

# International experience of community support for national park development and its implications

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## Abstract

**Purpose** – This article aims to explore the key role of community participation in the protection and development of national parks under the global trend of national park development and provide reference for the construction of China's national park system by analyzing international successful cases and experiences.

**Design/methodology/approach** – The study on “International Experience of Community Support for National Park Development” integrates multimethods, from data mining reports, journals and policy docs from WB, UNEP, to case analyses. In-depth interviews with policymakers, academics and farmers reveal needs, challenges and best practices. Comparative analysis tailors findings to China's context, offering recommendations for enhancing community support. This hybrid approach ensures practical insights for China's application.

**Findings** – The results of this study underscore the paramount significance of community participation as a cornerstone in advancing sustainable development and safeguarding national parks amidst a growing global awareness of environmental stewardship. Through a thorough examination of international National Parks such as Yellowstone, Maasai Mara, Uluru-Kata Tjuta and Sanjiangyuan, we reveal a blueprint of success that hinges on robust policy support, empowerment of local communities, strategic economic incentives and multifaceted cross-sectoral collaborations. In the context of domestic hurdles, including inadequate legal frameworks, narrow participation avenues and resource scarcities, our analysis outlines actionable recommendations aimed at

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fortifying policy and legal frameworks, establishing efficient engagement modalities, bolstering community capacity-building initiatives and fostering economic sustainability. This comprehensive approach presents a visionary roadmap for World's national park system, guiding it towards achieving an optimal equilibrium where ecological integrity and community prosperity coexist harmoniously.

**Originality/value** – The article underscores the originality in illuminating the pivotal role of community participation in national park protection and development amidst a global shift. By delving into international exemplars like Yellowstone, Maasai Mara, Uluru-Kata Tjuta, Sanjiangyuan and Panda, it uncovers novel insights on policy frameworks, community empowerment, economic incentives and collaborative models. This work contributes to the burgeoning discourse on balancing ecological conservation with socioeconomic development, providing a blueprint for sustainable national park management of all the world.

**Keywords** Community support, National park development, International experience, Enlightenment

**Paper type** Research paper

## 1. Introduction

The global trend of national park development is showing a positive and diversified trend. In recent years, with the widespread increase in environmental protection awareness and the global consensus on sustainable development, the number and area of national parks have achieved significant growth (Fortin and Gagnon, 1999; D'Alberto *et al.*, 2024). Since the establishment of Yellowstone National Park, the world's first national park, in the United States in 1872, there are currently about 6,000 national parks worldwide with a protected area of over 6 million square kilometers, covering approximately 4% of the Earth's land area, according to the World Wildlife Fund (WWF) data released in January 2023. Those reflect the unremitting efforts of governments around the world in protecting natural ecosystems and biodiversity. Driven by technological advancements, the management of national parks is becoming increasingly intelligent and refined (Campos *et al.*, 2021). For example, through modern technological means such as satellite remote sensing, drone monitoring and big data analysis, managers can more accurately grasp ecological changes, respond to natural disasters and illegal activities in a timely manner, and effectively protect rare animal and plant populations and their habitats in national parks. At the same time, the rise of ecotourism has become a new driving force for the development of national parks (Szabó and Ujhelyi, 2024), promoting local economic development and emphasizing the concept of utilizing and protecting while protecting (Horigue *et al.*, 2023; Wei *et al.*, 2024). The World Tourism Economy Trends Report (2024) predicts that the total number of global tourists will reach 13.579 billion in 2024, recovering to 103.9% of 2019, and the total global tourism revenue will reach 5.8 trillion US dollars, reaching 139.6% of 2019. Ecotourism revenue will account for an important part of many national park management funds. In addition, strengthening international cooperation is also an important trend in the development of national parks around the world (Agrawal, 2000; Busch, 2008). The implementation of cross-border conservation projects, such as the Asian Elephant Cross Border Protection Area and the Amazon Rainforest International Conservation Network, demonstrates the determination and action of the world to work together to protect our home planet (Neupane *et al.*, 2022; Shen *et al.*, 2023). In short, national parks around the world are developing toward a more scientific, efficient and sustainable direction, contributing to the protection of biodiversity on Earth and promoting harmonious coexistence between humans and nature.

Community participation plays an indispensable and crucial role in the protection and development of national parks (Agrawal and Gibson, 1999; Andrade and Rhodes, 2012). As the most direct stakeholders and guardians of natural resources around national parks, active community participation can not only deepen understanding and respect for the natural environment but also effectively promote the harmonious coexistence of ecological protection and community development (Rodriguez-Izquierdo *et al.*, 2010; Dikgang and Muchapondwa, 2017). By establishing public-private partnerships, community members can participate in multiple aspects of national park planning, management, supervision and ecotourism, ensuring that conservation policies are more closely aligned with local realities

and meet community needs (Wondirad and Ewnetu, 2019). Community participation also promotes the enhancement of ecological protection awareness, by organizing environmental education activities, ecological experience projects and community co-management mechanisms, making residents an important force in spreading the concept of ecological civilization (Aymoz *et al.*, 2013). This bottom-up protection model has stimulated a sense of responsibility and mission for natural resource conservation within the community, creating a positive atmosphere for conservation (Tessema *et al.*, 2010; Abukari and Mwalyosi, 2020). At the same time, the sustainable development of national parks has also brought economic opportunities to communities, such as the rise of ecotourism providing employment opportunities and income channels for the local area (Mayer *et al.*, 2010; Fredman and Yuan, 2011; Chidakel *et al.*, 2021), promoting the diversified development of community economy. In the process of participation, communities can develop characteristic tourism products based on their own advantages, achieving a win-win situation between ecological protection and economic development (Nyaupane and Poudel, 2011). Therefore, strengthening community participation is an indispensable part of the national park protection and development strategy. It is not only an important guarantee for achieving long-term protection goals but also an effective way to promote community prosperity and enhance social welfare (Wali *et al.*, 2017; Kibria *et al.*, 2021).

This article aims to explore international successful cases and experiences of community support for the development of national parks and analyze their positive effects on promoting ecological protection, community sustainable development and cultural heritage. This article can provide valuable insights for the construction of China's national park system, including how to balance ecological protection and community interests, establish a joint management mechanism, enhance public environmental awareness and promote local economic green transformation. Of course, we hope to promote the formation of a new ecological civilization pattern of harmonious coexistence between humans and nature through this research.

## 2. Research methods

For the section on "International Experience of Community Support for National Park Development", we will build a research foundation through extensive secondary data collection. This includes reviewing reports, academic journals, conference papers and policy documents published by international organizations such as the World Bank and the United Nations Environment Program, focusing on cases where national park projects have been successfully implemented and effectively integrated into community support. Using methods such as database retrieval, literature review and case analysis, systematically organize these experiences, analyze the policy framework, management mechanism, funding support model and community participation mechanism behind them.

To gain a deeper understanding of specific needs and challenges in the international context, we will conduct one-on-one in-depth interviews. The interviewees include government officials (key departments responsible for national park management and policy-making), scholars in related fields (environmental science, sociology, public management, etc.) and representatives of farmers directly affected by national parks. The interview will adopt a semi-structured approach, focusing on core issues such as the current status of community participation, mechanisms for coordinating interests, the effectiveness of ecological compensation policies, and cultural protection and inheritance. The aim is to capture first-hand information and reveal potential problems and opportunities.

Combining second-hand data with interview results, using comparative analysis, comparing international experience with China's actual situation, and extracting strategic recommendations for community support of national park development that are applicable to China's national conditions. Through this comprehensive research method, it ensures that the research has both an international perspective and closely integrates with China's local needs, providing valuable references and inspirations for the construction of China's national park system.

### 3. Results analysis

#### 3.1 International research cases and experience summary

3.1.1 Case analysis of typical countries. 3.1.1.1 Yellowstone National Park in the United States: community cooperation and ecotourism development. Yellowstone National Park, as the world's first national park, is not only a treasure of natural scenery but also a model of ecological tourism and community cooperation development. The development model of its ecotourism, especially in terms of community cooperation, provides valuable experience and reference for ecotourism development in other regions around the world.

##### (1) Typical practices

Combining unified management with community participation. The success of Yellowstone National Park is largely attributed to its close integration of unified management and community participation. The management agency of the park, namely the National Park Service, plays a core role in overall planning, resource conservation and visitor services, ensuring that all activities in the park comply with strict environmental standards and regulations (Yonk and Lofthouse, 2020). At the same time, the management bureau actively encourages and promotes the participation of local communities by establishing community advisory committees, holding public meetings, and other means to involve community residents in the planning, management and decision-making processes of the park (Brody et al., 2002; Ferretti-Gallon et al., 2021). This model not only ensures professional management and effective protection of the park but also enhances the sense of belonging and responsibility of community residents, achieving a win-win situation for all parties.

Educational guidance and public participation. Yellowstone National Park places great emphasis on enhancing public environmental awareness and participation through educational guidance. There are multiple educational centers in the park that promote ecological knowledge to visitors through lectures, exhibitions, interactive experiences and other means, guiding them to respect nature and care for the environment. In addition, the park actively promotes the "ecological tourism + education" model, combining ecological tourism activities with educational projects, such as conducting natural observation, ecological hiking, animal and plant research, etc., allowing tourists to deepen their understanding and awareness of ecological environment protection while enjoying the beauty of nature. This educational model not only enhances tourists' environmental literacy but also creates more employment opportunities for the local community and promotes the development of the community economy.

Scientific development and sustainable development. Yellowstone National Park has always adhered to the principles of scientific and sustainable development in the development of ecotourism. The management agency of the park will regularly evaluate and monitor tourism resources to ensure that tourism activities do not cause damage to the ecological environment (Kerkvliet and Nowell, 2000). At the same time, the park actively promotes the concept of "low impact tourism" by optimizing tourist routes, limiting the number of tourists, and using environmentally friendly facilities to reduce the interference of tourism activities on the natural environment (Liang et al., 2022). In addition, the park also focuses on collaborative development with the local community, promoting the diversification and sustainable development of the community economy through supporting community tourism projects, providing technical support and training.

##### (2) Achievements

The ecological environment has been effectively protected. Yellowstone National Park ensures the stability of the ecological environment and the maintenance of biodiversity within the park through scientific management and community participation. The natural landscapes, wildlife and cultural heritage within the park have been effectively protected and inherited, leaving valuable natural wealth for future generations. At the same time, the park actively

addresses global challenges such as climate change, exploring new ways and methods of ecological protection through scientific research and technological innovation.

The community economy is thriving. The development of ecotourism has brought significant economic benefits to the communities surrounding Yellowstone National Park. With the continuous increase in the number of tourists and the continuous enrichment of tourism projects, the local community has gradually formed an industry structure dominated by ecotourism. Residents have increased their income and improved their living standards through participating in tourism services, operating tourism products and other means. In addition, the development of ecotourism has also driven the development of related industries such as accommodation, catering, transportation, etc., further promoting the diversification and prosperity of community economy.

Social harmony and public participation have been enhanced. The ecotourism development model of Yellowstone National Park also promotes harmony within the community and enhances public participation. Through the establishment of community advisory committees and other platforms, residents have more opportunities to participate in park management and decision-making, and their opinions and suggestions have been fully respected and adopted. This participation mechanism not only enhances the sense of belonging and responsibility of community residents but also promotes communication and understanding between the government and the public. At the same time, various educational activities and environmental protection projects held in the park have also stimulated public attention and enthusiasm for ecological environment protection, forming a good social atmosphere and environmental protection trend.

3.1.1.2 Maasai Mara National Reserve in Kenya: traditional community co-management model. The Maasai Mara National Reserve in Kenya, as a famous wildlife conservation area in East Africa, has provided valuable experience for the management of global nature reserves through innovative management models and practices. Among them, the traditional community co-management model has become a highlight of the management of the Reserve (Oduor, 2020). This model not only effectively protects precious natural ecological resources but also significantly improves the economic situation and social relations of local communities (Li *et al.*, 2020; Holland *et al.*, 2022).

#### (1) Typical Practices

Participatory management and collaborative mechanisms. The management team of the Maasai Mara National Reserve deeply recognizes that simple lockdown protection is difficult to sustain, and local communities must be the main body of protection actions. Therefore, the protected area has established extensive participatory management mechanisms, encouraging community residents to directly participate in the daily management and supervision of the protected area (Oduor, 2020). By organizing regular community meetings and training activities, we aim to raise residents' awareness of the importance of nature conservation and inspire their sense of responsibility and enthusiasm for participation. At the same time, the protected area has established close cooperation with local governments, non-governmental organizations, and the private sector to jointly develop and implement management plans, ensuring the effective implementation of various protection measures (Seno and Shaw, 2002; Weldemichel and Lein, 2019).

Benefit sharing and sustainable livelihoods. Under the community co-management model, the Maasai Mara Nature Reserve focuses on achieving benefit sharing, ensuring that local communities can benefit from conservation work in a tangible way (Bedelian *et al.*, 2024). On the one hand, the protected area has created a large number of employment opportunities for community residents and increased their income levels through the development of ecotourism (Wishitemi *et al.*, 2015; Tobias *et al.*, 2021). On the other hand, protected areas allow community residents to make reasonable use of natural resources, such as collecting reeds, hunting, etc., to meet their basic living needs without affecting the ecological environment

(Ojijo and Steiger, 2024). In addition, a special fund has been established in the protected area to support the construction of community infrastructure, education and medical projects, and further improve the living conditions of residents.

Policy guidance and legal protection. In order to ensure the smooth implementation of the community co-management model, the Kenyan government has introduced a series of relevant policies and legal documents, providing strong guarantees for the management of protected areas. The 2013 Wildlife Conservation and Management Law and its amendments clarified the national ownership of wildlife resources, while granting communities more management power and opportunities for benefit sharing. These policies not only regulate the management behavior of protected areas but also promote harmonious relationships between community residents and conservation agencies.

Scientific Planning and Dynamic Adjustment. The management team of the Maasai Mara Nature Reserve also focuses on scientific planning and dynamic adjustment. They use modern technological means such as satellite remote sensing, geographic information systems, etc. to continuously monitor and evaluate the ecological environment of protected areas, providing scientific basis for management decisions. At the same time, according to changes in the ecological environment and the needs of community development, management strategies should be adjusted in a timely manner to ensure that the ecological security of the protected area and the sustainable development of the community complement each other.

## (2) Achievements

The ecological environment has significantly improved. By implementing the community co-management model, the ecological environment of the Maasai Mara Nature Reserve has been significantly improved. Due to the active participation and effective supervision of community residents, illegal hunting, poaching and other illegal activities have been effectively curbed, and the population of wild animals has gradually recovered and maintained stable growth. At the same time, the vegetation coverage in the protected area has also increased, significantly enhancing the self-recovery ability of the ecosystem. These changes not only provide a safer and more suitable living environment for wildlife, but also make important contributions to global biodiversity conservation.

The development of community economy is accelerating. The community co-management model has also driven the economic development of the surrounding communities in Marseille Mara. With the rise of ecotourism, local residents have gained more employment opportunities and sources of income, and their living standards have significantly improved. At the same time, the protected area helps residents transform traditional production methods and reduce excessive dependence on and destruction of natural resources through the development of green industries and sustainable livelihood projects. These changes not only improve the living conditions of residents but also promote the diversification and sustainable development of the community economy.

Social relations have become harmonious and stable. The implementation of the community co-management model has also promoted a harmonious relationship between the management department of the protected area and the local community. Through participatory management and benefit sharing mechanisms, community residents' sense of identity and belonging to the protected area has significantly increased, and they are more actively involved in the protection work, forming a good social atmosphere. In addition, the management department of the protected area also focuses on strengthening communication and coordination with local governments, nongovernmental organizations, and the private sector to jointly promote the comprehensive management and sustainable development of the protected area.

3.1.1.3 Uluru-Kata Tjuta National Park in Australia: a "community co-management" model where ownership belongs to indigenous peoples. Uluru-Kata Tjuta National Park in Australia, as a world cultural and natural heritage site, has a unique "community co-management"

model that has significant demonstration significance globally. The core of this model is to give the ownership and management right of the park to the indigenous people of Anangu, and at the same time introduce the Australian Park Authority as a cooperative management partner to jointly protect and manage this sacred land.

### (1) Typical Practices

Legal and institutional safeguards. Firstly, the ownership of Uluru-Kata Tjuta National Park by the indigenous people has been established from a legal perspective. Through legislative means, the identity and rights of the Anangu people as traditional landowners have been clarified, ensuring their dominant position in park management and decision-making. At the same time, detailed management regulations have been formulated, clarifying the responsibilities of all parties, including the behavior norms of indigenous communities, park management bureaus and tourists, providing a solid legal basis for the implementation of the comanagement model.

Establishment of cooperative management mechanism. In terms of management practice, the Australian Parks Authority has established a close cooperative relationship with the Anangu people. Both parties jointly formulate management plans, starting from multiple dimensions such as ecological protection, cultural heritage and tourism development, to ensure the scientific and sustainable nature of management decisions. The Park Management Bureau provides technical support, financial assistance and professional training to help Indigenous peoples improve their management capabilities; The Anangu people, based on their profound cultural knowledge and deep emotional attachment to the land, are responsible for specific management and cultural inheritance work (Bickersteth *et al.*, 2020; Everingham *et al.*, 2021).

Integration of cultural sensitivity. When developing tourism projects, special attention should be paid to the integration of cultural sensitivity. All tourism activities must be conducted with respect for indigenous culture and traditions, avoiding negative impacts on local culture and ecological environment (Clarke and Waterton, 2015). The tourism facilities, guide services, cultural activities, etc. in the park are all integrated with the cultural elements of the Anangu people, allowing visitors to experience the natural beauty while also gaining a deeper understanding of the culture and history of the indigenous people.

Public participation and community empowerment. In addition to indigenous peoples and park management agencies, local communities, tourists and all sectors of society are actively encouraged to participate in the management and protection of the park. By organizing educational lectures, community meetings, volunteer activities and other forms, we aim to raise public awareness of the importance of heritage conservation and enhance their sense of participation and responsibility. At the same time, through information technology means, establish a transparent information feedback mechanism to ensure that the public's voice can be heard and incorporated into management decisions (Calvin *et al.*, 2024).

### (2) Achievements

The ecological environment has been effectively protected. With the joint efforts of the indigenous people and the park management bureau, the ecological environment of Uluru-Kata Tjuta National Park has been effectively protected. The animal and plant populations in the park have been effectively restored and expanded, and the stability and diversity of the ecosystem have been significantly improved. Meanwhile, through strict management of tourism activities, the interference and damage of human activities to the ecological environment have been effectively reduced.

Cultural inheritance and revival have occurred. The "community comanagement" model provides an important platform for the inheritance and revival of Anangu culture. By organizing cultural activities, providing cultural education and strengthening cultural research, the cultural traditions and knowledge of indigenous peoples have been effectively inherited and promoted.

In addition, the tourism projects within the park also incorporate rich cultural elements, allowing visitors to gain a deeper understanding and experience the cultural charm of the indigenous people during their travels.

The development of community economy and improvement of people's livelihood have been achieved. The development of tourism has brought significant economic benefits to the local community. With the increase in the number of tourists, the local service industries such as accommodation, catering and transportation have developed rapidly, providing more employment opportunities and sources of income for indigenous people. At the same time, by participating in tourism management and service work, the economic capacity and living standards of indigenous people have also been significantly improved.

Social identity and harmonious integration have been achieved. The successful implementation of the "community co-management" model has enhanced communication and interaction between indigenous peoples and other social groups, promoting understanding and respect between different cultures. Through joint participation in heritage protection and management, all parties have reached a consensus of "heritage first" and achieved harmonious integration between people and heritage, and people and the environment. In addition, this model also provides useful experience and inspiration for heritage conservation in other regions around the world.

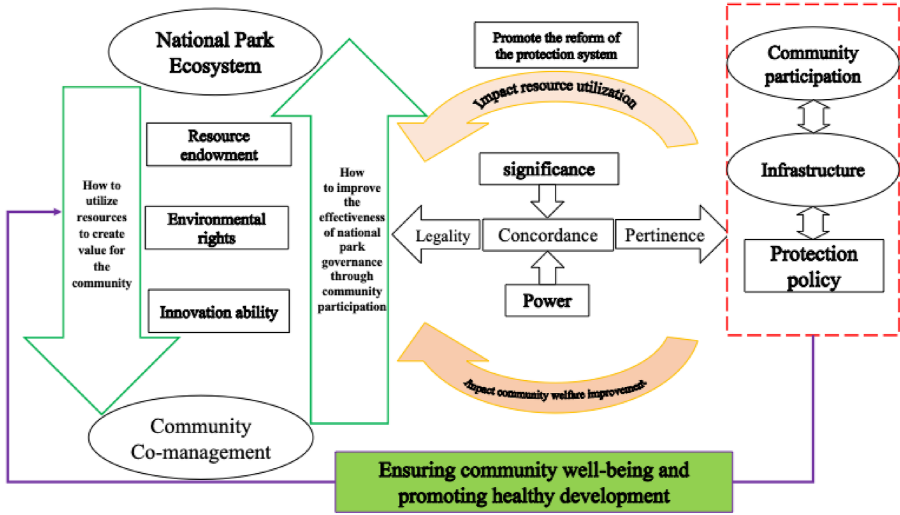
### *3.2 International experience summary*

How to coordinate the coordinated development of communities and national parks is an important issue related to ecological balance, economic sustainability and social harmony. This study summarizes the international experiences of three countries, Yellowstone National Park in the United States, Maasai Mara National Reserve in Kenya, and Uluru-Kata Tjuta National Park in Australia. We have found some consensus insights: firstly, it is necessary to establish a close cooperation mechanism to promote dialogue and consultation between communities and national park management agencies, ensure transparent and fair decision-making processes, and fully incorporate community opinions. Secondly, by implementing ecological compensation policies and encouraging community residents to participate in ecological protection activities such as ecotourism development and environmentally friendly agriculture, it not only protects natural resources but also drives community economic development. At the same time, we will strengthen the popularization of education, enhance the environmental awareness of residents and tourists, and create a good atmosphere of jointly safeguarding green mountains and clear waters. In addition, reasonable planning of the surrounding areas of national parks, setting up resource utilization areas, not only meets the needs of community development but also avoids interference with the core protected areas. Finally, utilizing technological means for environmental monitoring and management can achieve efficient utilization and protection of resources, laying a solid foundation for the harmonious coexistence between communities and national parks. In short, the coordinated development of communities and national parks requires the joint efforts of the government, communities, enterprises and the public to achieve a win-win situation between ecological protection and economic development (see [Figure 1](#)).

## **4. The current status of community participation in Chinese national parks**

### *4.1 Overview of national park construction in China*

The construction of China's national park system plays a crucial role in promoting ecological civilization construction, scientific protection and rational utilization of natural resources. Up to now, China has officially set up the first batch of national parks (see [Table 1](#) for details), including Sanjiangyuan, Giant Panda, Amur Tiger and Amur Leopard, Hainan Tropical Rainforest, Mount Wuyi, covering 230,000 square kilometers, nearly 30% of the national key protected wildlife species in the land area, and is the most important natural ecosystem and



Source(s): Figure frame is summarized by the authors

**Figure 1.** The mechanism of coordinated development between community development and national park ecological protection

biodiversity enrichment area in China. This integrated innovation aims to achieve sustainable development of natural resources through scientific protection and rational utilization, balancing ecological protection with economic and social development needs. In the future, with the continuous improvement of the national park system, it is expected that more key ecological areas will be included in the protection scope. By 2035, China will establish a comprehensive, scientifically standardized and effectively operated national park system, contributing Chinese wisdom and strength to protecting biodiversity and addressing climate change.

#### 4.2 Cases of surrounding communities supporting the development of Chinese national parks: typical cases and experiences

4.2.1 Typical case 1: “ecological conservation officer” model in Sanjiangyuan National Park. On the magical land of Sanjiangyuan National Park, known as the “Water Tower of China”, the ecological management model is not only an innovative measure for environmental protection, but also a vivid practice of the concept of harmonious coexistence between humans and nature (see Table 2). The birth of this model is a path of sustainable development jointly explored by the government, society and local residents in the face of the realistic challenges of fragile ecosystems and arduous biodiversity conservation tasks in the Three River Source area. By implementing the “one household, one post” ecological management and protection public welfare post mechanism, the government cleverly combines the responsibility of ecological protection with the livelihood security of herdsmen, which not only solves the problem of local herdsmen changing their production and career but also stimulates their endogenous motivation to participate in ecological protection.

Specifically, at least one member of each herder household is hired as an ecological caretaker, ensuring the comprehensiveness and depth of ecological protection through precise coordination. Ecological managers not only undertake daily patrol tasks to prevent illegal hunting, poaching and other behaviors that damage the ecological environment but also actively participate in scientific research such as wildlife population monitoring, grassland

**Table 1.** Overview of five national parks in China

Name of national park	Basic information
Sanjiangyuan National Park	The Sanjiangyuan National Park is located on the Qinghai Tibet Plateau, with a protected area of 190,700 square kilometers, making it the largest among the five national parks in terms of area. It covers the headwaters of the Yangtze River, Yellow River, and Lancang River, protecting the large-scale high-altitude ecosystem of the Qinghai Tibet Plateau, the “third pole” of the Earth. The establishment of Sanjiangyuan National Park aims to achieve the overall protection of these important river sources and ensure the supply of freshwater resources to over 1 billion people
Panda National Park	The Giant Panda National Park spans across three provinces of Sichuan, Shaanxi and Gansu, with a protected area of approximately 22,000 square kilometers. This is the concentrated distribution and main breeding habitat of wild giant pandas, protecting over 70% of the country’s wild giant pandas. The establishment of the Giant Panda National Park aims to protect biodiversity and the integrity of ecosystems, while also serving as a demonstration area for biodiversity conservation
Northeast Tiger and Leopard National Park	The Northeast Tiger and Leopard National Park is located at the border of Jilin and Heilongjiang provinces, adjacent to Russia and North Korea, with a protected area of approximately 14,100 square kilometers. This is the largest and only distribution area of wild Northeast tigers and Northeast leopards with breeding families in China. The conservation goal of Northeast Tiger and Leopard National Park is to maintain the representative of temperate forest ecosystems
Hainan Tropical Rainforest National Park	The Hainan Tropical Rainforest National Park is located in the central part of Hainan Island, with a protected area of approximately 4,269 square kilometers. This is the most complete and diverse continental island type tropical rainforest reserve in China, preserving the only distribution area of the critically endangered primate species – the Hainan Gibbon. The establishment of Hainan Tropical Rainforest National Park aims to protect tropical biodiversity and genetic resources
Mount Wuyi National Park	Mount Wuyi National Park is located at the junction of Fujian Province and Jiangxi Province, with a protected area of about 1,280 square kilometers. This is the most complete and largest subtropical native evergreen broad-leaved forest ecosystem in the world at the same latitude, known as the treasure trove of Southeast flora and fauna. Mount Wuyi National Park focuses on maintaining the authenticity and integrity of the natural ecosystem

**Source(s):** <https://www.forestry.gov.cn/lyj/1/wmdgjgy/20240828/583451.html>

ecological restoration and water quality monitoring. Their presence has become a beautiful scenery in the Three Rivers Source National Park. In addition, this model has also promoted the transformation of herdsmen from traditional nomadic lifestyle to modern ecological protection awareness, improved the understanding and respect of the whole community for the importance of ecological environment, and laid a solid foundation for building an ecological civilization society. The successful implementation of the ecological management personnel model has not only brought significant ecological benefits but also achieved significant improvements in the livelihoods of herdsmen at the economic level. The per capita annual wage income has reached 21,600 yuan, which is undoubtedly a qualitative leap for herders in the Sanjiangyuan area who have long relied on animal husbandry and have low income levels. It not only effectively alleviates the economic pressure on herdsmen, but also provides them with a more stable source of livelihood, reducing the risk of ecological degradation caused by overgrazing. More importantly, this increase in income is not at the expense of sacrificing the environment, but based on sustainable benefits of ecological protection, truly realizing the development concept of “green mountains and clear waters are as valuable as gold and silver”.

**Table 2.** Community comanagement model of Chinese national park

No.	Ecological protection mode	Content
1	Mechanism of Ecological Management and Public Welfare Posts	<ol style="list-style-type: none"> <li>1. The “one household, one post” model: Sanjiangyuan National Park has innovatively established a “one household, one post” ecological management and protection public welfare post mechanism, guiding 17,000 herdsmen to put down their grazing whips and transform from grassland users to ecological managers and beneficiaries. This model not only solves the livelihood problems of herdsmen but also enhances their enthusiasm and initiative in participating in ecological protection</li> <li>2. Job setting and responsibilities: Herdsmen become ecological managers, engaged in grassland management, ecological observation, climate monitoring and other work, guarding the natural resources and biodiversity in national parks. Their records and image data provide important basis for the background investigation of Sanjiangyuan National Park</li> </ol>
2	Village level Ecological Protection Professional Association	<ol style="list-style-type: none"> <li>1. Organizational structure: Establish village level ecological protection professional associations in 53 administrative villages of the park, and play the role of the main body and forefront of village level community ecological management and protection. These associations are responsible for organizing and coordinating local ecological protection work, ensuring the effective implementation of various ecological protection policies</li> <li>2. Policy implementation: Village level ecological protection professional associations actively develop ecological animal husbandry cooperatives, implement policies such as grassland ecological protection rewards and subsidies, ecological benefit compensation, and compensation for grassland losses caused by competition between wild animals and livestock, and increase the income of herdsmen through multiple channels</li> </ol>
3	Grid based management system	<ol style="list-style-type: none"> <li>1. Management system construction: In the Yellow River Source Park, a management system consisting of 3 township management and protection stations, 19 village level management and protection teams, and 123 management and protection teams has been established, forming a “point line, network surface” management system. This grid management system ensures comprehensive coverage and effective implementation of ecological protection within national parks</li> <li>2. Ecological protection chain: In the Lancang River Source Park, ecological managers have planned an ecological monitoring route covering an area of 2000 square kilometers to carry out biodiversity monitoring and sample line monitoring, providing protection for the reproduction and growth of wild animals</li> </ol>

*(continued)*

Table 2. Continued

No.	Ecological protection mode	Content
4	Ecological experience and transformation of production and business	<ol style="list-style-type: none"> <li>1. New entrance community construction: After the establishment of the national park, a number of new entrance communities have been built that integrate ecological experience, production and business transformation and comprehensive development. These communities not only provide ecotourism services but also promote the transformation of local residents and increase their sources of income</li> <li>2. Development of characteristic industries: By closing mining, small hydropower and other resource extraction projects, transform and develop green industries such as ecotourism and ecological agriculture. For example, Qingping Town in Deyang City, Sichuan Province has created transformation and development landmarks such as Yingfei Valley and Liangshan Lake, and launched characteristic products such as high mountain tea and wild medicinal honey</li> </ol>
5	Community livelihood improvement and natural education	<ol style="list-style-type: none"> <li>1. Livelihood Improvement: With the goal of improving community livelihoods, we continuously transform and enhance rural residents' housing and community environmental governance through the construction of projects such as Panda Village, Panda Homestay, Panda Cultural Tourism, etc. At the same time, tourism companies give priority to hiring community residents to work as tour guides, shopping guides, cleaners, etc., which increases employment opportunities</li> <li>2. Nature Education: Building a carrier for nature education, innovating and constructing an operational system consisting of a curriculum development platform, exploration topics, and nature education mentors. Through nature education activities, we aim to enhance the ecological awareness of community residents and tourists, and promote harmonious coexistence between humans and nature</li> </ol>

**Source(s):** Summary of data collected from the survey

When exploring the ecological governance and sustainable development path of Sanjiangyuan National Park, we have to mention its innovative use of village-level ecological protection professional associations as the cornerstone of the ecological management and protection system. This measure not only demonstrates the wisdom of bottom-up governance but also deeply embodies the ecological civilization concept of harmonious coexistence between humans and nature. The establishment of village level ecological protection professional associations is a major innovation in the traditional ecological protection model. It directly delegates the responsibility and rights of ecological protection to grassroots communities, stimulating the endogenous motivation of herdsman to participate in ecological protection. These association members are mostly composed of local herdsman who are familiar with the mountains, rivers, plants and trees in their hometowns, and understand the subtle changes in the ecosystem. Therefore, they can become the most sensitive “front-line sentries” in ecological management and protection. Through professional training, they not only master the knowledge and skills of modern ecological protection but also learn how to scientifically manage grasslands, monitor wild animal and plant populations, and respond to challenges brought by natural disasters and environmental changes. This community-based ecological management model

effectively reduces protection costs, improves protection efficiency, and truly achieves a win-win situation between ecological protection and economic development.

More importantly, while promoting ecological protection, Sanjiangyuan National Park has actively explored new models of green development, especially by developing ecological animal husbandry cooperatives, implementing policies such as grassland ecological protection rewards and subsidies, and ecological benefit compensation, which have opened up diversified channels for herdsman to increase their income. These measures not only effectively alleviate the pressure of traditional animal husbandry on grassland ecology but also promote the transformation of herders' production methods, achieving a shift from "relying on mountains to eat" to "raising mountains to enrich mountains". The establishment of ecological animal husbandry cooperatives enables herdsman to operate animal husbandry in a more organized and large-scale manner, improving production efficiency and product quality, and increasing market competitiveness. The implementation of grassland ecological protection rewards and ecological benefit compensation policies is direct feedback to herdsman's active participation in ecological protection behavior, further stimulating their enthusiasm and initiative to protect the ecological environment. In addition, Sanjiangyuan National Park attaches great importance to the respect and protection of ethnic ecological culture. Through holding cultural festivals, inheriting traditional handicrafts, telling ecological stories and other means, it enhances the sense of belonging and identity of community residents toward the national park, forming a good atmosphere of "jointly protecting a blue sky and a pure land".

In Sanjiangyuan National Park, 3,128 ecological managers form a beautiful scenery line. They are not only guardians of the ecological environment but also "escorts" for the reproduction and growth of wild animals. Most of these ecological managers come from local communities, and they have a deep emotional attachment to their hometown and a high sense of responsibility for ecological protection. In their daily work, they not only need to carry out tasks such as grassland patrols, wildlife and plant monitoring, and environmental pollution control, but also actively promote ecological protection knowledge to the surrounding people and guide everyone to participate in ecological protection actions together. It is precisely with such a professional, dedicated and enthusiastic ecological management team that the ecological environment of the Yellow River Source Park has been continuously improved, the population of wild animals and plants has steadily increased, and biodiversity has been effectively protected. This case not only vividly demonstrates the important role of community participation in national park construction but also provides valuable experience for other regions to learn from and replicate. It tells us that only by making community residents the main force of ecological protection can we truly achieve the long-term, effective and sustainable nature of ecological protection.

Looking ahead to the future, the ecological management model of Sanjiangyuan National Park is expected to become a model for ecological protection and community development nationwide and even globally. With the continuous promotion of ecological civilization construction and people's increasing requirements for environmental quality, this model will be promoted and applied in more areas. At the same time, with the continuous integration of technological means, such as the application of advanced technologies such as unmanned aerial vehicle patrols and remote monitoring systems, ecological management and protection work will be more efficient and accurate, contributing greater strength to the protection of biodiversity in the Three Rivers Source and even globally. In addition, by deepening cooperation with research institutions, universities and nongovernmental organizations, the professional skills and comprehensive qualities of ecological managers can be further enhanced, enabling them to play a greater role in ecological protection. In the end, this model will promote the formation of a new pattern of ecological protection led by the government, with social participation, supported by science and technology, and benefited by the masses, and contribute Chinese wisdom and Chinese programs to the construction of a community with a shared future for mankind.

#### 4.2.2 Typical case 2: the “community co-construction and comanagement” model of Giant Panda National Park.

##### (1) The “Community Co-construction and Co-management” Model of Giant Panda National Park: A Win-Win Path for Ecology and Economy

As an important milestone in China’s biodiversity conservation, the establishment of the Giant Panda National Park is not only a rescue operation for this endangered species but also a vivid practice of exploring new paths for harmonious coexistence between humans and nature. Among them, the “Community Coconstruction and Comanagement” model, as one of its core strategies, demonstrates the profound significance of ecological protection and community economic development complementing each other. This model, through innovative management mechanism, closely linked communities that might have been separated by the contradiction between protection and development with nature reserves, and jointly wrote a new chapter of green development.

Taking Dengchigou Village in Fengtongzhai Township, Baoxing County of Ya’an City, Sichuan Province as an example, this small mountain village, which used forestry logging as its main source of income, has undergone a magnificent transformation from “logging for a living” to “forest protection for development” in the wave of giant panda national park construction. By establishing the Panda New Village, Dengchigou Village not only provides a safe and comfortable living environment for residents who originally lived in the core area of the national park, but more importantly, through policy guidance and skill training, encourages them to abandon traditional forest logging activities and instead engage in green industries such as ecotourism, ecological patrols and homestay operations. This transformation not only effectively reduces the pressure of human activities on the habitat of giant pandas but also opens up new sources of income for local residents. At present, more than 161 residents in the village are directly involved in various work related to the Giant Panda National Park, from daily ecological patrols, to carefully built homestays, to providing bamboo shoots and other materials for the Giant Panda Education Base. Each task contains respect and care for nature, and also boosts the wallets of the villagers, significantly improving their living standards.

It is noteworthy that the Sichuan Giant Panda National Park has ingeniously established 81 community coconstruction and comanagement committees, significantly enhancing communication and collaboration between the government and local communities while guaranteeing the meticulous execution of ecological preservation initiatives. The committee members mostly come from the surrounding communities, who are both participants and beneficiaries of ecological protection. This overlapping identity greatly inspires their sense of responsibility and enthusiasm. By prioritizing the employment of personnel from surrounding communities as ecological forest rangers, not only has the employment problem of some residents been solved, but they have also become an important force in the cooperation and protection of national park resources. In addition, the development and implementation of a friendly demonstration community construction guide not only provides clear direction for community development but also promotes the emergence of a number of exemplary entrance communities with demonstrative significance. These communities, while emphasizing ecological protection, actively explore the development path of emerging industries such as nature education and ecological agricultural and forestry product development, achieving a transformation and upgrading from relying on natural resources to relying on ecological advantages, providing valuable experience for other regions to learn from.

##### (2) From dependence to reliance: the diversified development path of community economy

Under the promotion of the “community co construction and co management” model in the Giant Panda National Park, the Wawu Mountain area of Meishan City has also demonstrated a vivid story of diversified community economic development. Here, tourism enterprises

actively respond to the dual mission of protection and development, incorporating community residents into the tourism industry chain and prioritizing their employment in positions such as tour guides and shopping guides. This not only solves the problem of human resource shortage during the peak tourism season but also provides a stable source of income for community residents. With the booming development of the tourism industry, farmhouse tourism has rapidly emerged in the Wawu Mountain area, becoming a bridge connecting tourists with local culture. Villagers utilize their own houses and natural resources to create unique homestays and dining options, not only allowing tourists to experience authentic rural customs but also greatly enhancing the overall economic vitality of the community. The significant increase in per capita industrial income has shown residents a beautiful prospect of balancing ecological protection and economic development.

More profoundly, this diversified development model has stimulated community residents' awareness and initiative in ecological protection. They began to realize that a good ecological environment is the fundamental factor in attracting tourists and developing green industries. Therefore, protecting the natural environment and maintaining ecological balance have become the consensus and action of community residents. They actively participate in ecological restoration projects, such as afforestation, river cleaning, etc., and take practical actions to protect this green land. At the same time, with the rise of emerging industries such as natural education and the development of ecological agricultural and forestry products, the knowledge structure and skill level of community residents have also been significantly improved. They have the ability and willingness to participate in higher-level ecological protection and economic development activities.

It is worth mentioning that the "community co construction and co management" model of the Giant Panda National Park has also promoted the inheritance and innovation of regional culture. In the process of protection and development, community residents have begun to attach importance to the excavation and display of their own culture. Through holding cultural festivals, handicrafts and other methods, tourists can enjoy the natural scenery while also feeling the rich local cultural atmosphere. This cultural exchange and integration not only enriches the connotation of tourism products but also enhances the cultural confidence and cultural identity of community residents.

In summary, the "community co construction and co management" model of Giant Panda National Park not only provides strong guarantees for the protection of rare wild animal and plant resources but also opens up vast space for the diversified development of community economy. It shows us that ecological protection and economic development are not irreconcilable contradictions, but a community that can promote and complement each other. Under the guidance of this model, more and more communities are gradually turning from relying on natural resources to relying on ecological advantages, and walking a green and sustainable development path.

#### *4.3 Experience summary of Chinese community support for national park construction*

The importance of community participation: Whether it is the "ecological management personnel" model of Sanjiangyuan National Park or the "community co construction and co management" model of Giant Panda National Park, both emphasize the core role of community participation in national park construction. By guiding community residents to transform their roles from resource users to ecological protectors, not only can natural resources be effectively protected but also the sustainable development of the community economy can be promoted.

- (1) Diversified development path. In the construction of national parks, we should actively explore diversified development paths. In addition to traditional ecological protection and patrol work, emerging industries such as ecotourism, nature education, and the development of ecological agricultural and forestry products can also be developed in conjunction with the actual situation of the community. These emerging industries not

- only provide new sources of income for community residents but also enhance their sense of identity and belonging to national parks.
- (2) Policy and institutional guarantees. Establishing a sound policy and institutional guarantee system is the key to community support for the development of national parks. By formulating management measures for ecological management and protection public welfare positions, ecological compensation policies and other systems, it can ensure that community residents receive due rewards and incentives in participating in the process of ecological protection. At the same time, efforts should be made to strengthen the promotion and implementation of relevant laws and regulations to ensure the smooth progress of national park construction and community development.
  - (3) Technological innovation and data support. In the construction of modern national parks, technological innovation and data support are also playing an increasingly important role. By utilizing technologies such as infrared cameras and remote sensing satellites for ecological monitoring and research, scientific basis and data support can be provided for ecological protection. At the same time, advanced technologies such as big data and cloud computing can be utilized to carry out natural experience activities and educational curriculum design, enhancing the visibility and influence of national parks.
  - (4) Multiparty cooperation and coconstruction and sharing. The construction of national parks requires the joint participation and cooperation of various forces such as the government, communities, enterprises and social organizations. By establishing a cooperation mechanism of “government + community + enterprise + society” organization, resource sharing, complementary advantages and mutual benefit can be achieved. At the same time, cross regional and cross departmental collaboration and cooperation should be strengthened to jointly promote the in-depth development of national park construction and ecological protection work.

## 5. Extraction of international experience in community development supporting national park construction

### 5.1 Policy support and legal protection

Policy support and legal protection are indispensable cornerstones for national parks to achieve sustainable development. Taking Yellowstone National Park in the United States as an example, its success cannot be achieved without a sound legal system and strong policy support. The US government has established the legal status and protection principles of national parks through legislation, providing a solid legal foundation for park management. At the same time, the government has also introduced a series of supportive policies, such as providing financial subsidies, tax incentives, etc., to encourage the development of ecotourism and community cooperation. These policies not only ensure the effective protection of the natural resources and ecological environment of the park but also promote the economic prosperity and social harmony of the local community. Legal protection ensures the authority and enforcement of park management agencies, enabling effective implementation of various protection measures. And policy support has injected strong impetus into the development of parks, promoting the vigorous development of ecotourism and community economy.

Both policy support and legal protection play a crucial role in community participation in national park management. Taking the Maasai Mara National Reserve in Kenya as an example, the successful implementation of its traditional community comanagement model cannot be achieved without government policy support and legal protection. The government has established relevant regulations and policies to clarify the rights and responsibilities of community participation in management, providing a legal basis for community

comanagement. At the same time, the government also provides technical training, financial support and other means to help community residents improve their management capabilities and better participate in the daily management and supervision of the protected area. This policy and legal support not only stimulate the participation enthusiasm of community residents but also enhance their sense of responsibility and belonging. Under the community comanagement model, the natural resources of the protected area have been effectively protected, and the community economy has also been significantly improved, achieving a win-win situation between ecological protection and economic development. This experience shows that policy support and legal protection are important guarantees for promoting community participation in national park management and achieving sustainable development.

### *5.2 Community capacity and awareness enhancement*

From the successful cases of Yellowstone National Park and Maasai Mara National Reserve, we can deeply appreciate the importance of “community capacity and awareness enhancement” in promoting the sustainable development of national parks and nature reserves. Firstly, by establishing a close community participation mechanism, such as setting up advisory committees and organizing public meetings, not only does it enhance the sense of participation and belonging of community residents, but it also greatly improves their environmental awareness and protection capabilities. This shift from “bystanders” to “participants” enables community residents to actively engage in actions to protect natural resources and the ecological environment, forming a strong social force. Secondly, through educational guidance and public participation projects, such as combining ecotourism with educational activities, not only has environmental knowledge been popularized but also public enthusiasm for nature conservation has been stimulated, further consolidating the overall environmental awareness and action capabilities of the community.

In practice, the specific paths to enhance community capacity and awareness include establishing diversified cooperation mechanisms, promoting benefit sharing and strengthening education and training. On the one hand, by establishing a collaborative mechanism involving multiple parties such as the government, community, nongovernmental organizations and private sector, resources can be effectively integrated to jointly develop and implement management plans, ensuring a win-win situation for protection and development. On the other hand, emphasizing the principle of benefit sharing, community residents can benefit economically from conservation work through ecotourism, sustainable livelihood projects and other means, thereby stimulating their intrinsic motivation to participate in conservation. At the same time, strengthening environmental education and training, improving the environmental knowledge and skills of community residents, is the key to cultivating them as the backbone of nature conservation. Through the implementation of these measures, a strong and conscious community support system can be gradually built, laying a solid foundation for the sustainable development of national parks and nature reserves.

### *5.3 Economic incentives and diversified cooperation mechanisms*

Economic incentives and diverse cooperation mechanisms have shown strong driving force in promoting the sustainable development of national parks and nature reserves. Taking Yellowstone National Park as an example, this model not only ensures the effective protection of natural resources but also promotes the prosperity of community economy through the close combination of unified management and community participation. While playing a core management role, the National Park Administration actively introduces community forces and involves local residents in the planning, management and decision-making of the park through the establishment of advisory committees, public meetings and other forms. This two-way interaction not only enhances residents’ sense of belonging and responsibility, but also ensures the scientific and feasible nature of conservation policies. In addition, through the

“ecotourism + education” model, the park not only attracts a large number of tourists and enhances public environmental awareness but also creates abundant employment opportunities and injects new vitality into the community economy. This successful practice of economic incentives and diversified cooperation provides a blueprint for the governance of global nature reserves.

The comanagement innovation model of Uluru-Kata Tjuta National Park in Australia further confirms the key role of economic incentives and diverse cooperation mechanisms in promoting sustainable development of protected areas. This model emphasizes the establishment of participatory management and cooperation mechanisms, by organizing community meetings, training activities and other means to enhance residents’ awareness of nature conservation and stimulate their enthusiasm for participation. At the same time, emphasizing the sharing of benefits and the realization of sustainable livelihoods, the protected area has created employment opportunities and income sources for community residents through the development of ecotourism, effectively alleviating the contradiction between humans and nature. In addition, the protected area also encourages community residents to make rational use of natural resources under the premise of protection, achieving a win-win situation between ecological protection and economic development. This management model that deeply integrates economic incentives with diverse cooperation not only promotes effective management of protected areas but also significantly improves the economic situation and social relationships of local communities, providing strong support for building a beautiful vision of harmonious coexistence between humans and nature.

## 6. Conclusions and implications

In the context of global ecological protection and sustainable development, community support for the development of national parks has become a global issue. This article analyzes the successful experiences of foreign countries in balancing ecological protection and community development and explores the implications of these experiences for the construction of national parks in China. The practice of national park construction abroad has shown that community participation and support are important guarantees for achieving sustainable development of national parks. By establishing a comprehensive volunteer service system and franchising system, the United States has not only mobilized the enthusiasm of the public to participate but also promoted the coordinated development of national parks and communities. The “community co management” model in Australia emphasizes the core position of Indigenous peoples in national park management, which not only protects their cultural heritage but also promotes the economic development of the community. These experiences indicate that through institutional innovation and policy guidance, conflicts between national parks and communities can be effectively alleviated, achieving a win-win situation.

For China, the construction of national parks is still in its infancy and faces many challenges. Drawing on international experience, China should actively promote community participation in the construction and management of national parks, establish diversified ecological compensation mechanisms and safeguard the livelihood rights of community residents. At the same time, by implementing a refined franchise system, regulating economic activities within national parks, and ensuring a balance between ecological protection and economic development. In addition, exploring the protocol protection system and guiding the standardization of community recreation and nature education services are also important ways to improve the management level and public participation of national parks. Of course, in practice, China also needs to develop implementation plans tailored to its own national conditions and local conditions. For example, in the western region, rich ecological resources and unique ethnic culture can be relied upon to develop ecotourism and health care industries, promoting the diversified development of community economy; In the eastern region, we can learn from the UK’s “partnership” model and promote the construction and management of

national parks through multiparty cooperation between the government, communities and businesses.

In short, community support for the development of national parks is a complex and systematic project that requires joint efforts from multiple parties such as the government, communities, businesses and the public. By drawing on international experience and combining it with China's actual situation, we have reason to believe that the construction of national parks in China will achieve more significant results and make greater contributions to achieving ecological civilization and sustainable development goals. Meanwhile, the development of national parks is a long-term process that requires continuous exploration and effort to truly realize the beautiful vision of harmonious coexistence between humans and nature.

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