negative impact of construction, development, and habitat loss, illegal poaching is a massive issue, especially relating to Iran’s large cat species, trophies from which can secure a high price on the black market.

Regulation is also generally insufficient. Although 17 million ha have been put aside by the DoE for the protection of Iran’s rare species, comprising 272 conservation areas, resources and personnel are insufficient for patrolling these areas comprehensively. Around 2,600 rangers were available to protect these vast regions, amounting to around 6,500 hectares per ranger – far below international standards¹⁷⁶. In addition, even when caught, poachers rarely receive more than a slap on the wrist – sentencing is far from prohibitive¹⁷⁷.

Far greater resources are required from the Iranian government to manage the gradual restoration of wildlife populations in reserve areas, with a particular focus on increasing the number of rangers working in the field. In addition, the DoE should be consulted and its findings recognised in the event of any development projects being considered within the natural ranges of endangered species. Partnerships with local NGOs and CBOs should be strengthened, and efforts should be undertaken to educate local people about the negative effects of hunting rare large cat species.

3.3.2 CIVIL SOCIETY CAMPAIGNS

There are a number of active online campaigns relating to wildlife conservation, and NGOs active in this field are generally quite engaged in digital communication efforts. This section will examine a couple of the most high-profile online initiatives relating to biodiversity and wildlife conservation, and discuss briefly how their model of activities may be applied to other environmental organisations operating in Iran.

¹⁷⁶ *Ibid*

¹⁷⁷ *Ibid*

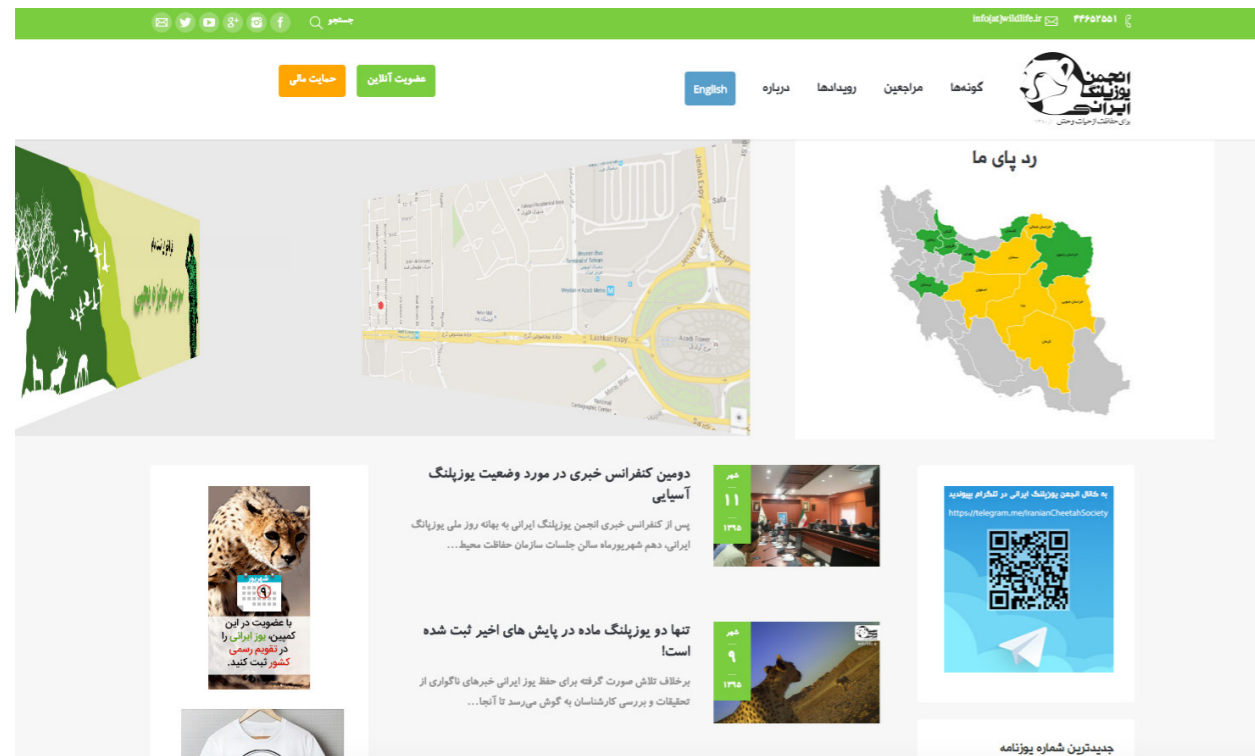


Fig. 3.3.2a The Iranian Cheetah Society's website

Iranian Cheetah Society



“ *The Iranian Cheetah Society is an independent, non-profit environmental NGO established by a number of students in 1380 (2001). The association's headquarters are located in Tehran but the scope of its activities encompass the whole country. The organisation also cooperates with other institutions active*

in the field of wildlife conservation at the international level.

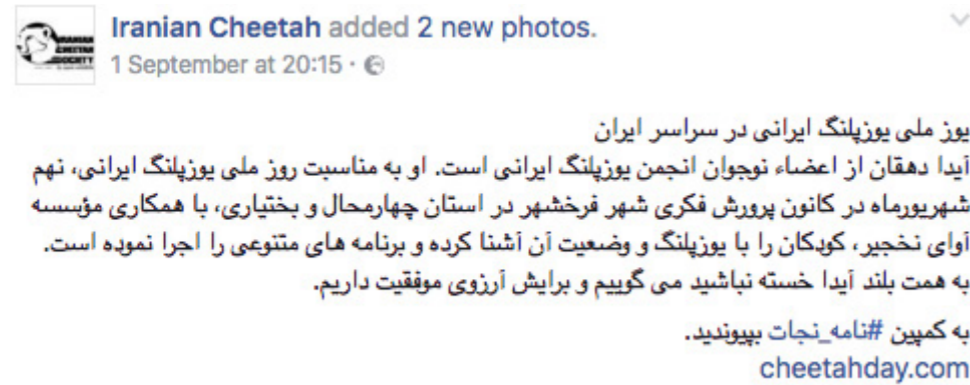
Iranian Cheetah Society now knows as the flag for the protection of and next to it is attached great importance to other carnivores. In other words, the scope of Community activities focused on the "carnivores" and Iran in the field of studying them and Enlightenment local communities and ultimately they are trying to protect them.

- Iranian Cheetah Society

The Iranian Cheetah Society is one of the most well-established environmental organisations operating in Iran today. Set up in 2001 by a group of student environmental activists, the organisation has grown into one of the leading organisations working to preserve biological diversity in Iran. With a stated mission of preserving Iran's large cat species, it frequently assists DoE conservation programs by providing expertise and knowledge to support government-funded activities.

The organisation is very effective at public outreach, with a well-designed public-facing website, numerous active social media channels (including Telegram, Instagram, Facebook, and YouTube), and a well-developed catalogue of Persian and English-language resources documenting the group's work, and informing interested citizens in the key issues facing Iran's large cat populations. The website promotes a number of events hosted by the Iranian Cheetah Society, including a purpose-built, high-quality website for National Cheetah Day¹⁷⁸ (which itself includes numerous calls to action, including an online petition

¹⁷⁸ Iranian Cheetah Society, (2016), 'Cheetah Day', last accessed: 28/8/2016, available at: <http://cheetahday.com/>



See translation

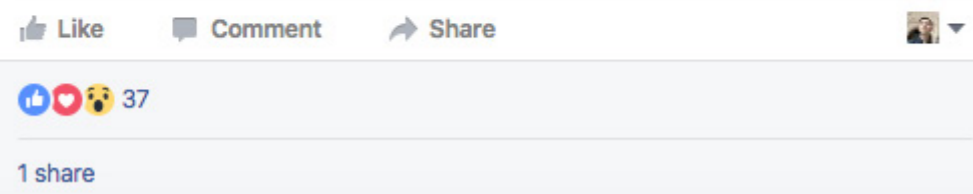


Fig. 3.3.2b Facebook post showing Iranian Cheetah Society posters in schools



Fig. 3.3.2c An infographic posted on Facebook describing the dangers posed to cheetahs by cars

calling for the government to step up its conservation investments), and a number of pages detailing training workshops and initiatives for Iranian conservationists¹⁷⁹.

¹⁷⁹ Iranian Cheetah Society, (2016), 'Category: Wildlife Seminars', last accessed: 28/8/2016, available at: <http://bit.ly/ICSwildlife>

The organisation has also made use of infographics to spread its messages – both online, and offline. Fig. 3.3.2b is a Facebook post by the campaign, showing one of the campaign’s new infographics being used in a classroom to educate young students about the Iranian cheetah. The campaign also frequently shares infographics on its social media channels, educating users about key issues in an easily digestible and visually engaging manner (see Fig. 3.3.2c).

In addition to these resources, the website also publishes the organisation’s biannual magazine *Yuznameh* (with a shorter, newsletter-style publication also available in English), along with a wide range of merchandise and clothing, the proceeds of which support the organisation’s activities.

With well-developed online resources, a high public profile, and good working relationships with governmental and non-governmental stakeholders active in the field of conservation, the Iranian Cheetah Society provides an excellent model for other environmental organisations as they seek to develop public awareness and advocacy campaigns.

3.4 GENERAL ENVIRONMENTAL CAMPAIGNS

As discussed earlier in the report, many Iranian environmental activists are not specifically issue-focused, but rather are generalists. In this section we will explore some of the digital campaigns that have been established to resolve Iran’s environmental crises in a broader, less-specialised manner. These include educational campaigns aiming to introduce children to environmental issues at a young age, and initiatives set up to provide environmental journalists with comprehensive information about the latest environmental news stories.

School of Nature



“ *This page is an effort to promote a better understanding of the School of Nature’s*

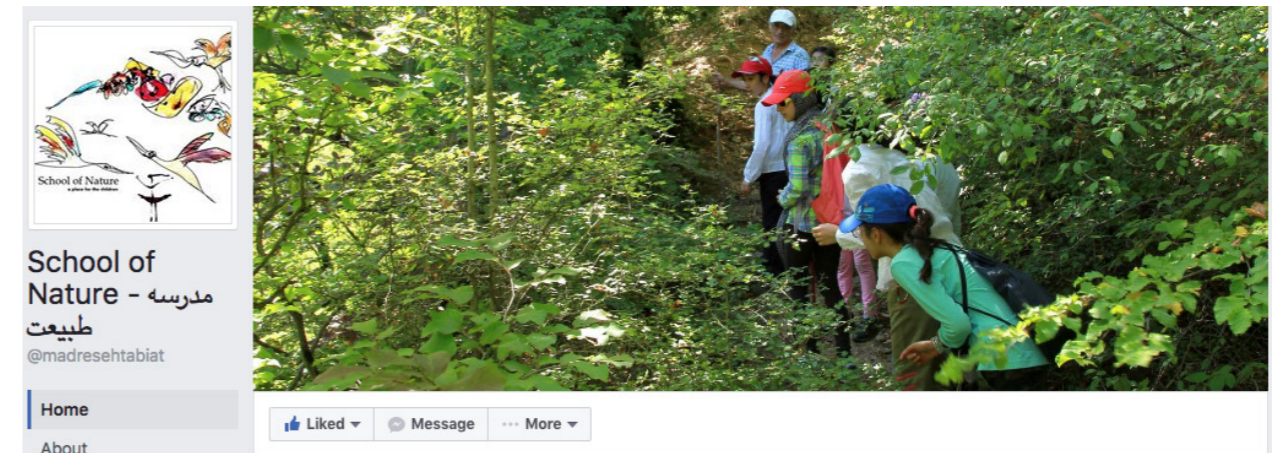


Fig. 3.4a The School of Nature Facebook page

importance, and the importance of allowing children and teens to experience nature.

- School of Nature

The School of Nature is a project dedicated to environmental education for children aged 3 to 12. It was established by the Iranian ecologist and environmental activist Hossein Vahabzadeh. In Vahabzadeh’s words: “Children are able to play, use their imagination, and discover their environment alongside their real or imaginary friends. From this interaction with nature, a love and fascination with the environment will take shape inside themselves. If we don’t create this love, we could build a whole library full of books talking about how important the environment is, but grown-ups won’t change their behaviour¹⁸⁰.”

The School of Nature was created in 2015 in the city of Mashhad. Through analysis of the organisation’s Telegram channel and related Facebook pages, we were able to observe that province-level School of Nature initiatives were in operation at an early stage (and remain generally active today), although we were unable to identify a central index of these initiatives.

¹⁸⁰ TEDx Talks, (2015), YouTube, ‘The school of nature | Hossein Vahabzadeh | TEDxKish’, last accessed: 28/8/2016, available at: <https://www.youtube.com/watch?v=oDte6lPfh4>

Each provincial school has a Facebook page, Telegram Channel, an Instagram account and either a blog or website. The central Telegram channel and Facebook page of the School of Nature posts and promotes content from the other schools' accounts, and shares content related to other environmental campaigns.

The online presence of provincial schools lacks a unifying structure or visual identity, making it difficult to compare the work of local organisations. The structure of provincial websites is also infrequently organised in an accessible manner to allow the user to quickly understand the activities of regional programs. Many websites and social media pages are infrequently updated, and some regional initiatives' websites appear to be inaccessible completely, owing to hosting issues.

Iran Non-Government Environment News Network



Fig. 3.4b The Iran Non-Government Environment News Network's website

The website is an environmental news agency dedicated to covering a range of environmental issues affecting Iran, with a focus on the following topic areas: the human environment; nature; wildlife; world news; economics and energy; eco-tourism.

Articles posted on the website are all consisted of original content, including interviews with experts, coverage of newly released research reports, national and international environmental policy updates, and general items of environmental news.

The website mainly targets experts, activists and journalists who are interested in sharing information about environmental issues in Iran. Indeed, the homepage allows users to directly access IREN's Telegram channel, which is designed to offer a space for journalists and activists to share their own content and develop networks within the journalistic community.

Furthermore, there is a segment of the website designed specifically for journalists, allowing them to subscribe and become official members of the website's community of journalists, through which they can submit questions and requests for assistance.

IREN is supported by the Global Environmental Facility, an international partnership that serves as a financial mechanism for UN conventions.

Although the site aims to develop a community of environmental journalists, it does not appear that the public Telegram group is producing a great volume of information exchange. Users do share news stories on a frequent basis, but actual discussion is essentially non-existent, and the Telegram group is largely indistinguishable from the news feed-style Facebook groups and Telegram channels frequently operated by activists inside Iran.

CENESTA



The Centre for Sustainable Development (CENESTA) is a non-governmental, non-profit organisation dedicated to promoting sustainable community-based development, with an approach rooted in local cultures. Its main areas of work are in Iran and Southwest Asia, although CENESTA's experts have also engaged in extensive activities in Africa, Latin America, and Asia as well.

CENESTA is a member of the International Union for Conservation of Nature (IUCN) and is a founding member of the ICCA Consortium, an international organisation dedicated to conservation by indigenous peoples and traditional communities.



Fig. 3.4c The Centre for Sustainable Development's website

CENESTA works with a variety of partners, ranging from local communities, to local and national government agencies, universities, research organisations, as well as national and international NGOs.

In addition, CENESTA is accredited by the Convention on Biological Diversity (CBD), the UN Convention to Combat Desertification (UNCCD), the UN Framework Convention on Climate Change (UNFCCC), and the European Commission (EC).

CENESTA has a small core of staff and a large network of associates, ranging from indigenous peoples and community-based groups to women's associations and technical experts who act on the basis of common concerns and specific capacities. CENESTA staff and associates work in the context of project contracts and/or on a voluntary basis, contributing time as well as financial and material resources for the goals of the organisation

CENESTA's online activities are in their early stages with regard to social media, although the organisation's website is quite well-developed and structured. The Facebook page was only created in mid-July 2016, and the Telegram channel was established in late November 2015. As such, the social media pages retain quite a low number of followers and members.

That being said, CENESTA's website is structured in a way that clearly showcases the organisation's key objectives, projects, and publications, and is available in

both Persian and English. The website's content includes detailed written and visual documentation of past projects, reports and activities, as well as those that are ongoing. Videos and articles on the website are well-produced, and could serve as useful tools for raising awareness about the role of nomads and local communities in environmental protection work, although they appear to be somewhat buried and underutilised at present (see Fig. 3.4d).



Fig. 3.4d A video from the Centre for Sustainable Development]

Fig. 3.4d is a video in which the President of the ICCA Consortium (and CENESTA Director) Mohammad Taghi Farvar explains the benefits of entrusting conservation efforts to indigenous nomadic tribes:

“Indigenous peoples and local communities are the fore-front of governance for conservation, because they have developed their governance and institutions through centuries of direct dependence on nature for their very survival. These institutions

*learn to respond to the vagaries of climate,
learn to manage conflicts, and learn to
meet the changing needs of people with
very little chance for error.”*

CENESTA is one of the most effective and ambitious environmental organisations working on the ground in Iran today, and their work with local communities appears to be without parallel. Nonetheless, CENESTA's initiatives could prove as powerful tools to mobilise the public around environmental challenges, and improvements to the organisation's digital capacities could prove helpful towards this end.



CONCLUSIONS & RECOMMENDATIONS °

This report has provided an assessment of the challenges faced by Iranian governmental and non-governmental actors as they attempt to wrestle with the water crisis, and an array of other serious environmental issues. It has identified areas in which the media, activists, academics and creatives might be able to collaborate to help develop effective solutions to these problems, as well as noting skills and capacities that require further development, either with the support of government actors, or international organisations.

Below, Small Media and the Heinrich Böll Foundation offer a series of recommendations for an array of stakeholders involved in developing a resolution to Iran's environmental crises. We hope that they are taken into consideration moving forward.

To the government of the Islamic Republic of Iran we offer the following recommendations:

- Develop and implement policy programs in collaboration with relevant NGOs, CBOs and academics to resolve Iran's water crisis,

- Reorganise the Department of the Environment into a Ministry of the Environment, and empower it to act decisively to expand and enforce environmental regulations.
- Reform water management systems so that they are managed based on watershed boundaries, and not according to political province boundaries.
- Confront the issue of illegal well drilling, and other illegal activities that undermine long-term stability in water resource management. Initiatives should be undertaken to educate farmers, and to provide economic incentives to deintensify agricultural activities.
- Undertake initiatives to limit intensive development in certain regions, in favour of development models that prioritise sustainability and environmental stability.
- Instruct state intelligence services and state-affiliated organisations to cease harassment and intimidation of environmental activists and NGOs who seek engagement with international environmental organisations.
- Support the development of independent networks of environmental journalists, activists, NGOs, and academics.
- Support efforts to develop the capacities of environmental journalists, activists, NGOs, and academics.
- Empower citizen-led environmental documentation initiatives by providing training and equipment to local environmental monitoring groups. The data they collect can then be utilised for policymaking and programme planning.

To international environmental organisations we offer the following recommendations:

- Security remains a central consideration for international actors engaging in Iran. International environmental organisations should ensure that interactions with environmental activists working on the ground in Iran are conducted carefully, and in a manner that minimises risks for activists, NGOs and CBOs.
- The safest and most effective way to coordinate trainings and capacity-building exercises is through online platforms. Persian-

language online resources should be developed to support the work of environmental activists, organisations, and journalists. These resources should not only be skills-focused (explaining best practice in campaigning, advocacy techniques, and media engagement) but should also be knowledge-focused, to ensure that Iranian environmentalists have developed a comprehensive understanding of the environmental issues affecting Iran, and the existing debates around potential solutions.

- Efforts should be undertaken to safely facilitate the extension of South-to-South networks of global knowledge exchange, to enable Iranian activists and officials to learn from the work being undertaken in other Global South contexts. Such South-to-South exchanges are also likely to be less politically problematic for the Iranian security apparatus than exchanges with European and North American actors.
- Empower and support citizen-led documentation of environmental issues, to allow Iranian citizens to contribute to the monitoring of local environmental conditions.

To Iranian environmental activists and NGOs we offer the following recommendations:

- Engage with the potential of digital tools to maximise the effectiveness of awareness-raising and education campaigns about environmental issues.
- Continue to use a mixture of digital tools and localised, on-the-ground action to mobilise support for local, issue-based environmental campaigns.
- Work to develop relationships with the GEF Small Grants Programme and the United Nations Development Project, as well as stakeholders at all levels of Iran's environmental apparatus.
- Engage with, and actively contribute to the activities of local NGO networks such as the National Environment Network – the collaboration and coordination of action is crucial for the success of any environmental programme involving a variety of stakeholders.

To Iranian environmental journalists and media organisations we offer the following recommendations:

- Engage with, and actively contribute to the activities of journalist networks such as the Society of Environmental Journalists of Iran, and participate in capacity-building activities to develop environmental knowledge and journalistic skills.
- Develop networks with global environmental journalists, in order to learn discipline-specific skills and develop knowledge of environmental issues.
- Develop in-depth features on environmental issues, whether these be long-form pieces in traditional press, or informative and engaging documentary content on television.
- Empower citizen journalists to document local environmental issues, and provide a platform for their reports to contribute to the national debate around environmental issues.

It is our hope that this report has provided an account of the major environmental crises confronting Iran today. We realise that the facts present a bleak picture, but we are not trying to be doomsayers – the challenges facing Iran are immense, and existential. Entire communities are already being swept away by drought and environmental deterioration, and many more will vanish if no action is taken.

But the situation is not hopeless. Radical action on the part of the government, and open engagement and partnership with Iran's environmental NGOs and CBOs could yet reverse the tide. It is our hope that the recommendations outlined in this report can provide valuable guidance for policymakers, activists, and experts as they map the road ahead.



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