



PROSPECTUS FOR AN OCEAN PLANNING ‘FOSP’ PROJECT

Global population growth is the root of an increased pressure on the ocean environment, causing marine environmental change and at the same time entailing the necessity to develop new ways of using ocean resources. While it is arguably the coastal zones that are most under pressure, it seems that it is time to revisit the way in which we think about the ocean as a whole. While it used to be an endless resource where human activities would not have very noticeable effects, we now have to think of the ocean as a finite resource. A comprehensive ocean planning process could address this issue by exploring if all the desired uses of the ocean by humans are possible. Ideally, this process could indicate where there are conflicts to be expected and where there are untapped opportunities for sustainable development of the ocean, regional seas and coastal zones.

In order to address the challenge, “Future Ocean Spatial Planning” (FOSP) is conceptualised as a transdisciplinary research activity with the goal to develop possible future development scenarios for the ocean and its regional seas based on the understanding that the ocean is one large globally connected ecosystem. A range of possible futures will be developed, based on different assumptions on future uses of ocean resources and related impacts, and on impacts resulting from global environmental change and climate change; on the willingness to establish protected areas and to engage in forward-looking, inclusive and harmonised governance of the ocean and the coasts; on societal needs, demands and values; and on the imperative that the life supporting functions of the ocean and coast need to be secured for current and future generations.

In June 2013, the idea of an international research project on FOSP was born during the third Dräger Symposium ‘Good Governance for Sustainable Marine Development’ in Cascais, Portugal. Following this, a group of international experts met in Kiel in early March 2014 to advance the idea and discuss the benefits and challenges for such an activity. Given the success of marine spatial planning (MSP) in many coastal areas, it was decided to build on the methodology and focus FOSP on the global ocean fully recognizing the importance of regional seas and coasts.

In the coastal zone, many coastal states are already using MSP processes to improve management and space allocation within their territorial waters or the exclusive economic zone. Often this is linked to integrated coastal management (ICM) and other processes. However, many countries still lack integrated, cross-sectoral approaches to marine resource management and conservation. In some regions, for example within the EU, regionally coordinated policies such as the Marine Strategy to the local MSP process. Moreover, Directive 2014/89/EU of 23 July 2014 establishing a framework for MSP significantly enhances the importance of this form of ocean governance. Framework Directive (MSFD) intend to provide harmonisation, guidance and direction

However, on the global scale, there is no integrated framework on future planning for the ocean on time horizons of the next five, ten and twenty-five years. Other than the difficulties regarding the time horizon, such a project would also need to consider the legal status of the area beyond national jurisdiction (ABNJ).

I. Setting the Scene

As contentious as the question of ocean development may be, it does not take place in a societal vacuum. Many institutions and regulatory frameworks are concerned with the governance of human activities at sea, and for both natural and social sciences, the sustainable development of the ocean is an important topic. The draft framework for the post-2015 agenda on global development includes a focussed goal on the sustainable development of the ocean and its seas.

1. "Development" – a broader view

"Development" naturally presupposes that the current state of a matter can be assessed and that a certain change takes place and can be recorded. As evident as this appears, the topic of the development of the ocean already raises difficulties even before discussing the direction that this development is going to take. This is due to a number of problems on the legal, social and scientific side.

Natural Science. An assessment of the current state of the ocean meant to be used as a starting point for a development strategy would need to encompass numerous criteria that can on the one hand be formulated from different approaches. Biological criteria such as the degree of biodiversity or the state of the existing populations of fauna and flora would be different from chemical or physical criteria such as water quality or the sheer amount of biological mass in the water. On the other hand, even only one given factor identified as a criterion can be approached in different ways, as a mere snapshot of the current state of things, or with a view to an ongoing development. Furthermore, and due to obvious practical reasons with the vastness of the ocean, data collection and data management in most cases only provide spatial snapshots. Further, the ocean and the regional seas are characterised by diverse marine ecosystems existing in a wide range of environmental conditions, which are linked through ocean currents and not confined by fixed boundaries. With a view to the ambition to consider the ocean as one global ecosystem and to formulate worldwide development strategies, it becomes obvious that assessing the state and formulating development strategies for the ocean is a huge challenge and must either be extremely wide in scope or be divided or at least subdivided into more regional approaches.

Law. Law is generally regarded as the tool with which development strategies are put into practice because concerted action on a multilateral or global level will require procedural rules and a certain enforcement mechanism. In contrast to the approach taken by natural scientists, the angle under which the ocean is regarded from a legal point of view is much wider. Core provisions of the law of the sea, such as the status of ocean zones, the freedom of the high seas – irrespective of certain reservations – or the general obligation to protect the marine environment are globally considered as being part of customary international law. Reciprocity, i.e. the idea that States in their relationship with each other should respect the same rights and obligations towards each other, is equally well established in international law and helps to create stable expectations of behaviour between States even in the absence of binding or non-binding texts, and even where mutual rights and obligations may not always be consistently complied with in reality. Hence, there is a global consensus on which rules could be based, both for the procedural aspects of assessing the compliance with criteria and governance mechanisms to effectuate

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actual changes. Still, the lines along which this global consensus is established also create some important limits. First, international law is organised as a body of rules applicable as between States or groups of States, and governing the behaviour of other actors, both on the sub-State level (individuals, entities such as companies) and the level above the State-level (regions not defined by State borders or the world community as a whole) is notoriously difficult to put into place. Second, the overarching principle to consider the greatest part of the ocean and the deep seabed as the "common heritage of humankind", which cannot be made subject to State sovereignty generally requires some form of international consensus on governance issues. This international unanimity is, in many matters, difficult or impossible to achieve.

Social Impacts. Human activity at sea is, just like any other undertaking, naturally subject to some of the typical characteristics of human behaviour. Decision-making in governance may thus not always be guided by mere considerations of science and law. The attitude of humanity towards the ocean is characterised by some striking contrasts. On the one hand, the ocean is providing food and the livelihoods for a significant part of the human population, and the majority of people on the planet live comparatively close to the coast. On the other hand, the ocean itself is an environment that is rather hostile to human survival, and the history of navigation and maritime trade is a history of the fight of humans against the elements and of a struggle against the unknown dangers of the sea. Regarding human perception, the sheer dimensions of the planet's surface covered by water make it difficult to assess and imagine the impact that certain activities may have on the ocean. Humans are generally used to thinking in terms of space and well-defined borders, in the way they naturally occur in a terrestrial environment, and governance of activities at sea may become more effective if a "spatial factor" is introduced, even if this is a rather virtual course of action in an actually global ecosystem. Furthermore, it seems that the dimensions of time in ocean development may be equally difficult to grasp. Due to the geographical extent of the ocean and the reduced visibility of the signs of a sound or less healthy marine environment, developments are often not immediate and not immediately perceivable, as the English saying "a drop in the ocean" reminds us. Planning may need to extend over time spans that are difficult to justify towards political decision-makers elected in legislative periods of a few years and towards individuals thinking in generations of about ten years. Last but not least, the human attitude towards the ocean or "seascape" is also marked by sentimental values and purely cultural considerations, arguably to a bigger extent than towards other landscapes. This may partly be regarded as a translation of the economic interest to maintain the beauty of coastal sites as a vital factor for the tourism industry but there are also some hints to the fact that the value of coastal and marine landscapes is also considered beyond purely economical factors. Some decisions regarding the human use of oceans may thus be driven by considerations that do not necessarily root in scientific or legal knowledge, which is a factor that cannot be neglected in the discussion of ocean development.

2. Ocean Governance Mechanisms

From a broad point of view, development can be steered and encouraged in different ways, involving different actors. In order to suggest and foster development in the future, it seems natural to take recourse to existing frameworks that have been hitherto concerned with the topic. Inquiring into the role of institutions and their way of working will make it possible to address difficulties they are currently faced with and suggest changes. There is an important number of players that are concerned with ocean governance and the administration of marine resources, even if only the key players are considered. Effective governance would presuppose a close cooperation between them, along the lines of common goals and with targets that are reconcilable and preferably complementary.

Institutions. Agreement on an international policy framework on sustainable ocean governance would encourage regional efforts, implementation efforts and management schemes. Moreover, it would provide an impetus for change in national policies to support a set of common goals. Regional coordination and national implementation are prerequisites for effective change. In this regard, different levels of governance should be taken into account. Competences could lie with local governments, states, federations and intergovernmental organisations but also with regional fisheries bodies or the International Maritime Organization, depending on the particular national governance systems and regional settings. One development to watch is the establishment of marine protected areas. There are many examples for the conservation of ecosystems through geographical planning, carried out in different institutions and according to different procedures.

The importance of established and recognised government systems on the international level, such as treaties for bilateral or regional cooperation must be emphasised because these agreements create a framework in which binding regulations can be adopted. Whereas it is the focus of the initiative to favour global solutions over fragmented and unilateral regulation, the aims achieved on the regional or even State level should not be neglected and may be seen as a step to create certain unanimity between bigger communities, enhanced cooperation and ultimately a common formulation of targets and measures. The EU certainly plays a very specific role in this context, creating a comprehensive framework of legislative, executive and judicial instances working according to the same policies. Moreover, the EU has frequently been at the forefront of introducing environmental legislation in many of its member States and of reconciling economic activity with considerations of sustainability and environmental protection. Directive 2014/89/EU of 23 July 2014 is the first supranational instrument to establish a framework for MSP as a form of sustainable ocean governance.

Strategies and Measures. The emphasis accorded to "spatial planning", suggesting comprehensive mechanisms for multiple activities, according to geographical criteria, is not meant to diminish the importance of different mechanisms that have helped to shape ocean development in the past. Much of the environmental legislation applicable to ships, for instance, uniquely depends on rule-setting by flag States on an international level and close control through, mainly, port States, without taking geographical aspects of shipping into account. The importance of globally applicable norms and their value for the development of international standards can hardly be denied, and as obvious as it may seem, it must be

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emphasised that measures applying to geographical areas at sea can, according to international law in its current state, only be lawful where they concern waters under national jurisdiction. The question of whether there are means to ensure ocean governance in ABNJ in accordance with public international law will be one of the main legal challenges to be addressed in this project.

Measures regulating human behaviour can also be directed against individuals or entities under the domestic jurisdiction of a State but it seems that in recent times, ocean development has been driven by factors that made it necessary to take recourse to the spatial dimension of ocean governance. The risks and challenges of this course of action will also need to be highlighted. Apart from purely restrictive measures, goals and targets can also be reached through fostering measures and encouragement on different levels. This is perhaps a comparatively new approach, which may however be one of the keys for future ocean governance.

On a different level, measures can be either material or procedural in nature. The prescription of certain standards or the regulation of given practices may be very valuable to create legal certainty but there are many cases in which it will hardly be possible to formulate global rules, or even global standards to come up with regional rules that would only differ according to geographical particularities. Hence, the importance of procedural measures should not be overlooked. Common mechanisms for decision-making within administrative bodies, representation rules or mechanisms for dispute settlement will guarantee the cooperation between States and create a sound basis for more material cooperation.

The cost of the introduction, implementation and enforcement of measures is an important problem that many spatial planning initiatives in national States have suffered from. Securing funding or rendering the system wholly or partly self-subsistent may therefore be a more important factor than one might think. The creation of funds from which costly activities may be financed can in many instances present an important contribution to sovereignty.

II. Goals and Targets of "FOSP"

Directing development according to considerations of sustainability and societal needs will always be one of the main challenges of environmental planning. In order to define and ensure desirable outcomes, the formulation of goals and targets is essential. At the same time, formulating globally applicable, clear and yet general goals is possibly one of the most challenging tasks in the entire discussion.

Goals are general aims, meant to shape the overall direction of development, whereas targets are more specific and generally concrete enough, in terms of time and measure, to assess whether they have been reached or not.

The formulation of goals and targets of course serve the purpose of creating a regulatory framework taking into account substantiate concepts like biodiversity and a healthy marine environment, and in which the resources of the ocean can be secured for future generations without neglecting societies' needs at the current point in time. Resilience of the marine environment, i.e. the ability of the ocean to cope with drivers of change such as climate change or extreme weather conditions, or higher densities of population in coastal communities may also be a criterion to assess the degree of sustainability in the development of the ocean. The setting of

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goals and its implementation through targets will always entail a certain weighing of interests and impacts, taking into account the best practices and the best available scientific knowledge, bearing in mind that some of these purposes are not easy to reconcile with each other. A prominent example is the development of the post-2015 development agenda. The proposed sustainable development goals are supported by specific targets, for which indicators yet need to be defined and substantiated by suitable data and frameworks. In the case of the ocean, however, a global and regional future planning exercise could help to derive a coherent, consistent and policy relevant target and indicator framework.

1. Goals

Notwithstanding the difficulties that accompany the introduction of a spatial factor into ocean management that is meant to also work in ABNJ, the integrated approach of regulating different activities in concordance will in all likelihood require such a spatial approach. This may render it possible to draft plans starting in coastal zones and stretching out to the high seas, taking the existing initiatives of MSP in areas under national jurisdiction further out to sea.

Building on the success of the methodology of MSP, a global FOSP process would focus on the potentialities and risks of future ocean use and development. It would encourage a global perspective on the need, size and number of marine protected areas, on current, new and possible future ocean use levels, and pinpoint areas in need of special regulation. FOSP will enable States to express and negotiate their ambitions and concerns in the context of regional and global developments. Furthermore, linking FOSP to MSP and ICM would facilitate the incorporation of the transitional nature and interdependencies of coastal and marine systems on the national and regional scale. FOSP would inform MSP and ICM by providing longer-term perspectives and common goals, thus providing useful policy arenas to identify, frame and resolve current and future spatial conflicts and conflicting interests in the pursuit of transparent and effective ocean governance and coastal resilience.

Topics to be addressed include

- Tiers of government (local, national, regional, intergovernmental), existing management co-operations, national versus global interests
- Territorial, military and security issues
- Ethical issues
- Stakeholder involvement
- State of the marine environment and trends
- Inventory of activities and trends, such as
 - Energy industry (oil, gas, wind, waves etc.)
 - Shipping, trade and port development
 - Distant-water fishing
 - Seabed mining
 - Sand and gravel extraction
 - Cables and pipelines
 - Tourism and cruise ships

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- Coastal communities and livelihood (fisheries, aquaculture, tourism, recreation, resource extraction etc.)
- Conservation (marine protected areas in whatever form, no-take zones)
- Drivers of change
 - Human activities and resulting pressures (resource extraction, pollution, coastal development)
 - Environmental change (climate change, population dynamics)

2. Targets

Identifying targets that can be directly addressed, possibly one-by-one is an important step to further a development towards the achievement of goals. With a view to the interdisciplinary approach of this project, targets can be identified within different disciplines and hence have a focus there, whereas it will of course be necessary to take findings from other disciplines into account. FOSP's targets at this point in time mainly address shortcomings in the practical aspects of ocean governance, such as:

- Identify difficulties with the implementation of, for example, sustainable development goal(s) for the ocean and coasts
- Suggest solutions to the problems regarding the equitable access to resources and the equitable sharing of costs for exploration and exploitation in ABNJ
- Suggest legal solutions and strategies that could address the problem of the "tragedy of the commons" in ABNJ
- Develop recommendations and strategies to harmonise marine and coastal planning across coastal states.
- Identify ways of accounting for pollution, both marine and terrestrial
- Suggest mechanisms for compliance, monitoring and effective enforcement
- Suggest mechanisms that could be used for effective dispute settlement and allocation of liability

3. Expected Impact

Raising awareness and building the network. It is hoped that the debate kindled by the FOSP initiative will trigger an increased awareness of the challenges related to integrated ocean management. Findings resulting from research and discussion within the FOSP initiative will hopefully contribute to the legislative and administrative processes for an enhanced ocean development, within the UN, the EU and other international or domestic bodies. One of the aims of the FOSP initiative is to bring experts from all disciplines together, to raise awareness for possibly differing points of view of other disciplines and to build capacities in this way to address problems now and in the future. Additional thoughts to the debate or new perspectives on the matters discussed here are more than welcome. It is however understood that due to the ambitious scope of this initiative, it does not aim at answering all the questions that have been brought up so far.

Implementation of an international research project. The SDSN (Sustainable Development Solutions Network) has expressed an interest to promote FOSP internationally. Such a project might also be of interest to the emerging coalition of global environmental change projects under the umbrella of Future Earth.

III. The Road Map – Where do we go from here?

Considering the wide field of questions and issues that need to be addressed, it will be necessary to set priorities in order to start the process of drafting and debating somewhere. Identifying the areas in which there are scientific or legal uncertainties will make it possible to encourage research that will contribute towards the greater goal of future ocean development. The initiative starts from the idea that every question is allowed in the first place but that a grouping and prioritising of questions will help to accomplish the initiative's goals more effectively.

General questions and questioning assumptions. Whereas the purposes of the "FOSP" initiative can hardly be called into question, some of the assumptions it is based on can of course be argued about. As shown earlier, the debate on problems and difficulties is often marked by the point of view of a given discipline. The interdisciplinary approach of FOSP should therefore make it possible to detect stereotypical thinking of this kind. A debate on general questions can therefore be seen as a contribution to a more comprehensive solution, rather than a debate about the fundamentals of the work:

- What about the "spatial" approach, creating so many legal difficulties in ABNJ? Are there alternatives? Would a system of spatial planning in waters under national jurisdiction be compatible with a different system in ABNJ?
- "Marine spatial planning" or "maritime spatial planning" or "ocean governance"? What is the role of notions and inherent understandings?
- Can regionalism be translated into a globalisation of regionalism? Can regionalism help to work towards more global goals?
- Must a global approach contain terms that are too vague to ever produce perceivable results?

Identification of existing frameworks and dynamics. Beyond the mere description of existing institutions and measures on different levels, an analysis of the existing options would include an inquiry into possibilities of cooperation or even consolidation, also highlighting actual and perceived obstacles to a more integrated approach.

- What about the scope and the impact of EU Directive 2014/89/EU in comparison to existing marine spatial plans in the member States?
- What is the role of ICM and can it be consolidated with MSP?
- Are there instruments that could be used as global models, such as the EU Directive 2014/89/EU or the UNESCO's handbook? What are their shortcomings and how would they need to be adapted?

Integrated approach or multiple piecemeal? The ideal of integrated ocean management would entail regulations for all possible activities at sea and also grant sufficient leeway for new technologies or new uses of the sea. Still, in practice, a truly integrated approach or even the ambition to reach it is notoriously absent from the debate. Questions to examine in this regard are as follows:

- What are the activities that are constantly excluded from MSP? Fisheries, sand and gravel extractions, oil and resources exploitation? Are there sporadic MSP initiatives in which they have been included or where their inclusion was envisaged?
- What is the reason for excluding them? Would it be possible to overcome the difficulties?
- Is it possible to identify a threshold – the number, the importance or the variety of aspects – that a MSP initiative would need to cross to be deemed "integrated" or "comprehensive"?
- What are the experiences with MSP initiatives that are not entirely integrated? Do they create unexpected disadvantages?

Resilience to outward circumstances – measurable, important? The capacity of an ecosystem or other planned entity to adapt to changing outward circumstances may be an important factor to measure the success of a planning process. Resilience describes the capacity of a system to deal with changing outward factors *without the actual government rules being changed*. An ideally resilient system would be designed in a way that enables it to cope with changed stressors. It is to be differed from the flexibility of a *government* system to be adapted when the decision-makers detect shortcomings in the governance or simply adapt their governance rules to the alteration in the outward factors.

- Do existing plans still allow to pursue the planning targets and goals if outward circumstances change, e.g. due to climate change, extreme weather conditions or population growth in coastal communities?
- Is resilience measurable? How?
- Are there experiences with MSP in ocean regions where outward circumstances changed?

Adaptive governance. In contrast to resilience of the system as such, the criterion of adaptive governance describes the flexibility with which rules of governance can be consciously changed if they turn out to be counter-productive or inefficient, or inadequate, due to changes in outward factors or due to development in scientific knowledge. Adaptive governance depends to a great extent on the decision-making procedures within an ocean governance regulatory framework, the speed with which decisions can be made and the permeability of the system for political trends.

- What are the characteristics that render a MSP framework very adaptable?
- Are there disadvantages to a high degree of flexibility?
- Can slowly adapting frameworks be improved? How?

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