

The Dilemma and Way Out of China's Participation in the Development of Marine Genetic Resources in ABNJ from the Perspective of BBNJ

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Abstract: The fifth intergovernmental negotiations on marine BBNJ (Biodiversity beyond Areas of National Jurisdiction) concluded in August 2022, in which there are still major differences regarding access to marine genetic resources, management, and technology transfer. China's participation in the development of marine genetic resources in ABNJ (areas beyond national jurisdiction) has many dilemmas, which are linked to the difficulties faced in advancing the BBNJ negotiations. The following countermeasures are proposed at the institutional and practical levels respectively: clarifying the legal attributes and applicability of the principles of marine genetic resources; establishing mechanisms for access, management, environmental impact assessment and benefit sharing of marine genetic resources; and using the "Blue Partnership" to build a governance mechanism for marine genetic resources to achieve mutual benefits.

Key words: Marine genetic resources, ABNJ, BBNJ perspective, China's response.

1. Introduction

The strategic value of marine genetic resources has been increasingly valued as human exploitation of the seabed area has improved. The BBNJ (Biodiversity of Area Beyond National Jurisdiction) negotiations are important for the scientific research and commercial exploitation of marine genetic resources in ABNJ (areas beyond national jurisdiction). The BBNJ negotiations are important for the scientific research and commercial exploitation of marine genetic resources in ABNJ. The current international dilemma facing the BBNJ negotiations on the development and management of marine genetic resources is also a dual dilemma for China in terms of system and practice. It is also necessary for China to develop a solution to the existing dilemmas in the BBNJ negotiations, and to firmly establish its position and propose a Chinese solution.

2. A Review of China's Participation in the Development of Marine Genetic Resources in the ABNJ

2.1 *The Chinese Position on the BBNJ Negotiations in Relation to the ABNJ Marine Genetic Resources*

2.1.1 China's Position on Benefit Sharing of Marine Genetic Resources at ABNJ

Benefit-sharing is an important issue in the subsequent exploitation of marine genetic resources and includes both monetary and non-monetary benefit-sharing. Monetary benefit-sharing refers to the sharing of marine genetic resources in the form of monetary valuation; non-monetary benefit-sharing refers to the sharing of marine genetic resources in forms other than monetary (e.g. capacity building and technology transfer). There has been a "stand-off" between the two different views on forms of benefit-sharing, with developed countries pushing for benefit-sharing to include both monetary and non-monetary benefit-

sharing, and most developing countries supporting that benefit-sharing should be limited to non-monetary benefit-sharing.

China notes that the process of exploitation, research and development and commercialisation of marine genetic resources is inherently time-consuming and costly, and that non-monetary benefit sharing such as capacity building and technology development is more conducive to achieving sustainable exploitation of ABNJ marine genetic resources. Therefore, the focus of the current consultation should be to prioritise non-monetary benefit-sharing mechanisms such as sample facilitation, information exchange, technology transfer, and capacity building, with due regard to the concerns and needs of developing countries [1].

2.1.2 The Chinese Position on the ABNJ Model of Marine Genetic Resources Management

The existing management models for marine genetic resources are global, regional and mixed, with the aim of achieving specific conservation and sustainable development of marine genetic resources. The global model is a holistic approach to the management of marine genetic resources in the ABNJ, with a unified global management framework, which has a role in the distribution of benefits for marine genetic resources in the ABNJ, so it is difficult to reach agreement among the relevant stakeholders. The hybrid model recognises a global management body and that the authority of this body should be limited to a certain extent, which would appear to be conducive to harmonisation, but none of the specific measures currently envisaged can be justified.

An international agreement on BBNJ could create a global area-based management tool, establish a unified management system across government departments, complement and coordinate with the existing regional management mechanisms based on the UN Convention on the Law of the Sea, and regulate the exploitation of marine genetic resources in ABNJ through a unified monitoring mechanism, creating tighter protection of marine genetic resources in ABNJ.

2.1.3 China's Position on the Environmental Impact Assessment System of ABNJ Marine Genetic Resources

ABNJ belongs to the sea area owned by all human beings, and if ABNJ marine genetic resources are also regarded as "common" resources, then improper exploitation of marine genetic resources will definitely affect the global ocean governance. For the environmental impact assessment system, the global mechanism is too redundant, and the responsibility is still not clear enough to achieve a unified management.

The blue planet that we humans live on is not divided into individual islands by the ocean, but is linked by the ocean into a community of destiny, with the safety and security of all peoples sharing the same fate. All countries should consciously assume the obligation of marine protection, the rights and obligations of responsibility should be unified, ABNJ marine genetic resources of each development subject are also the subject of responsibility, scientific unification of global standards of environmental assessment, and by the development of the country to independently submit each link of the environmental assessment impact report, from the entry into the sea to the development of the completion of the follow-up monitoring, should generate reports to be publicized.

2.1.4 China's Position on ABNJ's Intellectual Property Rights on Marine Genetic Resources

Capacity building and technology transfer of marine genetic resources is a form of non-monetary benefit sharing, and when the high-tech research and development technologies of marine genetic resources are patented, they are included in the scope of protection of the intellectual property rights regime, and if mandatory obligations are adopted at this time, it will inevitably contradict the protection of intellectual property rights. The transfer of marine technology under the UN Convention on the Law of the Sea is a non-mandatory obligation and does not address the issue of capacity building; whereas the BBNJ international agreement is a new and independent

agreement, and the conflict in the negotiations on capacity building and technology transfer for ANBJ marine genetic resources is mainly over whether the obligation to cooperate is mandatory or voluntary.

The exploitation of marine genetic resources has a high scientific and technological threshold. The collection of marine genetic resources from deep ocean areas requires advanced ships and submersibles as well as laboratory equipment for sample processing, and advanced biotechnologies are required for basic laboratory research and commercial development stages [2]. The majority of patents related to the genetics of marine genetic resources are in the hands of developed countries, and the establishment of a benefit-sharing mechanism is aimed at achieving a more equitable and reasonable exploitation of marine genetic resources.

2.2 Institutional Basis for China's Participation in the Development of Marine Genetic Resources in the ABNJ

2.2.1 Rights Granted to Coastal States by the United Nations Convention on the Law of the Sea

The United Nations Convention on the Law of the Sea defines areas within national jurisdiction and areas beyond national jurisdiction, according to which the territorial sea, straits used for international navigation, archipelagic states, exclusive economic zones, continental shelves and island regimes, which relate to the rights and obligations of entities, are all concerned with the adjustment of the interests of coastal states and maritime user states and the distribution of rights and the regulation of the exercise of powers [3]. The United Nations Convention on the Law of the Sea broadly covers most of the norms governing activities in the international maritime domain. In the 40 years since China participated in the signing of the Convention, it has actively participated in the activities of various international organisations and the elaboration of international treaties, which has promoted China's deeper participation in international maritime governance and has also enhanced China's ability to

govern and manage maritime areas, providing the basis for China's participation in ABNJ maritime activities and for the next step of participation in the development of marine genetic resources.

2.2.2 The Draft Text of the BBNJ Agreement Clarifies the Definition of Marine Genetic Resources

Although the UNCLOS (United Nations Convention on the Law of the Sea) is known as the constitution of the oceans, as it was written at a time when neither the exploitation of the ABNJ nor the use of marine genetic resources by States existed, Article 136 of UNCLOS establishes the Area and its resources as the common heritage of mankind, but does not qualify the marine genetic resources of the Area [4]. The BBNJ Agreement aims to establish a uniform legal regime for the implementation of the United Nations Convention on the Law of the Sea (UNCLOS) within its existing framework, and necessarily complements the parts of UNCLOS that are not covered by the Convention, in order to provide an operational guide for the new era of marine activities. The BBNJ Agreement defines Marine Genetic Resources (hereinafter referred to as MGRs) as genetic material of actual or potential value derived from marine animals, plants, micro-organisms or other sources and their derivatives [5]. The definition of Marine Genetic Resources provides guidance for China's marine genetic resources development activities in the ABNJ and facilitates China's role in the BBNJ negotiations by asserting its own position of interest.

2.2.3 CBD (Convention on Biological Diversity) Establishes a Contractual Benefit-Sharing Mechanism

The CBD has adopted the Bonn Guidelines on Access to Genetic Resources and Equitable Sharing of Benefits from Genetic Resources (hereinafter referred to as the Bonn Guidelines) to assist countries in developing and drafting legislative, administrative and policy measures on access to genetic resources and benefit-sharing [6] in order to achieve the objectives of biodiversity conservation and equitable benefit-sharing of genetic resources. The main elements of the contractual benefit-sharing mechanism are to achieve

voluntary benefit-sharing by agreeing on conditions based on the principle of fairness and respecting the autonomy of the parties. Although such contracts generally function only under a specific mechanism, good cooperation has been achieved in the form of benefit-sharing by agreement, which has laid the foundation for China's subsequent participation in technology transfer and benefit-sharing of marine genetic resources in the ABNJ.

2.3 Real-Life Practice of China's Participation in the Development of Marine Genetic Resources in the ABNJ

2.3.1 China's Motions in the BBNJ Negotiations Were Supported and Affirmed

Since 2004, after two phases of the Ad Hoc Working Group (2004-2015) and the Preparatory Committee (2016-2017), the BBNJ has entered a critical phase of intergovernmental negotiations, with China. China has actively participated in the BBNJ international legislation and contributed significantly to the advancement of the negotiations and the conclusion of the draft. In recent years, China has participated in the international negotiations on the BBNJ agreement at multiple levels and in all aspects, establishing a bottom-line framework for the negotiations that combine macro and micro levels, while China has been mentioned in the most important documents of the three negotiation meetings in the world [7]. On the way of China's increasing comprehensive national power and the great journey to achieve high-quality development of the marine economy, playing China's role in the BBNJ international negotiations is a strong endorsement of its status as a strong country, and its deep participation in the BBNJ negotiations has also provided practical experience for China's participation in the development of marine genetic resources in the ABNJ.

2.3.2 China Signs Exploration Contract with International Seabed Authority to Enhance International Discourse

The ISA (International Seabed Authority) is the regulatory body for mineral resources in the

international seabed area and the most authoritative international regulatory organization. There are currently 31 resource exploration contracts signed by the International Seabed Authority, and China has signed international seabed exploration contracts for polymetallic nodules, cobalt-rich crusts and polymetallic sulphides, and subsequently signed an extension agreement with the International Seabed Authority for the first time for international seabed exploration contracts. China's deep-sea exploration and scientific research capabilities have also been enhanced through many collaborations with the International Seabed Authority, providing a boost to China's marine scientific research capabilities, which are still on the rise, providing technical support for China's marine resource development in the ABNJ and gaining a voice for China in its participation in international ocean governance.

3. BBNJ Perspective on the Dilemma of China's Participation in the Development of Marine Genetic Resources in ABNJ

3.1 Institutional Dilemma of China's Participation in the Development of Marine Genetic Resources in ABNJ

3.1.1 The Legal Status of Marine Genetic Resources Is Controversial

The legal status of marine genetic resources in the ABNJ is still not clearly defined, and the legal status of marine genetic resources determines the principles that apply to a range of legal regimes. Developing countries have argued that marine genetic resources are the "common heritage of mankind" and that access to and benefit-sharing from marine genetic resources is naturally equal; developed countries have argued that marine genetic resources are defined as "orphaned" within the existing definition of the law, so that "first come, first served" is consistent with the consistent principle of freedom of the seas. "First come, first served" is consistent with the consistent principle of freedom of the seas. The common denominator between the 'common heritage of mankind' and 'terra

nullius' is that both emphasise that no State may claim national sovereign rights over them, i.e. that access to and use of marine heritage resources are not exclusive. The "inheritance of mankind" is clearly in the collective interest of international subjects, but it prevents developed countries from gaining a "first mover" advantage by virtue of their advanced exploitation techniques.

3.1.2 Access Regimes for Marine Genetic Resources Are Controversial

The most controversial aspect of access to marine genetic resources is whether access to marine genetic resources should be subject to "prior consent", i.e. whether access to marine genetic resources should be subject to licence conditions and regulated by the International Seabed Authority. At present, there are two models of access to marine genetic resources, namely, a permit access system and a notification and reporting system. A licensed access system is one where access conditions are set before access is granted, and legal access to ABNJ marine genetic resources can only be granted after an application has been made and permission obtained. The notification and reporting system considers that marine genetic resources are inherently inefficient to exploit and that there is no need for bureaucratic intervention, but rather that access should be "open", with free access to marine genetic resources and subsequent notification and reporting.

3.1.3 Benefit-Sharing of Marine Genetic Resources Is Controversial

The controversy over marine genetic resources in the BBNJ negotiations has centred on whether monetary benefit-sharing should also be included. Specifically, non-monetary benefit-sharing of marine genetic resources encompasses a variety of elements, of which information disclosure is relatively easy to agree on because it is in the overall interest of the country to establish a shared repository of genetic resources and to increase the transparency of information disclosure. However, in the case of benefit-sharing on technology transfer, developed countries are unable to commit

themselves for the sake of their own unspecified areas of interest. If similar provisions were made under the provisions of the UN Convention on the Law of the Sea and the CBD, the benefit-sharing obligation would still be soft and not institutionally guaranteed in practice. If the obligation is made mandatory, the conflict between mandatory benefit-sharing and intellectual property protection arises as to whether innovative technological achievements should be protected by the intellectual property regime or whether international agreements should be applied to enforce it.

3.1.4 The Controversial Environmental impact assessment of marine genetic resources System

The negotiation of the BBNJ agreement is in a dynamic development, and although different countries have different screening and evaluation criteria for the construction of the EIA system for marine genetic resources in the ABNJ, they have reached a majority view on matters such as general obligations and basic processes, but there are still differences of opinion on the physical aspects. The differences focus on the management system for the environmental impact assessment of marine genetic resources, where the differences in national regulations on environmental impact assessment lead to different standards in the assessment. The US, on the other hand, advocates that the criteria for the environmental assessment of ABNJ marine genetic resources should be decided and implemented by sovereign states, and rejects the review and monitoring procedures of independent third-party institutions.

3.2 Practical Dilemmas of China's Participation in the Development of Marine Genetic Resources in ABNJ

3.2.1 The BBNJ Has Not Yet Clarified the Principles Applicable to ABNJ Marine Genetic Resources

The fundamental conflict between access to marine genetic resources and benefit-sharing lies in which principle should be applied, and the lack of consensus on the development of many regimes in the BBNJ negotiations is due to the lack of uniformity in the

adoption of the principles. The developed countries, represented by the US, Japan and Russia, advocate the principle of “freedom of the high seas”, which means that marine genetic resources are subject to the principle of “pre-emption”; most developing countries, mainly from the G77, advocate the principle of “common heritage of mankind”, which means that access to marine genetic resources and benefit-sharing should be subject to equitable sharing; the “neutrals”, mainly from the EU, advocate the principle of “common heritage”. The “neutrals”, mainly from the EU, advocate that the application of these two principles should not be confined to the application of these principles, but should be regulated through specific practical approaches.

3.2.2 BBNJ Has Not Yet Constructed a Governance Mechanism for Marine Genetic Resources in the ABNJ

The legal framework constructed by the United Nations Convention on the Law of the Sea is the legal basis for the delimitation of the ABNJ, but the top-level design of the specific management system is temporarily missing, making it difficult to form uniform standards to achieve effectiveness. At present, the BBNJ negotiation agreement has not yet reached a global mechanism for the governance of marine genetic resources in the ABNJ, and the current management framework of the ABNJ is characterised by regionalisation, fragmentation and imbalance.

The governance mechanism is the anchor point for the various institutions and norms for the development of marine genetic resources in the ABNJ. The different perceptions of experts and scholars in different countries regarding the current situation of the development of marine genetic resources in the ABNJ have led to two options for the establishment of a governance mechanism: one is to establish an inter-governmental organisational body that integrates decision-making and supervision, and the other is not to set up a unified organisational body, but to establish a body with only a coordinating function. The main difference between a coordinating body and an inter-

governmental organisational body, both of which have some coordinating function in themselves, is whether a separate specialised body is required. For the inter-governmental organisation of the sea a specialised body needs to be set up to stand in a neutral position to make decisions, monitor and enforce them; whereas a coordinating regulatory body that does not work well together will not create a governance guarantee that is put into practice.

4. The Way forward for China's Participation in the Development of Marine Genetic Resources in ABNJ from the Perspective of BBNJ

4.1 The Institutional Way Out for China's Participation in the Development of Marine Genetic Resources in the ABNJ

4.1.1 Clarify Its Legal Status as “Common Heritage of Mankind” through the BBNJ Agreement

The “common heritage of mankind” is the definition of the legal attributes of marine genetic resources, which is absolute and specific, while the principle of “common heritage of mankind” is the rationale adopted by the specific regime of marine genetic resources of the ABNJ, as opposed to the principle of the “common heritage of mankind” is the principle adopted by the specific regime of the ABNJ for marine genetic resources, as opposed to the principle of the “freedom of the high seas”, and is justified in a macro-application sense.

The United Nations Convention on the Law of the Sea defines the resources of the Area as the “common heritage of mankind”, but does not define the specific scope of the “common heritage of mankind”. The BBNJ Agreement could define ABNJ marine genetic resources as “common heritage of mankind”, give marine genetic resources the legal status of “common heritage of mankind”, and extend the scope of application of “common heritage of mankind” to maritime areas beyond national jurisdiction to facilitate the application of the principle and the establishment of a subsequent regime.

4.1.2 Application of the Notification Reporting Mechanism to the Access Regime for Marine Genetic Resources

The adoption of a permit access system for ABNJ marine genetic resources is, on the one hand, to achieve a protective exploitation of marine genetic resources and to avoid overexploitation of marine ecological damage, but the exploitation of marine genetic resources itself requires a high level of exploitation technology, which is not necessarily available in general countries, and the exploitation of marine genetic resources is mostly used for academic research and scientific research and development, and sustainable likelihood of large scale access is virtually non-existent. Secondly, the premise of a licensed access system is that each country has a natural sovereign right to marine genetic resources, but in the ABNJ this premise does not exist and it is difficult to apply this mechanism in practice, regardless of the principle used.

The notification reporting system could then be specified in two stages. At the stage of preparation for acquisition, the acquiring country can submit a report to the established mechanism, and the information in the report should include the time, place, scope, quantity and use of marine genetic resources, etc., and set a time interval for submission, and any delivery or re-delivery not exceeding the specified time can be considered legitimate. In the subsequent stages of access, the acquiring country will publish the findings of its research and the relevant information obtained from the research in the marine genetic resources database, so as to share the information and avoid duplication of access to the same marine genetic resources for the same research purpose.

4.1.3 Benefit-Sharing Regimes for Marine Genetic Resources Are Complementary to Intellectual Property Regimes

With regard to the sharing of benefits from marine genetic resources, China advocates that priority be given to non-monetary benefit-sharing, taking into

account the inclusion of ABNJ marine genetic resources in the protection of the intellectual property rights regime. The WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (hereinafter referred to as the Committee) has worked on the development of guidelines on intellectual property in agreements on access and benefit-sharing (hereinafter referred to as the Guidelines). The four principles of the Guidelines can be summarised as follows: recognition, promotion and protection of innovative outcomes related to the transfer of marine genetic resources in both formal and informal forms; the regional specificity of policies on marine genetic resources should be taken into account; the participation of intellectual property rights holders should be ensured; and a distinction should be made between commercial, non-commercial and customary use of marine genetic resources.

The benefit-sharing system should be a combination of mandatory and voluntary sharing mechanisms. For monetary benefit-sharing, the principle of voluntariness can be adopted, and cooperation can still be carried out by way of contract; for non-monetary benefit-sharing, mandatory sharing provisions can be adopted to underwrite it. When adopting mandatory technology transfer, attention should be paid to harmonising with the intellectual property rights regime, distinguishing between technology transfer for commercial use and technology transfer for non-commercial use, and allowing the transferee to pay a certain "technology fee" for technology transfer for commercial use.

4.1.4 Environmental Impact Assessment System for Marine Genetic Resources Integrates International Arrangements in Country-Led

According to the provisions of Article 204 of the United Nations Convention on the Law of the Sea on the subject of EIA implementation, it is clear that each sovereign state is the subject to determine the initiation and implementation of the assessment obligation. In

terms of specific rule arrangements, the EIA system in BBNJ needs to be refined within the existing institutional framework, rather than destroying the already established framework and leaving it to sovereign states to dominate the process of the EIA system for marine genetic resources in ABNJ, refusing to accept the intervention of independent third-party institutions. In terms of the allocation of rights and obligations, China agrees with the EU proposal that attention should be paid to the screening criteria and setting thresholds for the ABNJ environmental impact assessment system. However, in terms of implementation criteria, the existing EIA legal framework basically covers the general EIA procedural elements established by the UN Convention on the Law of the Sea, and if the rules of the BBNJ EIA system can incorporate the existing best practices to reach a minimum “global minimum requirement”, i.e., only general provisions on procedures and contents, it will be possible for the BBNJ EIA system to achieve a “global minimum requirement”. The rules of the BBNJ environmental impact assessment system can achieve a minimum “global minimum” by incorporating the best practices available, i.e., only general provisions on procedures and content, and loose and universal technical standards and management requirements.

4.2 Practical Ways forward for China's Participation in the Development of Marine Genetic Resources in the ABNJ

4.2.1 Clarifying the Applicability of the Principle of “Common Heritage of mankind” to ABNJ Marine Genetic Resources

The principle of “common heritage of mankind” is currently applied mainly in the international seabed area to resolve disputes over the exploitation of resources in the international seabed public domain and ownership. The principle of “common heritage of mankind” is intended to be of mutual benefit, and the development and research of marine genetic resources is itself a positive feedback loop, whereas the freedom

of access advocated by the principle of “freedom of the high seas” tends to create a dominant position in the oceans, which is in fact not conducive to the coordination of the overall interests of the international community. The legal attribute of ABNJ marine genetic resources as “the common heritage of mankind” also indirectly justifies the adoption of the principle of “common heritage of mankind”.

The principle of “freedom of the high seas” advocated by the developed Western countries is in fact aimed at the pursuit of total freedom of maritime exploitation and the preservation of their maritime hegemony. The fact that the principle of the “common heritage of mankind” is explicitly stated in the text of the BBNJ agreement as one of the general principles means that the free exploitation regime dominated by the Western countries is restricted. The application of the principle of “common heritage of mankind” in the ABNJ breaks through the regional scope of application of the principle and sets the basic idea for global ocean governance, facilitating the resolution of conflicts arising from the re-emergence of legal gaps in the marine genetic resources of the ABNJ from a macro level.

4.2.2 Building Governance Mechanisms for ABNJ Marine Genetic Resources through the Blue Partnership

The “Blue Partnership” is an extension of the concept of “partnership”, and is a major initiative by the Chinese government to further build a global partnership network in the context of global ocean governance, as well as an important way to respond positively to the UN Sustainable Development Goals [8]. The use of the “Blue Partnership” to build the governance mechanism of marine genetic resources in the ABNJ is to integrate the current governance tools with cross-governmental organizations to form the relevant text of the ABNJ marine genetic resources, and to realize the coordination of governance organizations and management bodies under the framework of the BBNJ.

China is actively involved in the negotiation of international agreements on the BBNJ, international cooperation on the development of marine genetic resources in the ABNJ, and the comprehensive building of a strong marine state, and the “Blue Partnership” is one of the important initiatives to achieve win-win cooperation. On the one hand, the essence of the “Blue Partnership” initiative is to form a cooperation mechanism for countries to participate in long-term cooperation in the ocean, which is in line with the basic idea of building an inter-governmental governance mechanism for marine genetic resources in the ABNJ. On the other hand, the formation of an inter-governmental body will add to the building of the “Blue Partnership”, which will be conducive to the realisation of a multi-layered and wide-ranging pattern of external cooperation to grasp the global trend of ocean construction.

5. Conclusion

Marine genetic resources have important scientific research value and commercial economic value, and China's participation in the exploration and development of marine resources cannot ignore the strategic significance of ABNJ marine genetic resources. The BBNJ international agreement promoted by the United Nations has now entered an important stage of “one step forward”, and is also a key point for the international community to formulate a new model of global ocean governance and build a new pattern of ocean interests, and its subsequent promotion provides a governance direction for China's participation in the development of marine genetic resources in the ABNJ. By viewing the two dilemmas of China's participation in the development of marine

genetic resources in the ABNJ from the international perspective of the BBNJ, China clarifies its position in the negotiation of the international agreement on the BBNJ, determines its position in the opposing matters of the BBNJ agreement, coordinates the development of international marine cooperation matters, and builds a multi-level and wide-ranging marine governance cooperation mechanism, gaining wide recognition from international partners.

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