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The Ocean in National Contributions of Mediterranean States

COP21 marked the enshrinement of national contributions in international climate negotiations. The ocean, presented at COP21 as "*the forgotten element*"[1] of international climate negotiations, has been put back on the negotiation table. As for all subjects, the ocean had to be fervently defended to access the international political agenda. What are intended nationally determined contributions and how do States prepare them? Today, how is the ocean taken into account by Mediterranean States in their national contributions?

The Mediterranean Sea, cradle of humanity, has been subjected to many anthropic modifications – namely on the coastline. The semi-closed sea is often described as an ideal study-zone, a form of miniature ocean. This region is just as interesting on the political and economic level, as it is composed of strongly diverging States. The Mediterranean thus appears fitting to study how the ocean is taken into account in Intended Nationally Determined Contributions (INDC), and to seek a better understanding of what pushes – or dissuades – a State to integrate the ocean in their adaptation and mitigation policies.

After a brief historical overview on the development of national contributions, we will look more in depth at how States form their interests in the field of environmental protection in order to better understand why the Mediterranean States are more or less interested in the ocean in said contributions.

NATIONAL CONTRIBUTIONS

For many years, the dominating approach in climate negotiations was to launch a policy at the international level to push action on the national level (top down). For instance, the majority of ministries of environment were created after the United Nations Environment Programme (UNEP), in 1972, which encouraged such a measure. The 19th session of the Conference of Parties at the United Nations Framework Convention on Climate Change (UNFCCC, Warsaw, November 2013) adopted an opposite logic (bottom-up) by proposing a system of nationally determined contributions. These are "*public outlines of what individual countries plan to do to deal with a changing climate, starting in 2020 under a new international climate agreement.*"[2] The States first agree on their objectives in relation to the UNFCCC. Goals are detailed in a treaty, the Paris Agreement, adopted at COP21 in December 2015 in Paris. Although they are not legally binding, INDCs communicate these goals "*in a manner that facilitates the clarity, transparency and understanding of the intended contributions*"[3].

These contributions combine ambitious and fair commitments in terms of both adaptation and mitigation with national priorities that are specific to each country. Year

1 Policy recommendations of the Ocean and Climate Platform.

2 "Decoding Intended Nationally Determined Contributions (INDCS): A Guide for Understanding Country Commitments", World Resources Institute, July 2015.

3 See article 2.b of the decision "Further advancing the Durban Platform" (1/CP.19).

of reference, deadline of the political agenda setting, scope, methodology used, as well as an estimation of the fairness and the ambition of the contribution in relation to national circumstances all appear in the contribution.

No formal obligation is required of INDCs. Some are rather short, limited to quantified commitments, whereas others can reach up to twenty pages and detail the country's ambitions sector by sector. The European Union's contribution is only five pages, overviewing its fairness and ambitiousness, and then making an inventory of the economic sectors it concerns. This contribution is centred on a quantified reduction of emissions. To the contrary, the Moroccan contribution – 17 pages – details at length the country's national circumstances, namely strong economic and demographic growth in context of climate change. The Moroccan INDC proposes a first unconditional and objective reduction of emission reduction, and a second objective, depending on international aid received. It then develops policies both in terms of mitigation and adaptation.

A bottom-up approach should push to a stronger commitment by States. So far, it appears to be a winning bet: around sixty States made commitments in 2009 and 2010, whereas 177 have signed the Paris Agreement[4].

POLITICAL AGENDA SETTING – GETTING ON TO THE POLITICAL AGENDA

The political agenda is defined by Garraud (in Hassenteufel, 2010) as "*a set of problems subjected to treatment of any kind by the political authorities, and therefore likely to be the object of one or several political decisions*". In other words, the political agenda is composed of all subjects likely to be object of political decisions.

Tough competition for the political agenda

At both the national and international level, problems face strong competition to get on the political agenda. All subjects cannot be on the agenda. At their origin, subjects are not public: they must be constructed as such. For instance, all citizens are not *a priori* concerned by sea-level rise, and thus it is not perceived as a societal or public problem. The actors concerned by this question (civil society, associations, businesses, political parties, for instance) may mobilise and reconstruct the perception of sea-level rise as to make it a public problem. They can show the impacts of the phenomenon on water and food resources, or the consequences on the country's economy and civil society. Sea-level rise then becomes a problem that is constructed as public. Considering the over-abundance of problems competing for the political agenda, a choice must be made. Hilgartner and Bosk (1998) consider that "*public attention is a rare resource […], problems must strive to occupy space in the public arena*"[5]. This competition is constant, whether to gain access to or to stay on the political agenda.

Environmental policy is no exception to this rule. Competition between subjects, or problems, impacts the topics addressed in States' INDCs.

The definition of national interest in environmental terms

State delegations are mandated to define and defend their national interest at the international level. A State's interest, and thus position during international negotiations, depends mainly on two independent variables according to the principle of rationality of States (Morin and Orsini 2015).

The first variable is the country's vulnerability, meaning the extent of environmental damage a State, its population or its territory is subjected to. Logically, the greater the damage a State is subjected to because of a certain problem, the more it will try to combat this problem. The second variable is the abatement costs, or the replacement of equipment, the development of new technologies, the abandonment of other technologies and old *modus operandi*. It is not rational for a State to adopt a solution if the cost of this solution is excessive in regard to the problem.

4 http://www.cop21.gouv.fr/un-record-plus-de-160-pays-attendus-a-new-york-le-22-avril-pour-signer-laccord-de-paris, last consulted on September 20, 2016.

5 In Hassenteufel, 2010

To the contrary, if the cost is low compared to the consequences of the States' vulnerability, the country will have strong incentive to act. States undertake a cost-benefit analysis of their behavioural change depending on the information available to them. States' interests vary depending on the given environmental problem[6]. This approach to public decision analysis does not take into account other factors, such as the existence of a bureaucracy that defends its interests (survival of existing institutions), for instance. Underlying geopolitical tendencies may influence the position adopted by a State and the definition of its interest. The end of the Cold War boosted international cooperation and the proliferation of more global regimes (Terhalle and Delpledge, 2013). The rational approach nonetheless helps understand – at least in part – how a State defines its interest, and thus its behaviour on the international arena (see Fig. 1).

Windows of opportunity

John Kingdon considers that "*when a problem is acknowledged/recognized, a solution is developed and available within the public policy community, a political change creates the right moment for a policy change and that the potential constraints are not to strong*"[7], then a problem constructed as public will gain access to the political agenda.

Having identified a problem, a solution, and political will are all necessary to have a window of opportunity (a possibility to access the political agenda).

6 For instance, the Moroccan contribution explains that the country "*must focus on minimising the risks of climate change impacts. Certain economic activities, such as agriculture, fisheries, aquaculture, forestry and tourism are significantly vulnerable, as are certain ecosystems, such as oases, the coast and mountains.*"
7 Translated from English to French by Hassenteufel and from French to English by the author.

This is why research should be encouraged. Indeed, research can enable the identification of a problem, and can even offer concrete answers on the origins of said problem. Exploring solutions should also be a priority for researchers and other mobilised actors, if they hope to see their problem attain the political agenda. Political will can draw its source from a strong mobilization of the civil society, election day, or even a striking event, such as a tropical storm. Without political will, decision-makers are less likely to listen to research results.

THE OCEAN IN MEDITERRANEAN STATES' NATIONAL CONTRIBUTIONS

The ocean: an irreplaceable and precious resource

An (over)exploited resource

For all the Mediterranean States, the ocean is a source of income. Finding exact data on the percentage of GDP that comes – either directly or indirectly – from the ocean proves difficult. Undeniably, seaside tourism, fishing, and maritime transportation amongst others, are profitable sectors. However, these activities generate stress on their environment: overfishing, pollution, excessive urbanisation, over-exploitation of water resources. Yet, in arid and semi-arid countries, water is a valuable resource, that the ocean can supply thanks to desalinization. This accentuates stress on the natural environment. In half of the Mediterranean States' INDCs (Egypt, Israel, Morocco, Tunisia), desalinization is mentioned as both a current and future resource. Israel wishes to use this technique to cope with a raise in water demand. Morocco hopes to increase its water resources before 2030. Tunisia plans

Behaviors expected from States depending on their interests		Degree of Vulnerability	
		Low	High
Abatement cost	Low	Spectator	Promotor
	High	Obstructionnist	Intermediate

Fig.1 — Source : Sprinz et Vaahatoranta, 1994 in Morin and Orsini 2015.

to install small desalination plants to accommodate local needs in touristic zones[8].

Indirect stress factors

The Mediterranean also endures indirect pressure. Due to desertification and loss of arable lands, certain rural populations are forced into exodus towards urban centres, often located on the coast. Meanwhile, the population grows, on average, 1,4% per year in Mediterranean States (excepted European Union). These countries are facing strong demographic stress, generally on the coastline. The Mediterranean basin faces another pressure: pollution from industries, agriculture, cities and tourism flows directly into marine ecosystems.

8 INDC Israël, Morocco, Tunisia

Challenges and solutions in the Mediterranean

The ocean as a source of vulnerability

Most of the Mediterranean States undertake a situational analysis of their national circumstances (political, economic and social context) because the consequences of climate change are adding onto an already fragile national context. For instance, Lebanon recalls its regional political agitation, high poverty levels and the 30% increase of its

	GDP per habitant 2011-2015	Land and marine protected zones (percentage of national territory)	Annual population growth, percentage	Length of coastline (in km)	Land borders (in km)	Average elevation (m)	Percentage of territory that is under 5m elevation (percentage)	Total words concerning the ocean
Algeria	5484,1 $	7,5	1,9	998	6734	800	0	6
Egypt	3365,7 $	9,6	2,2	2450	2612	321	1,6	24
Israel	37206,2 $	8,6	1,9	273	1068	508	0,4	5
Lebanon	10057,9 $	0,9	1,2	225	484	125	0,4	14
Morocco	3190,3 $	20,1	1,4	1835	2362,5	909	0,2	17
Monaco	163651,6 $	99,7	0,3	4,1	6	NA	25,3	1
Tunisia	4420,7 $	3,7	1,0	1148	1495	246	1,9	29
Turkey	$10515,0 $	0,2	1,2	7200	2816	1132	0,5	2

Data from the CIA Factbook and the World Bank

To quantify the integration of the ocean in Mediterranean States' INDCs (excluding the EU, Syria and Libya), key words in relation to the ocean were counted. The chosen words are the following: adaptation, acidification, aquaculture, biodiversity, blue carbon, blue economy, coast, coastline, coastal, coral, deoxygenation, desalinization, ecosystem(s), fishery(ies), marine, maritime, mangrove, marsh, mitigation, ocean warming, offshore, reef, sea-level rise . These words were essentially chosen in the Ocean and Climate Platform's policy reccomendations.

Tunisia is at the top of the rankings, with these words coming up 29 times (excepted adaptation and mitigation), closely followed by Egypt (24), Morocco (17 and Lebanon (14).

The European Union, Syria and Libya are not taken into account because they do not have a national contribution . The European Union submitted a group contribution for all its Member States. In regard to their political, economic and social circumstances, Syria and Libya have not written a contribution.

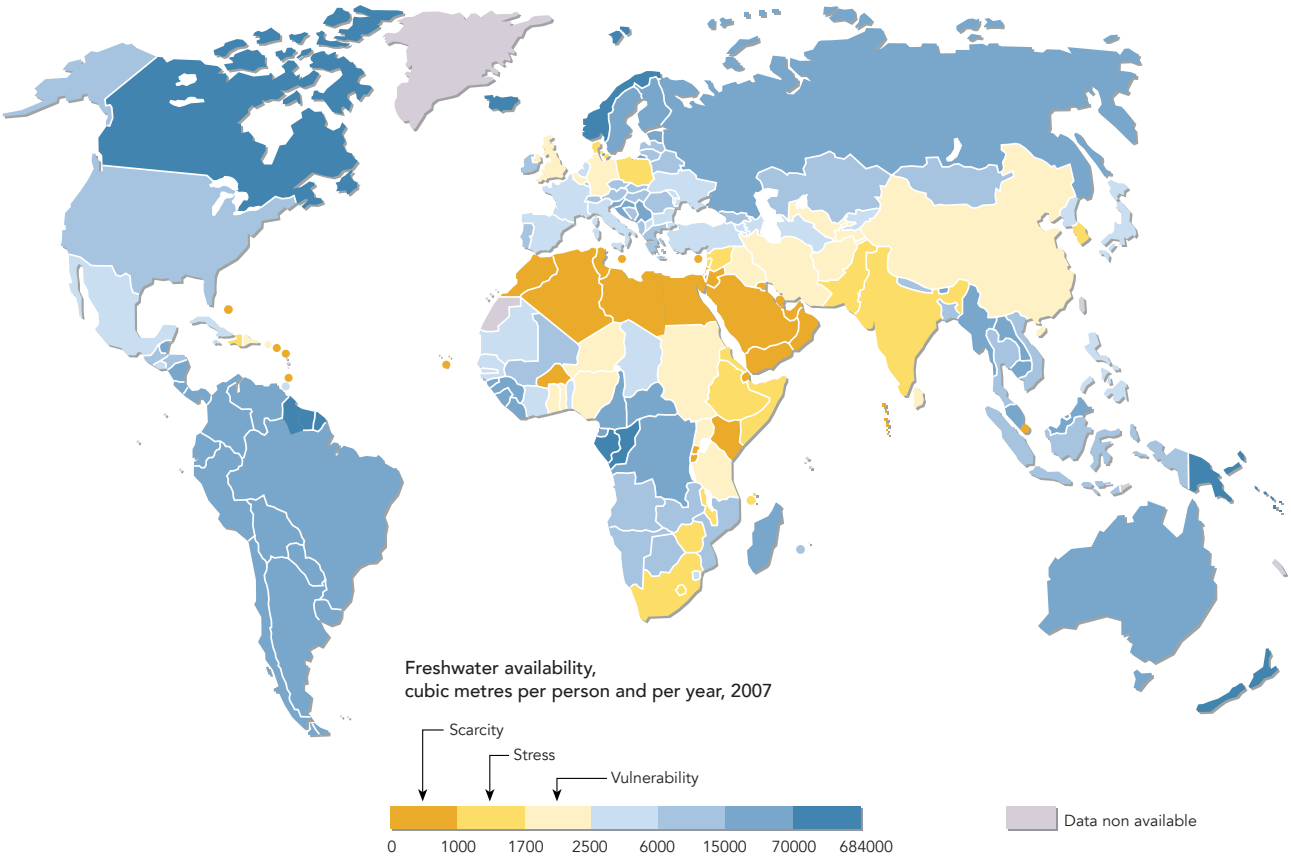


Fig.2 — Freshwater availability, cubic metres per person and per year, in 2007. Source: FAO, United Nations, World Resources Institute (WRI), Designer: Philippe Rekacewicz 2008).

population between 2013 and 2015 due, namely, to the Syrian refugee crisis. According to the Lebanese INDC, these factors intensify stress on an economy and on natural resources that are already under pressure[9].

Yet, Middle Eastern and Southern Mediterranean countries have a distinctive feature: they are located in the only region in the world that lacks water[10] (see Fig. 2). Climate change will deeply affect coastlines and water distribution. Sea-level rise will have a direct effect on an invaluable resource: fresh water. Salt-water intrusion is a major concern for countries such as Tunisia and Egypt, where more than 1,5% of national territory is located under 5m of altitude. The Tunisian contribution states that 50% of its water resources in coastal groundwater risks salinization. The rise of sea-level also salinizes arable land.

In addition to deteriorating resources as basic as water and food, sea-level rise damages sea-side infrastructures, including touristic and port infrastructures, or even power plants, impairing the countries' economy. Displacement of populations is another consequence of this phenomenon. For instance, in Algeria, over 85% of the population lives in the North of the country, so on the coast. Major cities such as Alexandria or Port Saïd in Egypt will eventually be flooded. These huge population flows would further destabilise the country[11].

Sea-level rise obliges States to adapt their tourist-economy so as to continue to benefit from the sector. Seaside tourism generates a large income: 90% of tourism in Tunisia is coastal, 80% in Lebanon, and 80% in Israel. In 2015, 11,4% of the Egyptian GDP was generated by

9 *"To exacerbate matters, the Syrian crisis has led to the arrival of around 1,13 million registered refugees to the country, increasing Lebanon's population by 30% in just over 2 years and adding stress to the already-stretched economy and natural resources"*. INDC Lebanon.

10 According to the Falkenmark index.

11 *"Estimations indicate that sea-level rise by 50cm leads to serious impacts on low-level lands in Delta and highly populated cities such as Alexandria and Port Saïd. Consequently, this will result in a more significant challenge, which is the migration of people from the affected areas to other areas, thus affecting the efficiency of different services and increasing the financial cost required for their development."* Egyptian Arab Republic INDC.

tourism, 35% of which was on the seaside. Coral reefs – Egypt's 4th touristic sector – are highly vulnerable to climate changes.

The ocean's temperature is also rising, disturbing the distribution of marine species and displacing fish stocks. This provokes heavy repercussions on the fishing industry. Touristic destinations can become less attractive due to a rapid proliferation of harmful algae, which is stimulated by the increase in temperatures. Economical vulnerability of coastal regions is a recurring theme in contributions that mention the ocean.

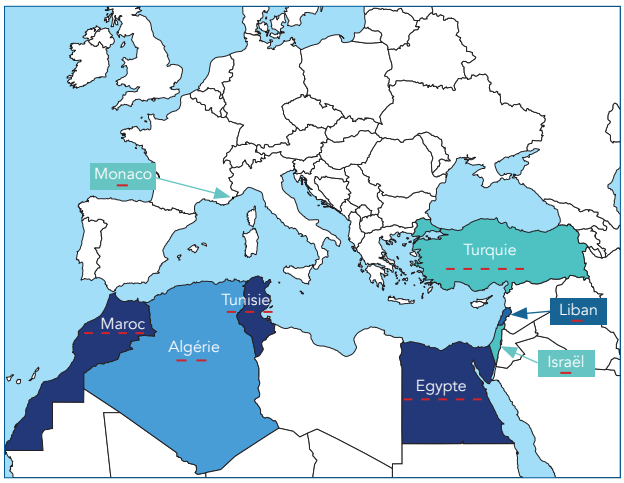
A tool to be developed

Many countries consider themselves vulnerable to the ocean. However, the ocean can also be a source of adaptation and mitigation to better cope with climate change.

Planned management of the coast helps avoid excessive and un-orderly urbanisation while putting a priority on zones that are less prone to flooding and erosion. Egypt and Morocco both propose this type of solution[12].

In terms of mitigation, marine renewable energies can help reduce dependency to flared gas or fossil energy. Reforestation can also help limit coastal erosion at a lower cost. Morocco plans to reconvert nearly 1 million hectares of cereal production to fruit tree plantations, which would protect farmlands from erosion[13].

Therefore, it appears that States including the ocean in their INDCs are those whose economy and society will be most affected by climate change. Egypt and Tunisia depend on seaside tourism, and have many farmlands, cities and aquifers that will potentially be flooded in the coming decades, affecting the heart of their economies. It is in these States' interests to act, taking into account the ocean in their national contributions.



Longueur du trait de côte (km)	
1-500	–
501-1000	– –
1001-1500	– – –
1501-2000	– – – –
>2001	– – – – –

Nombre de mots liés à l'océan	
1-5	
6-10	
11-15	
>15	

Fig.3 — Number of ocean-related words in Mediterranean INDCs compared to the length of their coast, in 2016. © Léa Lebechnech.

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12 Morocco has already undertaken a « *National Strategy for Integrated Coastal Management* ». Egypt is also putting forward integrated coastal management (« *Adaptation options for coastal zones are highly site-dependent. However, changes in land use, integrated coastal management, and proactive planning for protecting coastal zones are necessary adaptation policies.* » INDC Egypt).
13 The Marrocan contribution mentions a « *conversion of nearly one million hectares of grain crops to fruit plantations that are likely to protect agriculteral areas from all forms of erosion, especially water erosion* ».

ACKNOWLEDGEMENT

Several people accompanied me to make this work possible. First, I would like to thank Julien Rochette, for his careful rereading and more than helpful comments. Léa Lebechnech created the map of the Mediterranean that perfectly illustrates the collected data. I would also like to thank Clara Grillet, for having spent so much time with me, reworking the text as best we could.

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