

## **Mangroves and Coastal Regulation Zone Act[CRZ]: A Study of ‘Mangrove Park ‘in Pappinissery Panchayat, Kannur**

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DOI: 10.46609/IJSSER.2024.v09i11.023 URL: <https://doi.org/10.46609/IJSSER.2024.v09i11.023>

Received: 14 October 2024 / Accepted: 16 November 2024 / Published: 22 November 2024

### **ABSTRACT**

*Environmental studies deal with every issue that affects a living organism. The society has been very late to understand the environmental problems. There are so many environmental movements organized for attaining environmental justice. While agrarian or working-class movements have a long history, environmental or ecological movements only acquired international notice in the latter half of the twentieth century. There are many environmental movements in India like Chipko movement, Appiko movement, Narmada Bachao Andolan etc. it's importance to analyze and measure the relevance of the mangrove protection. The mangroves provide a number of ecological services and it also plays a major role in protection coastal areas from erosion, tidal storms and tsunami etc. All the mudflats, the marshy surroundings and the mangrove ecosystem have been classified as CRZ-1. These are considered ecologically sensitive areas. Pappinissery mangrove movement one of the important examples for the environment protection law, because the mangrove park violates the CRZ-1. Environmental movements are one of the most ineffective examples of the collective actions of a significant social group. The protection and acknowledgement of constitutional and democratic rights. Which are not specified by legislation, but stem from an important aspect of the subaltern masses daily lives, such as control over resources. These movements are concerned with the rights of indigenous peoples to retain their culture, environmental protection, and the maintenance of ecological equilibrium, all of which have a substantial impact on human lives.*

**Keywords:** Mangroves, Social Movements, Coastal Regulation Zone Act, Pappinissery Mangrove Park, KSSP, Urban development, Eco-tourism society.

## **Introduction**

This study attempts to analyse mangrove movement and CRZ-1 as a study on the relevance of mangrove protection. The study also tries to emphasize the importance of preserving the mangrove system. Ancient Rome was one of the first major historical events to be explained by human environmental variables, specifically the poisoning of a considerable portion of the population with lead. Deforestation the Roman Empire crumbled due to environmental neglect. Hughes, who lived in Greece and Rome and was influenced by them. Provides a detailed look at the impact of humans and their technologies on the Mediterranean basin's ecosystem. The Maya civilization harnessed the environment to their advantage, and they learnt how to survive in severe situations. In India, Kautilya's Arthashastra, published during the Mauryan period, emphasized the importance of forest governance. Ashoka went on to articulate his ideas on environmental and biological variety through his pillar edicts.

Today our society facing great issues in environmental problems. Nature is the mother of men. Human always depend on the nature for the survival. All such developments have case destruction to our forest, water supply, rivers, hills, mangroves etc. Indian constitution says the importance of environment and its protection. Article 48(A) of part 5 of amended constitution read: The state shall Endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country. Article 51A(g) imposed additional environmental mandates on the Indian states. Other Indian laws from recent history includes the water {prevention and control of pollution}. Act of 1974, the forest{conservation} act of 1980, and the Air {prevention and control of pollution} Act of 1981. In 1985, Indian Government created the ministry of environment and forest. Thus, ministry is the central administrative organ in India or regulating and ensuring environmental protection.

Citizens must learn to act as watchdogs to protect their own environment from the consequence of unsustainable project around them. Well informed citizens not only have right but also had a duty to perform in this regard. They can join action groups to develop lobby to strengthen the environment. Environmental movement in the country the state town or village.

These movements also represent a broader understanding of economics and politics. These movements pursuit of economic justice does not imply more equitable resource allocation. however, it encompasses a broader perspective, such as improving the quality of life through recognition of people's rights to natural resources and their participation in decision making. Scholars focused on the environment after the 1972 United Nations Conference on human environment. By the 1980s, the green movement had spread worldwide, including a variety of countries, including India. Environmental or ecological movements only acquired global prominence in the latter half of the twentieth century.

This study investigates” Mangroves and Coastal Regulation Zone Act: A Study of ‘Mangrove Park’ in Pappinissery Panchayat, Kannur. Eco-tourism was established in September 2008 by communist party, they thought about a mangrove park. In 2009, December, people cooperated to buy 8.5 hecters of land for this park. The park was inaugurated in April 10. The political struggles had been started as the part of CRZ-1 law for invading the river banks. As per the coastal regulation zone of the nature protection law of 1986, mangroves forest is divided into 38 part on the basis of the protection threat. As the part of this, the mangrove forests which are at the edge of destruction were construction. The UDF, Muslim League, KSSP also against the violation of CRZ-1.

Coastal regulation zone is notified by the Government of India in 1991, for the first time under these coastal areas have been classified as CRZ-1, CRZ-2, CRZ-3, CRZ-4. CRZ-1 these are ecologically sensitive area. These are essential in maintaining the eco-system of the coast. All the mudflats, the marshy surroundings and the mangrove eco-system have been classified as CRZ-1.

The Pappinissery mangrove park violated the CRZ-1 Act. The park was contribution of eco-tourism society. This society is under the control of CPM[M]. The park was established by CPIM, in the name of the protection of mangroves, but this was destruction of mangroves. The panchayat and CPI[M] cooperated for the development of the park. The panchayat gets economic benefits from the park visitors while parking their vehicles. The environmentalists observed that, there is an unholy nexus between the park establishers and land-mafia. So, the park is the greatest example of the destruction of mangroves.

## **OBJECTIVES**

- To explore about mangrove movement and Coastal Regulation Act in general.
- To examine how the coastal regulation act is being violated with special reference to the case of Pappinissery Mangrove park.
- To evaluate KSSP mobilized people to draw their attention towards the violation of CRZ-1 Act that has happened in Pappinissery panchayat.

## **HYPOTHESIS**

- Vision behind pappinissey Magrove Park, affected by political interference.
- Pappinissery panchayat gave permission illegally for setting up the Mangrove Park in panchayat without consulting the Coastal Zone Management Authority.

## **METHODOLOGY**

The study is intended to engage with mangrove and Coastal Regulation zone Act in Pappinissery. Both qualitative and quantitative methods are used for collecting primary and secondary data. Secondary data is collected through books, journals like Mathrubhumi, frontline. The primary data for the study is gathered using questionnaire and interview. Questionnaire was structured on hypothesis. Pappinissery panchayat was opted as research universe owing to its presence of mangrove forest. The panchayat consists of 20 wards. Out of 20 wards, 5 wards were selected for taking the sample population using lottery method after numbering the wards. For the convenience of the research 50 is taken sample population. 10 voters, each from 5 wards adjacent mangrove using.

### **1. ECOLOGICAL SIGNIFICANCE OF MANGROVES**

Mangroves are tropical plants that thrive in loose, damp soils, saline water, and are occasionally flooded by tides. Climate, salt water, tidal fluctuation, and soil type all appear to have an impact on mangrove distribution. There are around 50 species of mangroves found around the world. Mangrove ecosystems are natural capital that can produce a diverse range of products and services for coastal environments, people, and society as a whole. Some of these outputs, such as lumber, are freely traded on formal markets. These markets determine value through trade and quality in terms of price. Mangroves are crucial for aquatic life and provide habitat for numerous fish species. Mangroves in lobo, Batangas, designated as a “eco-park” for local pleasure and nature conservation.

Mangroves’ ecological usefulness has been qualitatively documented and recognized in the majority of tropical countries. However, there is little quantitative scientific evidence to support this claim. Major ecological significance of mangroves is following:

- Marine fisheries
- Wildlife habitat
- Improving coastal water quality
- Endangered mangrove coastlines and human development

### **2. COASTAL REGULATION ZONE ACT: MANGROVE PROTECTION**

The Ministry of Environment and Forests [MOEF] issued the first Coastal Zone notification in February 1991 under the section 3 of India’s Environment protection Act of 1986 to regulate activities in coastal area. The notification put restrictions on the establishment and expansion of industries, processing plants, and other facilities in the CRZ. The coastal areas are classified as CRZ-1, CRZ-2, CRZ-3, CRZ-4.

CRZ-1: These are ecologically sensitive areas that are critical to the maintenance of the coastal ecosystems. They are between the low and high tide lines. Exploration for natural gas and salt extraction is permitted.

CRZ-2: These are urban areas located along the seashore. The floor space index norms were unfrozen in accordance with the coastal regulation zone notification 2018.

CRZ-3: Rural and urban areas that fall outside of 1 and this zone allows just limited agricultural operations and some public services.

CRZ-4: This is located in the aquatic area up to the territorial limits. Fishing and other related activities are authorized in this zone. No solid garbage should be dumped in this area. This zone has been altered since 1991.

The Government of India notification and Supreme court decision the Kerala Government prepared the coastal zone management plan. Because the unique characteristics and conditions of this state. Due to limited land availability and high population density, an amendment was passed requiring the distance from the HTL along creeks, rivers, and backwaters to be retained at 100 meters or the width of the creek, river, or backwater, whichever is less for regulatory purposes. All mudflats, marshy areas, and the mangrove ecology have been designated as CRZ-1. Reclamation is not permitted, nor is any construction on reclaimed ground after February 1991. Dredging is permitted, but the land created as a result of dumping dredged materials should not be used for development purposes. no coastal roads or railways are permitted in CRZ-1. With this law in place, the state Government and local Governments are required to follow the standards when granting approval for any developmental initiatives under their jurisdiction. Additionally, the state administration and union territories must implement and monitor the entire processes. A state level committee has been formed in each state to monitor the various processes and address issues.

The CRZ notification, 2011 clearly mentions the following within the category of CRZ-1 includes, ecologically vulnerable regions and geomorphologic elements that contribute to the coast's integrity. Mangroves: if the mangrove area exceeds 1000 square meters, a 50-meter buffer zone must be established.

The activities permitted in CRZ-1 A under the notification are those permitted by the 1991 notification, as updated from time to time. These refer to the following

- No new construction shall be permitted in CRZ-1 except:
- Projects relating to the department of Atomic Energy.
- Pipelines, conveying systems including transmission lines

- Facilities that are essential for activities permissible under CRZ-1.
- Installation of weather radar for monitoring of cyclones movement and protection by the Indian Meteorological Department.
- Construction of trans-harbor sea link and roads stilts or pillars without affecting the tidal flow of water, between High Tide Line and Low Tide Line.

Between Low Tide Line and High Tide Line in areas which are not ecologically sensitive, the following may be permitted.

- Exploration and extraction of natural gas.
- Construction of dispensaries, school, public rain shelter, community toilets, bridges, roads, jetties, water supply, drainage sewerage which are required to meet the needs of traditional inhabitants living within the biosphere reserves after obtaining approval from concerned Coastal Management Authority.
- Construction of trans-harbor sea links, roads stilts or pillars without affecting the tidal flow of water.

In an affidavit filed with the supreme court, the state administration conceded that 27,735 cases of coastal regulation zone infractions had been registered across Kerala. Coastal Regulation Zone violations are pending in the state, but as the nodal body for investigating such violations, Kerala Coastal Zone Management Authority lacks the teeth to take strict punishment. Recently, the scientific community has criticized the findings. It would further undermine the implementation process. A Coastal Regulation Zone violation case in a mangrove forest at the Ayiramthengu fish farm complex in Kollam district has been felled and hidden with a thick layer of sand in recent years. The irony is that these mangroves were destroyed to build a Perl spot hatchery under the Kuttanad package, despite the fact that mangrove forests are natural spawning sites for pearl spots. The destruction was carried out by the fisheries department. Earthmovers were employed to plough down and bury the mangroves. More than 50 mangroves, representing ten species, were destroyed. Ayiramthengu is a significant mangrove belt in the southern portion of the state, and a regeneration initiated when the mangrove was damaged. Following the rejuvenation campaign, the belt regained part of its former grandeur and became a home for migratory birds and otters. A naturally growing rich mangrove forest along both sides of the railway causeway through the Paravur lake between Mayyanad and Paravur railway stations have been given for clearing the mangrove forest which stands in a coastal regulatory zone. Construction of roads and bridges for Goshree Island Development Project in Ernakulam. Kerala Cricket Association [KCA] suggested building an international cricket stadium on 9.3 hectares of land in Edakochi, near Cochin corporation. The area has a high concentration of *Avicennia* sp., a type of mangrove that removes salt from saline water and deposits it on its leaves, lowering salinity.

KCA has started the preparatory task of clearing mangrove ecosystems in the field. However, with the help of environmental groups and other activists, the court intervened in the matter, and the work was eventually withheld following an order from the Union Ministry of Environment and Forests [MOEF]. This conflict has yet to be resolved. Around 42% mangroves in the ecologically vulnerable Puthuvype region in Ernakulam district have perished over the last two decades, mostly due to unmanaged human involvement, including as large -scale construction and land-filling for urban development.

The mangrove destruction was mostly for alternative development activities, including national projects, residential and commercial complexes, shrimp/fish ponds, roads and railroad lines. Historically, 90% of mangroves in Kerala were destroyed for paddy farming, coconut orchards, or land reclamation.

### **3. MANGROVE PARK AND CRZ-1 VIOLATION IN PAPPINISSERY**

Kannur is known as the “capital mangroves” in Kerala. With around 700sq km mangrove forest. Kannur district has the largest area of private(756ha) and state forest(348ha). This study is conducted based on Pappinisseri panchayat a small village in Thaliparaba Taluk in Kannur district.

Eco-tourism society was established in September 2008 by communist party, they think about a mangrove park. In 2009 December, people co-operated to buy 8.5 hectares of land for this park. This park was designed by Madhukumar. Media renamed this park as KANDAL PARK. This park was inaugurated April, 10, amidst controversy over the allegation by the United Democratic Front (UDF) that the eco-tourism project is a pretext for the Communist Party of India (Marxist) to grab land in the area. The park being set up by the CPI(M)- controlled pappinissery Eco-tourism society would be inaugurated by film actor Suresh Gopi. the project, estimated to cost Rs.5 crore, was being developed on 4.85 hectares of mangrove-rich land purchased by the society and processed under lease from the panchayat. The panchayat exercised its discretionary powers by allowing the society to build a boat jetty on paramboke land and a wooden bridge across a stream.

The park, located seven kilometers north of here, will offer services such as a recreation center, health club, tour operation, indigenous medicine center, catering center, water sports, and river cruises, huts, and farm Agri-horticulture models, according to society officials. The community has already spent RS 1 crore on the first phase of the project. The park’s features included boats, a watch tower, a fish and crab farm, a bird observation center, a library on ecosystems, culture and marine oceanography and an artist’s colony where visitors could learn about local culture and traditions. The UDF held a protect dharma at the ecotourism site, claiming that the project

was an attempt by the CPI(M) to encroach on the mangrove forest region. The political fight began with CRZ-1 invasion of the riverbanks. According to the coastal regulation zone of the environmental protection law of 1986, mangrove forests are separated into 38 parts based on the protection hazard. The mangrove forest, which was on the verge of destruction, was given construction. The high court heard this Pappinissery mangrove park case and granted authority for mangrove growth and study. Numerous regional leaders spearheaded this effort. Although they require such a forest for their fishing livelihood, people are not genuinely opposed to this movement.

Kerala Shastra Sahithya Parishad (KSSP) Directly involved in this issue, but they were also against. They drew attention to the fact that, in flagrant disregard for CRZ-1 norm, a road with a width of five to eight meters was built inside the park using lateritious and soil that was brought in from outside. This park is opposed by another regional party. This movement is inspired by many environmental movements in India. The ecotourism society created the pappinisseri mangrove park. Ecotourism has been expanding quickly in recent decades, yet even though it can have beneficial effects on the environment, if done improperly, it can be just as harmful as mass tourism. Ecotourism initiatives, which are usually found in pristine, delicate ecosystems, run the risk of making people want the very natural resources that they rely on. Ecotourism is a new concept in tourism. It is deliberate travel to natural regions to learn about the environment's natural history and culture, being careful not to compromise the ecosystems integrity while creating economic opportunities that benefit the local population through the preservation of natural resources. So pappinisseri ecotourism is not match to real ecotourism because, the park was used plastic materials. It is not ecologically sustainable.

Violation of coastal regulation zone notification -the orders of the Honorable Supreme court, 1991 by Pappinissery ecotourism society, Kannur the orders of the Honorable Supreme court in special leave to appeal(civil) No(s).24857 of 2010 filled by Union of India Vs Pappinissery Ecotourism society and ors-regarding. Since such building or activities cannot be carried out in the CRZ-1 area, the information in the brochure is deceptive to the public, hence M/s pappinissery ecotourism society will withdrew it immediately. The organization will widely publicize the brochure's withdrawal in the local newspapers. According to the group, there is widespread solid waste dumping in the site's mangrove sections. City and town garbage dumping is prohibited by the 1991 coastal zone notification. The KCZMA will make sure that the aforementioned is followed, and a plan of action in this regard will be presented to the minister.

Due to a blatant violation of CRZ-1 regulations, the park is closed. These ecologically vulnerable areas, known as CRZ-1, are crucial to preserving the coastal ecosystem. The marshy environment, the mangrove ecology, and all of the mudflats have been designated as CRZ-1.



Regardless of the creek's width, a 50 -meter buffer zone will be kept around it. The river and backwater are less than 50 meters. Construction is not allowed on recovered ground after February 1991, nor is reclamation allowed. Following its reopening on April 4, 2010, the park has been embroiled in controversy ever since. Senior CPI[M] leaders, including E.P. Jayarajan, a member of the central committee, and joyful party workers attended the event. The park was reopened after the high court granted a stay order against the union ministry's directive to close the park due to a blatant violation of coastal regulation rules. The park was established on a 485-hectare ecologically fragile mangrove area near the Valapattanam bridge, near the national highway. Supreme court in the case of Union of India vs. Pappinissery Eco Tourism Society and others, special permission to appeal no. 24857 of 2010. Considering the written submissions, additional information provided by the society, the report and additional information submitted by KCZMA. The report of Dr.S.K Susarla, and the conclusions derived from the information above, in accordance with rule 4(4) of the environmental protection rules, 1986, it is determined that M/s Pappinissery ecotourism society has violated the provision of the CRZ notification 1991 and approval comprehensive zoning map process(CZMP) of Kerala dated 27.09.1996 by destroying mangroves, constructing in the CRZ-1, affecting the sensitive flora and fauna, and altering the natural flow of the tidal waters of the area. By constructing and operating the mangrove park.

When the Congress and Indian Union Muslim League and their affiliates took up the matter, the opposition to the mangrove theme park- which had been first voiced by local environmental groups-took on a political dimension. The ecotourism society had previously declared that it would scrupulously follow the high court's ruling prohibiting commercial activity in the park. After receiving a copy of the Union Ministry of Environment and Forest from the State Coastal Zone Management Authority, the Pappinissery Ecotourism Society shut down their mangrove theme park. After Chief Minister V.S. Achuthanathan stated in the Assembly that the authority had already requested the District Collector to act to halt the park's operations, the district administration served the order on the CPI(M) controlled society. Union Minister of the State for Environment and Forests Jairam Ramesh claimed that the park was a blatant violation of the law and that orders had been given to cease operations, putting the CPI(M) and UDF on a collision path over it. The NGO Kerala Sashtra Sahithya Parishad (KSSP) directly involved in this issue, but they were also against. They say a road with a width ranging from five to eight meters was constructed with the park using laterites and soil brought from outside, in blatant violation of the rule of CRZ-1. They said that there were failures on the part of the Pappinissery Grama Panchayat while granting sanction to start the theme park. They demanded that the Government take over the mangrove areas on either side of the river.

**4. RESULTS AN DISCUSSIONS**

Kerala has a significant marine fisheries sector, an exclusive economic zone [EEZ] of 218536 km<sup>2</sup>, which has long been an important source of occupation and livelihood for the coastal population of the state.

**DISTRICT WISE DISTRIBUTION OF A COASTAL LINE OF KERALA**

SL.NO	DISTRICT	LENGTH OF COAST LINE (in Km)	PERCENTAGE OF TOTAL
1	Thiruvananthapuram	78	13.2
2	Kollam	37	6.3
3	Alappuzha	82	13.9
4	Ernakulam	46	7.8
5	Thrissur	54	9.2
6	Malappuram	70	11.9
7	Kozhikode	71	12
8	Kannur	82	13.9
9	Kasaragod	70	11.9
Total		590	100

Source: marine fisheries statistics 2015, government of Kerala

This study is conducted based on Pappinissery panchayat a small village in Thaliparaba taluk in Kannur district. Mangrove forests are very frequent in this area. The questionnaire was structured and given to the respondents of sample population for their response. The questionnaire consisted of 18 questions which they were supposed to give response either in a 5-point scale or yes or no.

- **People participation of mangrove movement**

The question asked the respondents to give their opinion was that” Have you participated in the mangrove movement in Pappinissery.

**The table 4.3.4 shows the responses on participation on mangrove movement**

SL.NO	ASPECTS	PERCENTAGE
1	Yes	25
2	No	75
3	Total	100

It shows that only 25% participate the mangrove movement in Pappinissery.

- **People awareness level of CRZ-1 Act and CRZ violations**

The question was asked to check the respondent’s awareness about CRZ-1 Act and CRZ violations. The table 4.3.6 shows that respondents’ response for the question on awareness of the CRZ-1 Act.

SL.NO	ASPECTS	PERCENTAGE
1	Yes	60
2	No	40
3	Total	100

It shows that 60% people aware about Coastal Regulation Zone Act and CRZ violations. But 40% people not aware about the act and its violations.

- **Mangrove management options**

SL.NO	MANAGEMENT OPTIONS	PERCENTAGE
1	Community management	10
2	Public management	80
3	Private management	0
4	Public private management	10
	Total	100

It shows that majority of people supports public management.

- **Initiatives for conservation of mangroves**

The question asked about different initiatives they see in conservation of mangroves in their locality. They were asked the question “what are the initiatives you see in conservation of mangroves in your locality?” they were given 4 options as Government initiatives, public initiatives, student initiatives and others.

The table 4.3.8 shows the respondents response to the question about their awareness about different initiatives put forward by different stakeholders of environmental conservation participating mangrove forest.

SL.NO	ASPECT	PERCENTAGE
1	Government initiative	64
2	Public initiative	20
3	Student initiative	16
4	Others	0
	Total	100

It shows that 64% of people responded that they are about Government initiative more effectively for the conservation of mangroves. 20% said they are aware about public initiatives and 16% are aware about the student initiative for the mangrove conservation.

## **5. CONCLUSION**

- The given responses that shows that the people of Pappinissery panchayat feels that mangrove forest are important in the ecological balance. They think of mangroves as a potential barrier from river flooding and tsunami. Pappinissery mangroves as a inevitable role in protecting rivers of their locality.
- Majority of the people in Pappinissery panchayat aware about CRZ-1 Act and its violations.
- From valid responses from the sample population it is found that most of the people don't agree on Governmental proposal for mangrove park as a viable solution for the protection for the conservation of mangroves in their locality.
- Some of the people think that CPI(M) deliberately violated the CRZ-1 Act for political and economic benefit. Some people say that Pappinissery panchayat benefited the project, for example panchayat could earn revenue from parked vehicles of visitors of to the park. Some people believe that mangrove theme park connected with Bhumafiya. These people are answer to these questions on the condition of anonymity.
- Panchayat gave permission illegally for setting up the mangrove park in Pappinissery without consulting coastal Zone Management Authority.
- Democracy and social movements are closely linked like two sides of the same coin. Social movements are the expression of collective will. It is soul of democracy-expression of people's grievances against the system, their needs and aspiration, and their desire to get involved in political process.
- KSSP played a significant role in environmental protection in Kannur district.
- Public management of mangroves and Government initiatives are the best solution for mangrove protection
- Pappinisseri eco-tourism, it is not ecologically sustainable, because the theme park was led used plastic materials. The movement also reflects an enlarged vision of economics and politics. The Pappinissery mangrove theme park issue also questioned the

development and environment in modern era. It also says that the needs of environmental governance.

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