



**China Council for International Cooperation on Environment and Development
2023 Annual General Meeting Open Forum**

**Land-Ocean Coordination and Collaborative Governance:
Joint Open Forum of the Ocean and River Basin Special Policy Studies**

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Co-Organizers:

*Xiamen University; China Academy of Urban planning and Design
Environmental Defense Fund; The Nature Conservancy*



The text is not reviewed by the speakers and is for reference only

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Background and purpose

The 7th CCICED comprised Special Policy Studies (SPS-es) on Oceans and on River Basins during 2022/2023. The studies are centered around the themes of "Pathways and Policies of Blue Economy in Supporting Carbon-Neutrality Target " and "High-Quality Development of River Basins and Adaptation to Climate Adaptation".

The CCICED SPS-es on River Basins and Oceans both consider future management of important socio-environmental systems in times of climate change. Building on these two ongoing studies, the open forum considered the following questions.

- What are specific common issues in developing and strengthening system-wide governance of oceans, seas and river basins?
- What are promising examples of addressing these issues? Why are they promising? What can be learned, copied, adapted?
- What are key tools to be developed or refreshed in order to feed system-wide governance of oceans, seas and river basins, guide financing, keep vulnerable groups in the picture, handle long-term uncertainties, etcetera?
- What connections to global and domestic knowledge systems should be nurtured? Are there international or domestic initiatives that these SPS-es should connect to, if they haven't?
- What would be priority suggestions for future work of these SPS-es up to 2027, or for related work of CCICED? In which areas should policy recommendations be explored?

SPS Oceans considers China's role in an envisaged sustainable marine economy. Recently it turned its focus on the role of the seas in relation to climate change, and related policy challenges and opportunities.

SPS River Basins has its roots in urban development. It considers river basins with everything they contain: water, agriculture, energy installations, nature and landscape, cities, ports. It studies promising cases of developing effective integrated management in times of climate change.

Both SPS-es take a worldwide perspective, with extra detail for China. Strengthening policy coherence is a key purpose in the work of both, as well as learning from practice that is at the same time well-established and under pressure to develop its future perspectives.

1. Opening

This session highlights relevance and expectations, as seen from multiple viewpoints. It is chaired by Dai Mihan (CCICED Member, Professor at Xiamen University, Academician at CAS, co-leader of the SPS Oceans)



Dai Minhan is CCICED Member, Professor at Xiamen University, Academician at CAS, co-leader of the SPS Oceans

Professor Dai underlines that river basins and oceans are birthplaces of humankind. Collaborative governance of these systems is a world class puzzle, with added urgency for climate aspects and biodiversity conservation and restoration.

Opening remarks



Kirstin Halvorsen is CCICED Vice Chairperson; Director of the Center for International Climate and Environmental Research; Former Minister of Finance, and former Deputy Prime Minister, Norway

Kirstin Halvorsen underlines the importance of connecting sea and land governance. For example, protecting “30 per cent” of ecosystem area by 2030, including marine systems – which systems precisely, quality considered? She notes CCICED’s support for establishing the necessary scientific and political background to strengthen the governance of coastal areas and to strengthen the comprehensive governance of land and sea, from the central

government to local governments. She acknowledges China's contributions, for example in safeguarding coastal green space. She highlights Norway's special situation, and therefore experience in marine ecosystem management, having to cater for at least 5 times more sea than land.



Scott Vaughan is CCICED International Chief Advisor

Scott Vaughan congratulates the two teams for working together on this open forum. As one of the tools for coordinating management of land and sea, he highlights large-scale spatial planning. Mr. Vaughan acknowledges the many vulnerabilities to climate change and ecosystem management for various sectors in Canada and in China, including agriculture and energy supply. In relation to the Kunming Biodiversity Framework, sustainable ocean management seems the core. For example, investing in marine protected areas is not just charities to protect nature, but essential to safeguard global fisheries.



Liu Zhenmin was Under-Secretary General of the UN and Secretary-General of the second UN Ocean Conference

Liu Zhenmin lists the key issues identified by the successive UN conferences, and the resulting suggestions to improve sustainable management of the oceans. Among those are strengthening data exchange and data collaboration, establishing effective partnerships and scaling up nature-based solutions. Significant developments last year include consensus in preparation of the Global Plastics Treaty; agreement on protecting biodiversity beyond national jurisdictions; and an IMO strategy on greenhouse gas emissions from shipping. In addition, Liu Zhenmin reminds of irresponsible behaviour by specific countries and enumerates remaining large challenges, including to coordinate between partial utilization of the ocean and overall protection.

Invited remarks



Erik Solheim is CCICED Member and Senior Advisor of the World Resources Institute

Erik Solheim reminds of ongoing illegal and unregulated fishing. He recounts his visit, as Norwegian Minister, to Liberia which at that time saw its fish stocks plundered by European and Chinese vessels, in full view of the coast. He highlights three sets of useful experience from Norway. (i) Three regional maritime plans, from North to South. These plans feature pragmatic collaboration with the adjacent countries in each plan area. (ii) The cleanest, greenest shipping industry of the world. (iii) Fish farming, which has improved a lot. By comparison, China has the largest freshwater fish farming while Norway has the largest ocean-based operations.



Gim Huay Neo is CCICED Special Advisor; Managing Director, Centre for Nature and Climate, the World Economic Forum

Gim Huay Neo states that the polycrisis we are facing requires a comprehensive, rather than thematic, approach. Work with companies on restoration of land has shown that this might actually work. A large challenge remains, namely how to cross the ‘valley of tears’: the years of declining returns before things get better. Support needs to focus on this phase.



Marco Lambertini is CCICED Member and International Special Envoy of the World Wide Fund for Nature (WWF)

Marco Lambertini flags the important change in public perception, toward a better appreciation of ecosystems and risks. At the time when new treats emerge, such as deep sea mining, also a better understanding is growing of the important services the sea provides, including absorbing 20 to 30 per cent of all carbon dioxide emitted. Mr Lambertini pleads for discussing sea, freshwater, rivers and land as a whole. This should also be structured in the work programme of CCICED.



Roderick Wols is acting Ambassador of the Kingdom of The Netherlands to China

Roderick Wols explains why the Dutch government is keen to support SPS River Basins. In addition, he draws attention to the newly established International Panel on Deltas, Coastal areas and Islands. The panel was recently set up in response to a UN call. It focuses on adaptation to climate change. It will, therefore, produce assessments that apply a medium or short time horizon, in contrast with, but building on, longer-term projections like those of the IPCC. A key purpose is support to prioritized investment plans for adaptation of infrastructure and for mobilizing finance. During coming years the IPDC will consist of fifteen champion countries – including India, Vietnam and Indonesia – and three multilateral banks, including the ADB.



Qin Hu is Vice President and Chief Representative in China, Environmental Defense Fund

Qin Hu reminds that oceans are a cornerstone of healthy life on this planet. In relation to climate change, he repeats the statement by Jan Gunnar Winther that oceans absorb 93 per cent of the extra heat trapped by human changes to the planet. He reminds of the large body

of useful expertise in China, especially in relation to fisheries. He calls for related actions in order to understand the impact of climate change on global fisheries and to promote climate-resilient fisheries and marine ecosystems. He also calls for a legal framework for carbon dioxide absorption by the seas.

2. Key ideas

This session is about common notions from recent work of the two SPS-es and their network of experts. Li Xiaojiang chairs it, and underlines the importance of meeting in person for this exchange.



Li Xiaojiang is CCICED Special Advisor; Chinese Leader of CCICED SPS on River Basins; National Engineering Survey and Design Master; Expert to the Central Beijing-Tianjin-Hebei Collaborative Development Advisory Committee

Introduction to the two Special Policy Studies



Jan-Gunnar Winther is CCICED Member; International Leader of CCICED SPS on Ocean Governance; Specialist Director of the Norwegian Polar Institute

Jan-Gunnar Winther sketches the planetary vastness of the oceans, and their weight for regulating climate. Development of ocean-related environment policies goes fast, at this point in time, judging by the progress on biodiversity and on plastics. Jan-Gunnar Winther states that contemporary policy with regard to the ocean economy has gone, or has to go, beyond the traditional scope of fisheries, oil and gas extraction, and shipping. It now has to move beyond matters of short-term income and consider long-term world and long-term ocean development, too. At the same time, much about the oceans remains insufficiently understood.

Like the SPS River Basins does for river basins, SPS Oceans pleads for comprehensive, rather than sector-inspired, oceans management. For China, sustainable ocean management should be a national strategic goal. It should also be recognized as a key element in achieving China's dual carbon goals. This requires finance, and intensifying scientific collaboration. The potential of marine climate measures should be promoted comprehensively: offshore wind energy, tidal energy, hydrogen energy and renewable energy power generation, reducing carbon emissions from fishing boats and seaports, and formulating carbon emission reduction plans for aquaculture and fishery management.

Similar to SPS River Basins, SPS Oceans recommends multilevel comprehensive management of coastal areas, including urban agglomerations along rivers and coastal infrastructure. In line with the IPDC initiative highlighted by Ambassador Wols, there is much to do, in many countries, in terms of integrating climate policies, identifying deficiencies in climate-adapted infrastructure, and policies on these – from building code to investment strategies. China has a role to play in this.



Fernando Miralles-Wilhelm is international leader of CCICED SPS on High-Quality Development of River Basins and Adaptation to Climate Change; Lead Scientist of Provide Food and Water, TNC

Fernando Miralles-Wilhelm explains that the SPS River Basins promotes thinking systematically about river basins -- in line with many speakers at the forum. The current report by the SPS focuses on governance. Supported by a theoretical framework, it analyses promising cases of regional collaboration in times of climate change. The cases come from China, Europe, US and elsewhere, including the Southern hemisphere. They cover different development contexts and upstream, midstream and downstream situations.

The cases illustrate key points of wider importance:

- for lasting results, interventions for resilience, security and ecological protection should be integrated;
- integrating climate goals in river basin management requires coordination in three ways: spatially, time-wise and between sectors.
- cooperation is needed between stakeholders and thematic pillars of government such as energy, food/agriculture, water, biodiversity, urban development.

Dr Wilhelm highlights two examples of sector-oriented approaches that hold a promise of overall benefits if the whole basin is considered (not just the segment where the intervention takes place), as well as long-term goals (not only the short-term benefits). The examples are

- a sustainable hydropower fund for China, applicable to new energy assets and especially their impacts on sediment flows;
- a change to regenerative agriculture and sustainable agricultural practices.

Both examples indicate that nature-inclusive investments have healthy returns, if the important downstream and long-term benefits are weighed in.

Panel contributions

Liu Zhenmin speaks to the interconnectedness of land and sea issues. He focuses on adaptation to climate change. While mitigation of climate change requires much attention, especially in global terms, adaptation receives insufficient attention. This applies to sea level rise and coastal areas and islands; and to multiple changes directly affecting river basins.

Even the relatively straightforward matter of sea level rise features large uncertainties that an adaptation strategy has to deal with. Many low-lying coastal nations and islands remain ill-prepared or even without room to retreat. The Netherlands seems one of the few countries actively working on this.

Adaptation strategies need to consider the underlying social and economic development, too. Retreating to the hinterland in 30 or 40 years is not always an option, and sooner or later, we will run out of hinterland. A serious problem on its own is how to assist effectively the hundred or so countries affected most. These include small island developing nations and countries with long coastlines -- like Bangladesh or, for that matter, China. This requires, as pointed out by Ambassador Wols, global collaboration.



Wang Kai is President of the China Academy of Urban Planning and Design

Wang Kai underlines that the safety, health and sustainable development of the oceans are closely related with the health and sustainability of the land. A key relation is through land development and the largest part of that is urban planning. A multitude of local cases points to three lines of general importance.

Firstly, much valuable historical experience exists in China when it comes to siting and constructing cities in relation to water. That experience should be learned from. Secondly, the most important feature of China's development over the past 40 years has been the continuous and massive increase of the urban population, from less than 20 per cent to more than 60. Urban construction has often interfered with water ecology and with the open, breathing connection between the city and natural water in the region, at various scales. Thirdly, it is time to develop new models for urban development, both in theory and through practice.

Such new models of urban development should consider that siting should be guided by the presence and nature of water systems. Note that President Xi spoke about this necessity. This implies respecting natural capacities, rather than industry and construction requirements determining development. These are important notions. Safety zoning should have a much more prominent place, be based on more exact adaptation plans, and differentiated according to local circumstances and prospects. At the same time, we should remember that water in the city constitutes a great public space. Testimony to this is the ambitious urban renewal

currently going on in Shanghai, integrating various aspects of safety, resilience and a vibrant urban environment.

In short, a more integrated urban + water development model is due.

Erik Solheim emphasizes the need for strong political leadership, international cooperation, and a balanced approach to managing the relationship between cities and water. He cites Singapore as a successful example of achieving environmental protection and economic development through effective coordination, starting early. He also underscores the importance of comprehensive and integrated ecosystem management, citing examples of fishing bans in the Yangtze River and bans and quota in the North Sea, which led to ecosystem recovery and thus to long-term economic benefits.

Green energy infrastructure in ports and fleets is important. This is especially so in Asia, where the majority of the world's largest ports is located. Even the greenest shipowner needs ports. Hydrogen production, too, is on the horizon in some port areas. These things need to be addressed as a whole. Lastly, Mr. Solheim discusses the importance of global cooperation in adapting to climate change, pointing out the positive example of early warning systems and disaster preparedness in countries like Bangladesh and India. At the same time, the need remains for assistance to vulnerable nations to address climate-related challenges.



Michael Doane is Global Managing Director of Provide Food and Water at the Nature Conservancy

Michael Doane discusses opportunities in food production, in relation to the protection of water and ecosystems. Food production worldwide is doing very well in terms of output, and that is great. But we all know that the way we produce food also poses huge threats to nature and the health of our farms, fields and rivers. A beneficial approach is to invest in the regenerative capacity of nature in the area at hand. This means forest management, regenerative agriculture and regenerative wetland protection – resulting in less erosion, less pollution, and less cost of managing water quality. TNC’s projects worldwide, including in China, have produced valuable guidelines for developing business models around this.

Likewise, the growth of aquaculture constitutes a challenge but at the same time an opportunity. Aquaculture is the fastest growing protein sector in the world. It has a potential

to restore natural systems, improve water quality --- solving nitrogen issues, in particular – and contribute to reduce the acidification of the oceans. To reap these benefits, aquaculture should be sited well and managed well. TNC has, again based on many local projects, developed a comprehensive guide for doing this right. The potential is very large: an area of 50 million square kilometers worldwide is suitable for regenerative aquaculture. This is several times the surface area of mainland China.

3. Round table

The purpose of the round table is to illuminate interesting findings and promising cases, indicating why these are interesting or promising. Mihan Dai hosts the round table.



Su Jilan is Senior Scientist of the Second Institute of Oceanography, Ministry of Natural Resources China; Academician of Chinese Academy of Sciences

Su Jilan reminds that there are three important routes by which rivers and seas influence each other. These are (i) primary production, for example by plankton; (ii) top predators, such as fish; (iii) overall changes, such as climate change. He highlights two important examples of interaction. The first is excess nutrient discharge from land into the water. Lake Tahu is a case in point. Up to now, most interventions here have been unsuccessful. The second is massive habitat destruction at estuaries. For example, in order to restore stocks of migratory in the Yangtze, the tidal flats have to be restored in the first place. Otherwise, a ten-year fishing ban is meaningless.



Wang Juying is Director General of the National Marine Environmental Monitoring Center, Ministry of Ecology and Environment China

Wang Juying observes that coordination between management of land and sea is being talked about for decades, but still not effective. Why is this? She identifies three key difficulties. First, there is a lack of coordination in spatial planning, with various land and sea-related plans not closely connected, making integration difficult. Starting points and requirements are different. Second, the environmental governance system for land and sea lacks comprehensive planning, hindering effective pollution control and management. It is easy to ignore factors outside the area. Non-point pollution, such as excess nutrients, remains a pervasive problem in China. The whole process of pollution management is not sound. Third, the ecological protection and restoration system for land and sea lacks unified goals, leading to ecosystem damage – as academician Su just pointed out.

To address these challenges, Wang Juying makes three suggestions. Firstly, she recommends improving the planning system for land and sea coordination, establishing a comprehensive ecological environment management plan and zoning. Secondly, she advocates an enhanced governance system for co-governance of rivers and seas, with a focus on reducing pollutants entering the sea and establishing a linkage mechanism between river basin and estuary management. Lastly, she suggests improving the coordinated ecological protection and restoration system by analyzing coastal ecosystem characteristics and implementing restoration efforts as needed. These measures aim to enhance land and sea coordination, river-sea linkage, and ecosystem governance.



Cao Ling is professor, School of Ocean and Earth Sciences, Xiamen University, and lead author of the fisheries chapter of the SPS Oceans report

Cao Ling underlines that land-sea coordination has now become a major strategic issue for China. China's coastal and off-shore areas are the most intensely used and the most iconic. For coordinated management of these systems good understanding of their interaction is key. An important element is routine monitoring and data accumulation. In impact assessment, time as well as spatial aspects need to be considered at a proper scale. Spatial planning is being referred to by many speakers in this forum, and that is right. But also the time horizon should be right: long-term impacts should be considered too -- not only near-term impacts.

Land and sea coordination requires separate management of these systems, too, because terrestrial and marine ecosystems work differently. These separate management systems should be guided by overall planning and be based on good scientific understanding. Last but not least, it remains important to remember the ultimate purpose of land and sea governance efforts. This purpose is sustainable social and economic development, for example of coastal communities that depend on these resources.



Vice President, Shenzhen Branch of China Academy of Urban Planning and Design

Lv Xiaobei makes recommendations based on a series of studies on the Pearl River Delta, perhaps the most intensively urbanized delta in the world. Land-sea coordination here still faces two key problems. First, even though the concept of land-sea coordinated planning has been clearly put forward with the current reform of China's spatial planning, practical issues remain. For example, it is difficult to match terrestrial and marine functions; a mechanism for timely feed-back is lacking, because of the complex relations; a lack of detailed guidelines is a hindrance in applying nature-based solutions.

Second, regional collaboration for the delta comprises Guangdong province + Hongkong + Macao, in other words 'one country, two systems' + three custom zones + three legal systems, with different standards and approaches. This creates of course challenges, but also opportunities. Good progress has been made in unifying coastal protection areas and focusing efforts on key issues such as island management, coastline management and controlling pollution from hazardous goods transport. Important opportunities exist of learning from Hongkong and Macau, as their authorities have much experience on land-sea coordinated management. This is in particular so in public participation and involvement of NGOs.

On both lines, further attention is warranted.



Xiao Yingguang is Deputy Chief Planner, Western Branch of China Academy of Urban Planning and Design

Xiao Yingguang tells of the findings of SPS River Basins regarding the basin of the Jialing River. This is a tributary of the Yangtze, upstream of Chongqing, and a sizeable river of its own. Three issues require attention here: (i) development needs – in particular the need to move away from a preponderance of energy intensive and water intensive industries such as aluminium smelting; (ii) climate change: in response to floods in the late 1990s, many dams were established in the area, for flood control and hydropower. But recent droughts are upsetting this system. (iii) A multitude of local governments and energy enterprises, each with their own set of responsibilities, for example in relation to water retention and storage.

Action is required on three fronts: (i) appropriately restricting the volume of energy-intensive and water-intensive industries, to whom cheap electricity is very attractive; (ii) strengthening collaboration between the various local governments and enterprises in the area that are dealing with water retention and storage; coordinate development of areas along the river with that of up-hill areas. Up-hill areas have far less benefitted in terms of security, energy and economic development. Redistribution of benefits via transfer payments may need to be increased.



Jan Bakkes is member of the team of the International Chief Advisor of CCICED and Vice-President of The Integrated Assessment Society

Jan Bakkes The SPS River Basins not only drafted a report. Its lead organisations also conducted open events. That is part of an overall development of the China Council, towards a broader, two-way exchange between Chinese and international players. The events took place in Rotterdam, Vienna and New York. This format is recommendable for future work.

Examples of messages emerging from these events are the following. (i) Socio-environment systems, like river basins and marine areas should be managed as – indeed -- systems. Virtually every speaker in the events underlined this. In order to appreciate the necessary change in the next decades, participants reminded of the large changes that took place typically 100-150 years back. For river basins and coastal areas, almost everywhere, this brought large interventions in terms of hard engineering, manufacturing, urbanisation, dams and intensive agriculture. Finding a new balance needs a similar scale and pervasiveness.

In connection to managing systems as a whole and with sufficient foresight, (ii) modern spatial planning keeps coming up as a logical and useful tool. This is underlined by many speakers at the current forum.

In addition, the events highlighted (iii) modern strategic environmental impact assessment as a very useful tool for organizing whole-of-system management. It can help you to map responsibilities, concerns, objectives for a whole development programme. The beauty of this tool is that it exists, and in many countries, including China, administrations and consultancy firms have experience with it. It sets up a framework for consultations, for monitoring, and, perhaps after decades, re-decide in view of new developments and new insights. The latter can be important, as the interventions and policies we are talking about can have time horizons of a century.



Eric Spaans is Councilor for Environment, Infrastructure and Water Management at the Embassy of the Netherlands, Beijing, China

Eric Spaans provides details of the International Panel on Deltas, Coastal Areas and Islands (IPDC). The panel will operate at three levels: policy and finance; science and assessments; and implementation of adaptation to climate change. Supporting all three will be a system of assessments. The first IPDC global conference will be held in March 2024. A key objective of the panel is to mobilize finance for adapting infrastructure on the basis of prioritized investment plans. Its fifteen champion countries are spread worldwide and include small islands such as Saba as well as large countries such as India and South Africa. Notwithstanding their different sizes, all these countries face difficult issues in adaptation to climate change. The multilateral banks that have joined are the Asian Development Bank, the Inter-American Development Bank and the Green Climate Fund.



Yang Bo is China freshwater project Director, The Nature Conservancy

Yang Bo illustrates what Michael Doane has outlined with examples from TNC's portfolio of projects in China. She summarizes the key questions in coordinated river basin governance as:

- What to do, concretely, in terms of collaborative governance mechanisms?
- How can we encourage more people to participate and achieve the comprehensive governance we have been envisioning?

The first example is the demonstration of a Water Fund, in Zhejiang. It involves cost sharing and benefit sharing and can provide long-term support for the protection of water sources. It also provides guidance to the public, enterprises and local farmers on sustainable farming.

The second example is a sustainable hydropower fund just mentioned. It was jointly studied by TNC, the Yangtze Commission, the Three Gorges Corporation and various knowledge organisations. One element has been broad-based planning of water retention and storage, considering all relevant objectives such as security, fisheries, power production, drinking water and ecological flows. A second element has been ecological connectivity throughout the region. This project has been completed relatively early, which means that there are imperfections to address AND that this is a useful reference to learn from when considering projects elsewhere.



Zhu Chunquan is Head of Nature Initiatives & TFA, China. World Economic Forum

Zhu Chunquan reports on the basis of a recent scoping study on integrated approaches to land use and on spatial planning. He reminds that land use, spatial patterns and current claims to be settled by spatial planning all reflect history as well as our current development model. Therefore, if we want land use – with its wider impact – to be sustainable, we have to address the way we house ourselves, produce and consume. We have to address how we weigh different functions of the land, including ecosystem services and cultural value, land-based assets, as well as long-term values vis-à-vis immediate benefits. Indeed, as Professor Cao mentioned, attention for consistency over time should go hand in hand with spatial planning.

For example, proper land-use policy would have to address off-site impacts, such as from pesticide use affecting rivers and seas – as academician Su reminded us. One level deeper, it

should address the direction of agricultural development, and, ultimately and unavoidably, the human diet.

Following the 18th National Congress, China's multiple spatial planning systems are being integrated. Many speakers referred to this great development, and pointed out that it is work in progress. The scoping study on <land> indicated some opportunities and tools for a comprehensive approach, based on natural resource accounting and systematic consideration of ecosystem services. It also explored an iconic foreign case, namely the ups and downs (and ups, recently) of spatial planning in The Netherlands. At this international peer level, insights of restructuring the spatial planning system of China would be very valuable.

Chairperson **Dai Minhan** underlines the observation that for managing land-sea interactions, spatial planning is key.



Dou Rui is Deputy Secretary General of Ant Forest Foundation

Dou Rui discusses the importance of public engagement in ecological conservation efforts, and the potential to extend campaigns to cover both land and ocean ecosystems. He highlights the success of initiatives like China's national voluntary tree planting program and Ant Forest. Over seven years, Ant Forest has planted 4.75 billion trees through citizen participation. Dou Rui also mentions the "Weihai Action" project, which extends the concept of incentivized conservation to coastal wetlands. In this programme, users can earn energy credits by reducing their plastic use and, in turn, use the energy credits to plant seaweed and mangroves.

These approaches aim to create emotional connections between users and conservation efforts. The effectiveness is clear from the tens of thousands personal stories Ant Forest receives. This is an important addition to policy and technical interventions, and holds great promise. With its land-oriented programme relatively mature, Ant Forest now wants to explore expanding public attention and understanding to include the ocean.

4. Connections to the global knowledge system

Session 4 offers reflections from the wider networks of the two SPS-es. The purpose is to showcase the global knowledge system that Chinese practitioners can tap into and can contribute to. Jan Gunnar Winther chairs this session.



Gan Jianping is Professor, Hong Kong University of Science and Technology

Gan Jianping states that coordinating management of land and sea should be based on a thorough understanding of the complexities involved. The living earth is inherently complicated. The Greater Bay Area is a good example. It is bordered by different terrains, different land uses, has exchanges of water, energy, nutrients with with the land, the atmosphere and with water bodies on various sides. Perhaps IPCC projections of impacts for this complex system are right, perhaps they are wrong. Digital twins may be useful to understand interactions in systems like these. Overall planning and coordination is indeed needed, and this includes coordination of scientific work.



Zhifeng Zhang is Deputy Director, Marine Ecological Environment Department, Ministry of Ecology and Environment

Zhifeng Zhang speaks positively of achievements so far on land-sea coordination. China, like other countries, has actually achieved a lot over the last decades. But lasting solutions should be built on broader concepts, such as sustainable development, Taoism and Beautiful China.

One example of local efforts, following the 2018-2020 central changes, are the coordinated land and sea management actions in and around the Bohai Sea. The purpose has been to diminish the input of excess nutrients. The coordinated approach worked well. Just the day before the forum, an additional set of twelve bays was declared clean, bringing the total to twenty. These results could not have been realized before governance of the Bohai Sea as a whole was established. Remaining concerns are flood risks and nutrient loading via the Yongding River.

Key elements in expanding the width and depth of programmes like these are

- Engaging all stakeholders ---for example while expanding the programme to upstream cities.
- Maintaining ecological priority, so that the natural system can recover. Artificial restoration and special governance may be needed in addition, for key areas.
- Anchoring the programme in a long-term (2035) vision of a beautiful bay and making this the main line throughout the programme.

Regarding future efforts on land-sea coordinated management, Zhifeng Zhang agrees that river estuaries are the logical focus, on the way to larger-scale protection.



Tang Yi is Professor, Shanghai Ocean University

Tang Yi sketches the current status of the recent BBNJ agreement, and the ongoing serious discussions on some of its key elements. BBNJ stands for Biological diversity of areas Beyond National Jurisdiction. It is the latest of three legally binding instruments under the Law of the Sea. After 19 years of negotiations, BBNJ was agreed upon in June this year. It covers four topics.

(i) Marine Genetic Resources. A key discussion point is whether national laws or international law applies. Rules for benefit-sharing have been put on paper but contain not much specifics so far, so a further process is required. (ii) Marine protected areas. Should BBNJ be the one and unifying instrument, or <only> be the coordinating umbrella over existing instruments? The outcome was a coordinating framework. The risky bit is that some countries are party to BBNJ, only while others are part of the to-be-coordinated arrangements, too. The risk is uneven decision making power in practice. (iii) Environmental impact assessment. The main discussions here are on who leads, who decides, and what is the threshold to require an assessment. The outcome is that the process, and related monitoring, will be led by the country from which the initiative originated. This instrument needs to be strengthened. (iv) Capacity building and technology transfer. No specific arrangements have been formulated yet, and the topic is closely related to the handling of marine genetic resources and benefit-sharing.

On balance, BBNJ is a useful addition relative to the Convention on Biological Diversity, which applies within national jurisdictions. Many aspects of BBNJ will require elaboration after the agreement takes effect. China's position in the discussion is based on the concept of a global community with a shared future, and on the good practice of seeking consensus.



Wang Caijun is Deputy Director, Rural Economy and Regional Development Department, CIECC

Wang Caijun reenumerates the universal eight issues that river basin management has to deal with everywhere, even though each basin is different. But at a deeper level, the game is about river basin development and human development – both changing at the same time.

A useful Chinese saying states: ‘problems are on the water, but their roots are on the land’. China’s river basin governance is special, has a five thousand year history, and has valuable experience, especially over recent decades. Key notions include (i) integrated management (with regional diversification); (ii) sustainable development (for example, as implemented for high-quality development of the Yellow River); (iii) giving floods a way out (and living with floods); (iv) people-oriented development (for example, getting water supply right for the 600 million people in rural China).



Zhang Xiaoling is former Deputy Director, Land and Spatial Planning Research Center of the Ministry of Natural Resources, China

Zhang Xiaoling Speaking from a background of 30 years research in spatial planning, Zhang Xiaoling sketches recent developments. She pays special attention to land-sea coordination and to comprehensive planning in large river basins.

Starting 2018, two developments are taking place. Firstly, the Ministry of Natural Resources unified its management of the various resources it has a responsibility for, including land, oceans, farmland, woodlands, forests, grasslands, wetlands, waters, deserts, glaciers, and minerals. Secondly, as mentioned by other speakers, a national system of spatial planning was officially announced. It supersedes a multitude of sector-oriented planning systems. These two developments together provide a good starting point for developing coordinated management of land and sea.

In October 2022, a National Land and Spatial Planning Outline was announced. It introduces coordinated planning of land and sea as an important principle. The outline comprises redlining for ecological protection (3 mln sq km terrestrial, 150.000 sq km marine). A special chapter is devoted to oceans, focusing on the coastal zone. The new system features five nested levels of planning, from national down to county/township level. Next to this, MNR has begun spatial planning for the basins of Yangtze and Yellow River. Because of the giant size, the coordination task is hard and heavy. Three key issues were encountered:

- Biophysical research is conducted for natural units. How to match natural and administrative units?
- Upstream conservation is typically beneficial downstream. How can costs and benefits be shared across the whole basin? Michael Doane and Bo Yang also spoke about this.
- If the upstream area is protected, it will lose certain development opportunities. The downstream economy is relatively developed, the population is relatively dense, and the property value is relatively high. How to reach coordinated, wise planning decisions in view of these interests? Current policy tools seem immature in this respect and should be further developed.



Li Ying is China Sustainable Agriculture Director, The Nature Conservancy

Li Ying discusses the importance of rural revitalization and the role of soil health in achieving it. She explains that rural revitalization involves three key elements: farmers, land,

and industry, with agriculture serving as a critical link between them. Protecting land resources and enhancing soil health is crucial in addressing ecological, climate, and food security crises. Soil health not only connects to biodiversity and water security but also plays a role in combating climate change by sequestering carbon.

Li Ying highlights the shift in preferred terminology from sustainable development to regenerative agriculture. It reflects the idea that sustainability alone is insufficient in addressing current, multiple global challenges. She shares experiences from different world regions, including Africa, South-America, China and some explorations in the USA. Currently under exploration is a project in the wheat-producing areas of the North China Plain. In these cases, regenerative agriculture is being applied to local agriculture and natural resource contexts. The cases hinge on incentive models that benefit both farmers and the environment, ultimately reducing the need for agricultural subsidies.

5. Conclusion

Because of time pressure, **Li Xiaojiang** combines the concluding remarks by **Jan Gunnar Winther** and by himself. He flags eight main points from this half-day discussion, from the two SPS reports, from SPS events and from international exchanges.

1. Environment-development issues for river basins and for marine areas are becoming increasingly urgent. This is because there are now multiple crises interacting, thereby exacerbating what were already pressing issues.
2. The importance has been underlined of coordination of environment-development management regarding land and regarding sea. Among other aspects, it has been emphasized that the human community concerned stretches from the source to the coast and to the ocean.
3. We should manage these systems at the appropriate time scale. We should learn from history on a century scale and look ahead longer than we typically do in order to evaluate present actions.
4. We should pay attention to spatial management. Many speakers addressed China's reform of its spatial planning and underlined its importance. While this reform has been a great step forward, it is also clear that there is work to do in coordinating spatial planning on land, at sea, and in the coastal zone in between. To his end, we need to improve the mechanisms for assessment, coordination and supervision.
5. Regarding economically 'underdeveloped' regions, we should apply sustainable economic development models and tools. Examples are regenerative agriculture and its incentive models; sustainable forms of hydropower; necessary restrictions for industrial development in these areas in combination with benefit-sharing schemes.
6. We should pay attention to equity issues, including gender issues. That is especially, but not exclusively, in areas that are rural, remote or otherwise outside the mainstream.

7. In building up systems and capacity, including financial systems, not enough attention is being paid to adaptation to climate change. For the urban environment, China is launching the pilot city guide and that is good. In addition, coordination of adaptation efforts is required between upstream and downstream, as well as public participation.
8. In light of all this, understanding systems, learning and exchange of information and experiences is extra important. We should in particular pay attention to how we conduct this through international collaboration. That includes meetings like this forum, or learning from ongoing work in The Netherlands, Bangladesh or India. We are learning from the interesting one country/two systems experiences around the Pearl River Delta, with involvement of Hongkong and Macau. We should also pay attention to the experiences and enlightenment that emerging international structures like the International Panel for Deltas, Coastal Areas and Islands can provide.

In addition, we have carefully summarized China's experience and that, too, is an important aspect.