





Local community engagement in managing the marine heritage "A case study Ras Mohamed National Park, Egypt"

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Abstract

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Received: 4/8/2024 Accepted: 27/8/2024 Published: 13/9/2024 This study aims to identify the benefits and challenges facing the participation of local communities in the management of marine protected areas through application to the Ras Mohammed National Park (RMNP) in Egypt. Employing a qualitative research approach, semi-structured interviews were conducted with 15 persons from MPA and the local community, either through phone conversations or face-to-face. The findings indicate that engaging the local community is crucial for a positive environment in the context of MPA governance. Collaboration between the MPA agency and local stakeholders improves the protection of resources from negative exploitation. Also, the engagement of the local community in RMNP is still in the infant stage. The main obstacle identified is the absence of appropriate frameworks that would facilitate local community participation in park management.

Introduction

The term "MPA" designates a specific oceanic area that is legally protected and maintained to safeguard marine life and the ecosystems that sustain it, MPAs aim to protect biodiversity, sustainably manage fisheries, and preserve ecosystems, maintaining marine biodiversity and ecosystems is the primary goal of Marine Protected Areas (MPAs), an MPA's aims may be impacted by its location, biological background, and governing authority goals (*National Marine Protected Areas Center*, n.d.). However, one of the main objectives of MPAs is the conservation of biodiversity. MPAs restrict some human activities inside the designated region to save species, ecosystems, and the overall health of marine life (Fovargue et al., 2018). In fisheries management, several MPAs are established to preserve sustainable fisheries by providing a safe refuge for fish populations to grow and reproduce (Bode et al., 2016). MPAs contribute to the resilience of maritime ecosystems by serving as areas where natural processes

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can occur without significant human interference (Petterson et al., 2021). MPAs also typically serve as practical research laboratories and may help raise public awareness of the need for marine conservation (Ban et al., 2023). Additionally, MPAs may provide opportunities for low-impact recreational activities like Kayaking, Wildlife Watching, diving, and Snorkeling, therefore enhancing ties between people and marine environments. MPAs can aid in the adaptation to climate change by preserving habitats that store carbon, promoting resilient ecosystems, and providing refuge to species that may be harmed by climate-related changes (Andradi-Brown et al., 2023).

The responsibilities and goals of Marine Protected Areas (MPAs) may be adversely affected by several obstacles. The environmental, social, economic, and governance aspects frequently come together to create these issues (Arias et al., 2015; Burke & Selig, 2002). Conservation efforts may be hampered by illegal fishing within and around MPAs. Difficulties with compliance are a result of both insufficient resources for monitoring and insufficient enforcement of legislation. Marine ecosystems within MPAs may be impacted by climate change-related factors such as increasing sea temperatures, ocean acidification, and extreme weather events. The distribution of species may change, and habitat deterioration may result from these pressures (Schmidt et al., 2022). Too-small MPAs might not be able to adequately safeguard whole ecosystems or offer enough habitat for migratory species. Furthermore, the efficiency of conservation initiatives may be hampered by inadequate connection across MPAs (Fox et al., 2012). Securing sufficient funds for monitoring, enforcement, research, and community participation is an issue faced by many MPAs. Effective management strategy execution may be hampered by a lack of funding (Bohorquez et al., 2022). Inadequate knowledge of the species and maritime environments found in MPAs can make management more difficult. Evidence-based decision-making may be hampered by a lack of data on ecological processes, population dynamics, and biodiversity (Burdon et al., 2017). MPAs may have governance issues such as imprecise mandates, inadequate legal protections, and inadequate institutional strength. Conservation initiatives may be hampered by inefficient management strategies and collaboration (Jentoft et al., 2007). Inadequate surveillance capabilities and restricted access to cutting-edge monitoring tools can make it more difficult to implement MPA laws (Cope et al., 2022). Planning and administration of MPAs may encounter opposition and non-compliance if local people are not sufficiently involved or consulted. A key component of successful MPA management is community engagement (de Oliveira Júnior et al., 2021; Gaymer et al., 2014; Rahman et al., 2019).

Engagement of the community in the administration of Marine Protected Areas (MPAs) is essential to the accomplishment and longevity of conservation initiatives. There are several advantages to including local populations in MPA planning, decision-making, and permanent management (Yet et al., 2022). Local people frequently have traditional knowledge about animal behaviour, seasonal trends, and ecological relationships in maritime environments by adding to scientific data, incorporating this local knowledge improves MPA management efficacy (Thornton & Scheer, 2012). Participation in decision-making by local communities fosters a sense of ownership and responsibility for the MPA, this ownership encourages a dedication to safeguarding the marine ecosystem and its assets (Chirenje et al., 2013). Participating in local communities' aids in the preservation of customs and cultural values

related to maritime settings, it guarantees the preservation of cultural assets and its incorporation into conservation plans (Mydland & Grahn, 2012). The possibility of MPA laws being followed rises when communities are involved in monitoring and enforcement operations and they are frequently adaptable enough to change with the environment and dangers (Voyer et al., 2015). Local communities' active participation increases the likelihood of MPAs' long-term success and stability, sustainable management strategies that are in line with the goals and requirements of the community have a higher chance of sticking around (Rahman et al., 2019).

Several obstacles prevent the community from effectively participating in managing Marine Protected Areas (MPAs), which can compromise conservation efforts (Ojha et al., 2016). Numerous communities possess inadequate knowledge and comprehension of the biological significance of marine protected areas (MPAs), their function in preserving biodiversity, and the possible advantages of sustainable resource administration (Masud & Masud, 2019). Communities are diverse, and within a single community, different groups may have varying objectives, interests, and viewpoints regarding the management of MPAs. Managing these diverse interests can be challenging, especially when conflicts of interest arise between conservation objectives and the economic needs of the local population, particularly for those who rely on fishing or other resource-extractive activities (Hough, 1988). Communities may lack the abilities and information needed to take an active role in MPA management (de Oliveira Júnior et al., 2021). Legal recognition and rights related to MPA management may present difficulties for certain communities. Inadequate legal frameworks may restrict communities' capacity to constructively engage (Jabbar & Abelson, 2011). Decisions on the management of MPAs may be unduly influenced by other parties, such as governmental bodies, non-governmental organizations (NGOs), or business interests, which might marginalize community viewpoints, also, communities may place a higher priority on immediate financial gains than long-term environmental preservation objectives, especially in times of financial hardship (Ferse et al., 2010).

Numerous Marine Protected Areas (MPAs) can be found in Egypt, and they are essential to maintaining the nation's varied marine ecosystems and promoting sustainable fishing. These protected areas support the preservation of significant ecosystems, the development of ethical tourism, and the variety of marine life (Samy-Kamal et al., 2011). Egypt's earliest and most well-known national park is Ras Mohammed National Park, which is situated on the southernmost point of the Sinai Peninsula. It is well-known for its abundant marine life, lush coral reefs, and significant bird migratory paths. In addition to being a well-liked Snorkeling and diving spot, the park strives to preserve the distinctive marine and terrestrial ecosystems (Tawfik & Turner, 2013). It was founded in 1983 and, covers 480 km2, divided into two categories; coastal waters, including a section of the Gulf of Suez and the Gulf of Aqaba, which accounts for 70% of the total, and terrestrial regions, which accounts for 30%, and, the ecological systems of the coral reefs are a crucial component of the local economy (Paleczny et al., 2007). A nationwide workshop was held in January 2006 by the Nature Conservation Sector to assess the management efficiency of Egypt's protected area system and, a wide evaluation was carried out using a questionnaire, adhering to the principles of IUCN and the World Wildlife Fund's fast assessment technique that advised in the ensuing report that more thorough site assessments be conducted at the protected area level. Considering this, Ras Mohammed National Park underwent the development and use of a site-level approach under the Nature Conservation Sector Capacity Building Project (Fouda et al., 2006).

This study aims to assess the local community engagement in the management of marine heritage sites, and its role in the efficiency of the preservation of natural heritage by application to Ras Mohamed National Park (RMNP) in Egypt.

In pursuit of the study's objective, the research question was formulated as follows "In what way does the involvement of the local community impact the effectiveness of preserving natural heritage within the marine heritage site of Ras Mohamed National Park (RMNP) in Egypt?".

Materials and Methods

Population Sampling and Recruitment (Stakeholders)

The study's target respondents (managers and employees of MPA and the local community of Ras Mohamed) are two restricted groups. Therefore, the purposive technique and snowballing technique were adopted for sampling. The former was applied with the sample of MPA. As the local community is hard to reach, the snowballing technique is adopted. The MPA staff members who interviewed nominated some community members.

Semi Structure Interview Protocol

To achieve the research objectives, semi-structured interviews (n=15) were conducted with employees, local community members, and managers of the protected area of Ras Mohamed. We targeted the administrative bodies of RMPA either employees or managers, and local community members. We took into consideration several factors when choosing local people for interviews regarding the Ras Mohamed Marine Protected Area (RMPA) such as demographic diversity (age, gender, and occupation); stakeholder representation (fishermen and local business owners); community leadership and activism (community leaders and activists); length of residency; knowledge and expertise; active community members; and accessibility. Capturing a variety of viewpoints, experiences, and thoughts on the RMPA is our aim.

The interview was designed in line with (Bryman, 2004) and divided into two sections based on previous studies about the involvement of the local community in the management of the protected area. The first section includes information about the demographic profile of respondents; the second focuses on involving the local community in managing the protected area of Ras Mohamed. The interviews were conducted in the middle of September 2022, with each session typically lasting between thirty and forty-five minutes. The interviews were conducted in Arabic to facilitate communication with both the managers of the protected area and members of the local community. Subsequently, they were translated into English. They were carried out based on the availability of the respondents.

In total 10 interviews were conducted with local community members. 4 interviews were individual and 3 were group interviews (two respondents per group). A face-to-face interview was conducted solely with the local community and three managers, while two interviews with managers were conducted over the phone as some managers found it challenging to align interview schedules with their commitments; therefore, resorting to telephone interviews provides flexibility in planning, making it easier to identify suitable time slots for both the interviewer and the interviewee. It is worth noting that the implementation of the interviews was done in a manner that fully respected the respondents' time constraints and availability.

The primary inquiries directed at RMPA managers included the following:

- How are you, as a manager of an MPA, currently engaging with local communities?
- Top of Form
- What are the principal objectives that govern your community engagement initiatives?
- What specific challenges do you encounter in the process of community engagement?
- What guidance or advice would you, as an MPA manager, offer to others who are initiating community engagement efforts?

The primary inquiries directed at community members included the following:

- How do you, as a community member, engage with the MPA?
- What specific challenges do you face in your interactions with the MPA?
- Have you taken on the responsibility of encouraging other community members to get involved with the MPA?

Data Analysis

The interview transcript underwent qualitative content analysis, a technique widely employed to categorize and identify themes within the data (Hsieh & Shannon, 2005)

The process of analysing interview data encompassed several crucial steps, commencing with the transcription of audio recordings into written text. This initial step is imperative for systematic data handling. Subsequently, the data were coded by recognizing recurring topics and assigning codes to specific text segments representing meaningful concepts or ideas. NVIVO9 was employed for coding, providing a method for collating data (Bazeley, 2007)

Following coding, data summarization was undertaken to condense information under each code, reducing the data volume while retaining key insights. A table was employed for a visual representation of the coded data. The data were then interpreted within the context of the research objectives. The final step involved presenting the key findings of the study.

Results

The Respondents' Profile

Fifteen persons were interviewed, consisting of 5 from MPA and 10 from the local community. Table 1 indicates the demographic profile of interviewers. Most respondents were male (86.66%) while female respondents were 13.34 % (only two). The age of respondents ranged from 25 to 58 years old. Educational backgrounds varied, with 26.66% holding a bachelor's degree, 20 % completing secondary school, 26.66 % attending preparatory school, and 26.66 being illiterate.

Regarding the employment role in MPA, 40% of respondents were managers while 60% were in operational positions. For the local community, 60% identified as fishermen, and the remaining (40%) were residents and local business owners. All the respondents of MPA had less than 10 years of experience in their employment. (Table 1)

Code **Position Status** Year of **Education** Mode of Sex Age Experience level Interview RMNPM1 45 Bachelor Telephone Director Management 3 Male RMNPM2 Superintendent Operation 5 Male 48 Bachelor Face-to-Face RMNPM3 Policy Management 8 Male 52 Bachelor Telephone Coordinator RMNPM4 3 44 Sanctuary Operation Male High school Face-to-Face Superintendent RMNPM5 Park Service Operation 4 Male 53 Illiterate Face-to-Face RMNPLC1 Fisherman 10 Male 25 Illiterate Face-to-Face RMNPLC2 Fisherman 27 Face-to-Face 14 Male primary RMNPLC3 Fisherman 15 33 Illiterate Face-to-Face Male RMNPLC4 Fisherman 15 Male 40 primary Face-to-Face Fisherman 25 42 Face-to-Face RMNPLC5 Male primary Face-to-Face RMNPLC6 Fisherman Male 50 34 primary RMNPLC7 Resident 30 30 High school Face-to-Face Male RMNPLC8 Resident 42 Illiterate Face-to-Face 42 Female RMNPLC9 Female Face-to-Face local business 46 46 Bachelor owner RMNPLC10 Resident 58 Male 58 High school Face-to-Face

Table 1: The Profile of Respondents

Benefits Arising from Community engagement for Locals and MPAs

Engaging the local community is crucial for a positive environment in the context of MPA governance. Collaboration between the MPA agency and local stakeholders improves the protection of resources from negative exploitation. All respondents (Nu = 15) believe that the mutual benefits of engaging the local community in RMNP, for example, "Engaging local community could facilitate the implementation of conservation strategies, and at the same time could increase the economic benefits by reducing the negative effect of visitors and other stakeholders" (RMNPM1). Comprehensive responsibilities for Management bodies and the local communities in preserving marine heritage have been reported by all respondents. "I need to preserve this place for the future of my children; it is the only financial source. I care about keeping clean, preserving its environment" (RMNPLC8).

Respondents indicated a variety of benefits of engaging the local community, these include reducing the conflicts between different stakeholders (RMNPM1, 3); management strategies efficiency (4 of management staff and 4 of local communities; the latter usually used the expression "we could help governments"; reducing the workload of MPA (RMPNM 4); increasing the income of local community (100% of the local community).

Obstacle of Engaging the Local Community in RMPA Management

The absence of community engagement can result in many drawbacks. All respondents highlight the word "conflict" to describe the main challenge of MPA governance. "Balancing the needs and expectations of different parties in the community while adhering to legal regulations is a major challenge" (RMNP1). "Some local community members regarded MPA as the invaders and were unwilling to cooperate with MPA" (RMNPM4). They just seemed to put obstacles in front of us." (RMNPLC10).

Lack of communication was highlighted as a barrier that hinders community engagement. The mission of MPA and its objective are missing in the local community. "In the beginning, we were unsure of what they did and felt like they were preventing us from practicing our habits in RMNP" (RMNPLC6). MPA staff affirmed that "It is difficult to deliver the value of MPA and that we are working for them but with different perspectives" (RMNPLC1).

Based on interviews with the locals, one of the primary factors hindering effective communication at the MPA is the utilization of specialized language by its staff members. 80% of the respondents acknowledged that they had trouble in comprehending the scientific expressions used by the staff to explain the significance of protected areas and their objectives.

The involvement of local communities in the management of marine heritage sites is essential to ensure sustainable conservation practices. However, a fundamental barrier to community engagement is the lack of awareness among the local populace. Clear and specific information about regulations, the nature of the site, and the benefits of Marine Protected Areas (MPAs) are imperative to overcome this impediment.

"The locals didn't recognise that they are in a protected area that has its particular characteristics" (RMNPM4, 5). The locals affirmed that: "We have been here for decades, and we inherited it from our ancestors and suddenly they told us that it is a protected area, and it is prohibited to practice our activities".

The precise positioning of Marine Protected Areas (MPAs) assumes a critical role for local communities, as opposed to terrestrial borders that can be easily identified, marine borders are extensively accessible. The location of MPAs is of paramount importance to the locals, as it directly affects their economic and social well-being. 60% of local communities (RMNPLC1-6) proposed questions about where exactly the protected area in the sea ".... could anyone tell us where the marine protected area is".

Insufficient finance reduces the effectiveness of local community engagement. "Insufficient funding and regulations that control expenditure hinders us from moving freely in community engagement and motivate them" (RMNPM1, 3). "The funding is not only a means of motivation but also to establish a base for community engagement. We need funding to prepare training programs, awareness programs, and other facilities as regular meetings". According to 80% of the staff at MPA, it is recommended that non-profit organizations and other governmental bodies engage in collaborative efforts with MPA to provide funding incentives that would encourage the participation of local communities.

The channel of communication with the local community in NPRS is very restricted. Social media, which is easy to reach everywhere, has a minimum impact on the local community of RMNP. The majority are illiterate and prefer traditional channels such as meetings "I prefer to meet them and discuss what are in mind" (RMNPLC9). The adoption of new technology is restricted to specific classes, especially youth and educated people: "If they need to contact us via smartphone and applications, we are ready" (RNNPLC1, 2, 9, 10).

Community Equitable Representation

The selection of community representatives is a crucial matter for both the residents and RMNP. The locals must choose leaders who can effectively communicate their concerns and interests to the authorities. According to RMNPM1, "finding representatives who can balance the needs and expectations of the locals with the mission of RMNP is a challenging task". The locals denote that "some of us work with them but they need to speak with us more and more" (RMNPLC 9).

The Framework of Community Engagement

The framework of community engagement is difficult to establish: "I have the motivation to be involved with the Staff of RMNP but what are the forms of engagement?" (RMPNLC2). Additionally, concerns may arise regarding the degree to which their opinions will be respected and taken into consideration "Will they listen to me and respect my opinion regardless of my education level and gender" (RMNPLC 2, 9). Participation in MPA activities may require individuals to forgo other everyday pursuits that they value. Many volunteers have commitments to various organizations in addition to their distinct professional and personal lives. "What are the benefits of engagement? As we fight to earn a livelihood, it is important to understand how our engagement can personally and locally impact us." (RMNPLC 4, 10).

Local Community Preconceptions

Many people have a negative perception of Marine Protected Areas (MPAs) because of their association with government entities. This mistrust can lead to hostility towards MPAs and the spread of misinformation. Unfortunately, community members may have unrealistic or incorrect perceptions about MPA strategies and management operations, and the responsibilities and restrictions related to MPA management, such as concerns over livelihoods and economic sustainability, arise from the local populations' perception that the RMPA is placing limitations on their customary fishing methods in the research region. Additionally, limits on access to certain RMPA regions are seen adversely, particularly if nearby people have traditionally depended on these areas for the collection of marine resources such as fish, shellfish, and other resources. As well as The RMPA communities also view MPAs as having a detrimental effect on the local economy because the stringent rules deter visitors or restrict activities that bring in money since they rely largely on tourism.

In some cases, individuals may unintentionally spread false information about the protected region, such as believing that MPAs would not benefit the local economy. Social media has only made this problem worse. Sometimes, incorrect information is simply due to a lack of knowledge on the subject.

Discussion

The local community plays a crucial role in successfully achieving the goals of the MPA and ensuring the preservation of the marine environment and its cultural heritage. This finding is in line with previous research that emphasizes the indispensable contribution of the local community to the sustainability of cultural heritage (Esichaikul & Chansawang, 2022; Y. Li & Hunter, 2015). Motivation plays a crucial role in engaging local communities in the conservation of marine heritage resources (Rasoolimanesh et al., 2017; Wang, 2019). Our study reveals that the locals are not only driven to protect the marine heritage resources for economic reasons but also for their emotional bonds with the area. Regardless of age and education level, all respondents from the local community were motivated to conserve the place of their ancestors and to collaborate with the MPA to achieve their objectives. The RMNP staffs are also aware of the significance of involving the community in management, which can lead to achieving their goals with less effort (Kelleher, 1999; Khater, 2020; Pomeroy et al., 2015).

Sharing of management tasks is a vital benefit of integrating the local community into the decision-making as they decrease the workload (Garaway & Esteban, 2003) and construct the first line of protection against the irrational exploitation of marine heritage resources in RMNP.

The MPA aims to boost local income and tourism revenue. The locals feel disadvantaged because they have limited control over the tourism activity and all the activities are governed by the government entities. The findings concur with previous research findings which highlighted the importance of sharing revenue to motivate local engagement (J. Li et al., 2020; Rasoolimanesh et al., 2017; Roberts & Hawkins, 2000). Sharing revenue decreases the conflict between the different stakeholders and creates a positive work environment. This could help transform MPA staff from being seen as "invaders" to "partners".

The local community needs to understand the significance of Ras Mohamed as a marine protected area. By gaining a deeper appreciation of its unique features and global significance, individuals can better value marine conservation and their role in supporting it. This conclusion aligns with previous research (Jaafar et al., 2015; Rasoolimanesh et al., 2017). To reduce conflict and promote effective community engagement, it is essential, therefore, to offer comprehensive awareness programs that highlight the importance of MPAs and clarify community rights, obligations, and duties (Jack-Kadioglu et al., 2020). Such programs can also help dispel rumours and address misconceptions about MPAs (Basurto et al., 2016).

According to the types of community participation, the local community of RMNP could be described as an induced community (Zhang et al., 2013). They are motivated and have a voice in the MPA management process, but they have no actual power in decision-making which discourages them from effectively participating in the MPA process. They need to feel that they are part of the whole process of management. They have an effective voice equal to their time and efforts.

To enhance communication, it is recommended that the staff simplify their language and make it comprehensible to a broader audience. This would facilitate better understanding and engagement with stakeholders, leading to improved communication and collaboration.

Conclusions

This study aimed to evaluate the involvement of the local community in Ras Mohamed National Park. The research adopted a qualitative approach, using a semi-structured interview designed based on previous literature reviews. The sample size covered 15 persons, comprising 5 MPA staff and 10 local community members. The sample size was deemed to be appropriate for several reasons including the study's aim and the fact that RMNP is a protected area with two engines for heritage conservation - the administration entity and the local community. The members of the local community were specifically chosen to represent the community's diverse social classes, which primarily comprised residents and fishermen.

The findings of the study show that the involvement of the local community in Ras Mohamed is still inadequate to achieve the goals of the Marine Protected Area (MPA) and the expectations of the community. Even though both the MPA entity and the local community of RMNP are aware of the mutual benefits of their collaboration, there is a lack of communication channels between them. The local community has a minor role in managing RMNP, which creates conflict. Additionally, the community feels that their voice does not impact decision-making. The study suggests that the MPA staff approach may be inappropriate or ineffective as the mission, objectives, and strategies are unclear to the local community.

There have been limited investigations into the involvement of local communities in protected marine areas alongside MPA entities. Therefore, this study contributes to the extended knowledge of local communities' engagement in heritage management sites. However, it should be noted that this study was conducted in Ras Mohamed National Park in Egypt. Hence, further research should be conducted in other marine protected areas, both in developed and developing countries, to generalize the findings.

For practical contributions, this study alludes some points including:

To ensure that the MPA authority's mission, objectives, and strategies are clearly understood, comprehensive training programs should be arranged. Additionally, guiding local communities on how to actively participate in marine heritage conservation and how to optimize the utilization of marine resources is essential. This guidance should be provided in simple language that is appropriate for the education level and social class of the local community.

For the RMNP to have a sustainable future, involving the local community in every decision-making step is critical. As such, creating effective communication channels is of utmost importance. The local community needs to be heard to effect change.

It is essential to create appropriate policies for managing financial matters and distributing revenue. The MPA budget must provide resources for coordinating a range of initiatives, such as activities, events, training sessions, and awareness campaigns for the local communities. Additionally, the revenue should be distributed fairly among different stakeholders to maintain balance and motivate the local community to engage in administrative endeavours.

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Disclosure statement

The authors report there are no competing interests to declare

Data Availability

The datasets generated and/or analysed during the current study are available from the corresponding author upon reasonable request.

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إشراك المجتمع المحلي في إدارة التراث البحري: دراسة حالة حديقة رأس محمد الوطنية في مصر

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ملخص البحث:

تهدف هذه الدراسة إلى تحديد الغوائد والتحديات التي تواجه مشاركة المجتمعات المحلية في إدارة المناطق البحرية المحمية، من خلال تطبيقها على حديقة رأس محمد الوطنية في مصر. اعتمدت الدراسة على نهج البحث النوعي، حيث تم إجراء مقابلات شبه منظمة مع ١٥ شخصًا من إدارة المنطقة البحرية المحمية والمجتمع المحلي، إما عبر الهاتف أو وجهًا لوجه. تشير النتائج إلى أن اشراك المجتمع المحلي أمر حاسم لخلق بيئة إيجابية في سياق حوكمة المناطق البحرية المحمية. يعزز التعاون بين وكالة المنطقة البحرية المحمية وأصحاب المصلحة المحليين في حماية الموارد من الاستغلال السلبي. ومع ذلك، لا تزال مشاركة المجتمع المحلي في حديقة رأس محمد الوطنية في مراحلها الأولية. وتم التوصل الى أن العائق الرئيسي هو غياب الأطر المناسبة التي تسهل مشاركة المجتمع المحلي في إدارة الحديقة. يُظهر البحث أن إشراك المجتمعات المحلية يمكن أن يؤدي إلى تحسين إدارة الموارد الطبيعية وحمايتها. يتطلب هذا النهج تطوير استراتيجيات وآليات فعالة لتعزيز التعاون والتواصل بين الجهات المعنية، بالإضافة إلى تقديم الدعم والتدريب المناسب للمجتمعات المحلية. كما ان التغلب على التحديات المؤسسية والتنظيمية يعتبر خطوة أساسية لضمان نجاح مشاركة المجتمع المحلي في إدارة المناطق البحرية المحمية وتحقيق الفوائد المرجوة.

الكلمات المفتاحية: المجتمعات المحلية، الحدائق، المشاركة، البحري، رأس محمد، التراث، مصر.