



A Stakeholder  
Mapping and Analysis for  
Conservation Finance:

**THE CASE OF THE  
VIDATHTHALTHIVU  
NATURE RESERVE**

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Future (CSF) in collaboration with  
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Centre for a Smart Future (CSF) is an interdisciplinary public policy think tank based in Colombo, with a network of researchers, practitioners, and policy professionals around the world. In collaboration with Blue Resources Trust, CSF has been working on crafting a framework for a Conservation Investment Plan dedicated to the sustainable financing of the Vidaththalthivu Nature Reserve (VNR). Through this initiative, we have examined some of the requirements needed to attract financing solutions for long-term sustainability, including analysis of stakeholders of an MPA, and the uses, users and tensions. We commenced working with the Department of Wildlife Conservation (DWC), by building their knowledge and technical capacity around conservation finance techniques, planning methodologies, and stakeholder considerations. Through this publication, we aim to provide a detailed exploration of the strategies and considerations essential for fostering sustainable investment in nature reserves, thereby contributing to the long-term conservation and resilience of ecosystems.

DRAFT

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## LIST OF ABBREVIATIONS

VNR	Vidaththalthivu Nature Reserve
DWC	Department of Wildlife Conservation
DFAR	Department of Fisheries and Aquatic Resources
FFPO	Fauna and Flora Protection Ordinance
DS	Divisional Secretariat
GND	Grama niladhari division
NAQDA	National Aquaculture Development Authority of Sri Lanka
FGD	Focus group discussion
KPI	Key Person interviews
MP	Management plan

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## INTRODUCTION

Within this document, we delve into the complex network of stakeholders whose interests, actions, and relationships significantly impact the management and conservation efforts of the Vidaththalthivu Nature Reserve. Below, we present our findings derived from a thorough stakeholder mapping and analysis exercise.

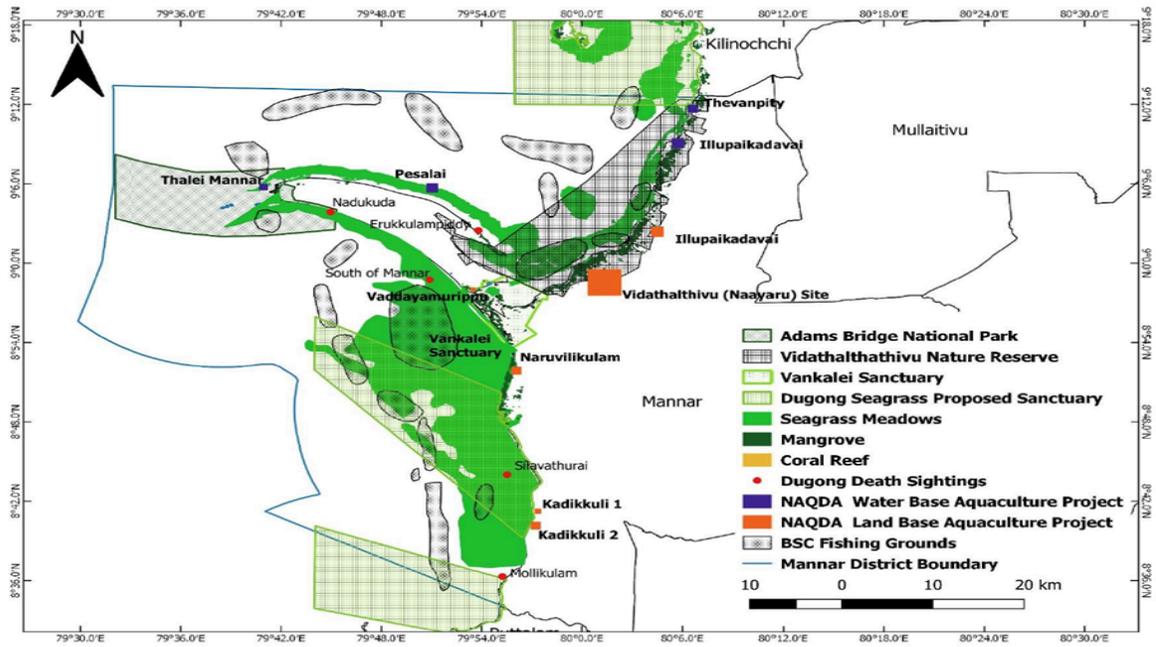
## OBJECTIVE

Why embark on a stakeholder mapping and analysis journey? In many facets of financial planning within conservation initiatives, there's a crucial oversight – a lack of broader comprehension regarding stakeholders beyond the realm of state conservation authorities. In Sri Lanka, particularly in the North, where the region grapples with the aftermath of 30 years of conflict and evolving post-war dynamics, coupled with the relatively recent declaration of these nature reserves, questions arise regarding the community's perception of the nature reserve and its associated conservation endeavours. Furthermore, it is essential to understand the dynamics of land usage before and after demarcation, as well as the contextual shifts and subsequent impacts. These factors significantly influence the various costs associated with conservation, which are crucial for comprehensive conservation finance. To address this imperative inclusively, we aim to execute a comprehensive stakeholder mapping and analysis.

## SECTION 1: An Introduction to Vidaththalthivu Nature Reserve

The Vidaththalthivu Nature Reserve (VNR) was declared a nature reserve on 1st March 2016 under the Fauna and Flora Protection Ordinance (FFPO) No. 22 of 2009 by the Gazette Extraordinary No. 1956/13. The nature reserve spans 29,180.00 ha of land and comprises a 2.8 km coastline.

Image 1: Detailed area map of the VNR



**Marine and Coastal Resources in Vidathalthivu Nature Reserve and Mannar District in the Palk Bay**

(Source: Created by Pelagikos PVT LTD)

Image 2: Satellite map of the VNR boundary



(Source: Created through Google Earth based on the coordinates provided by Gazette No. 1956/13 on 1 March 2016)

The VNR falls under the Mannar District Secretary and spreads throughout the Mannar town and Manthai west divisional secretariats(DS). 14 grama niladhari divisions(GND) from Manthai West and 12 grama niladhari divisions from Mannar town fall in proximity to the VNR. The total population in the DS divisions bordering VNR is 65,849 according to the 2022 District population by census report (17,088 from Manthai West and 59,091 from Mannar town)<sup>1</sup> From which 26 GN divisions lie directly on the border and/or within the VNR. {Estimated according to the calculation based on the population percentage from the 2011 census; 6121 in Manthai West (14 GND) and 16782 in Mannar town(12 GND by 2024)}

According to the Department of Fisheries and Aquatic Resources(DFAR) website, there are more than 4038 operating fishing vessels in the Mannar district, Out of which approximately 1500 are mechanised and non-mechanized traditional boats such as Paru, Theppan, and Vellam. Theirs is over 15,000 fishing families in the district according to DFAR<sup>2</sup>.

The land use pattern for the Mannar district is given below.

Table 1; Land use pattern in Mannar District <sup>3</sup>

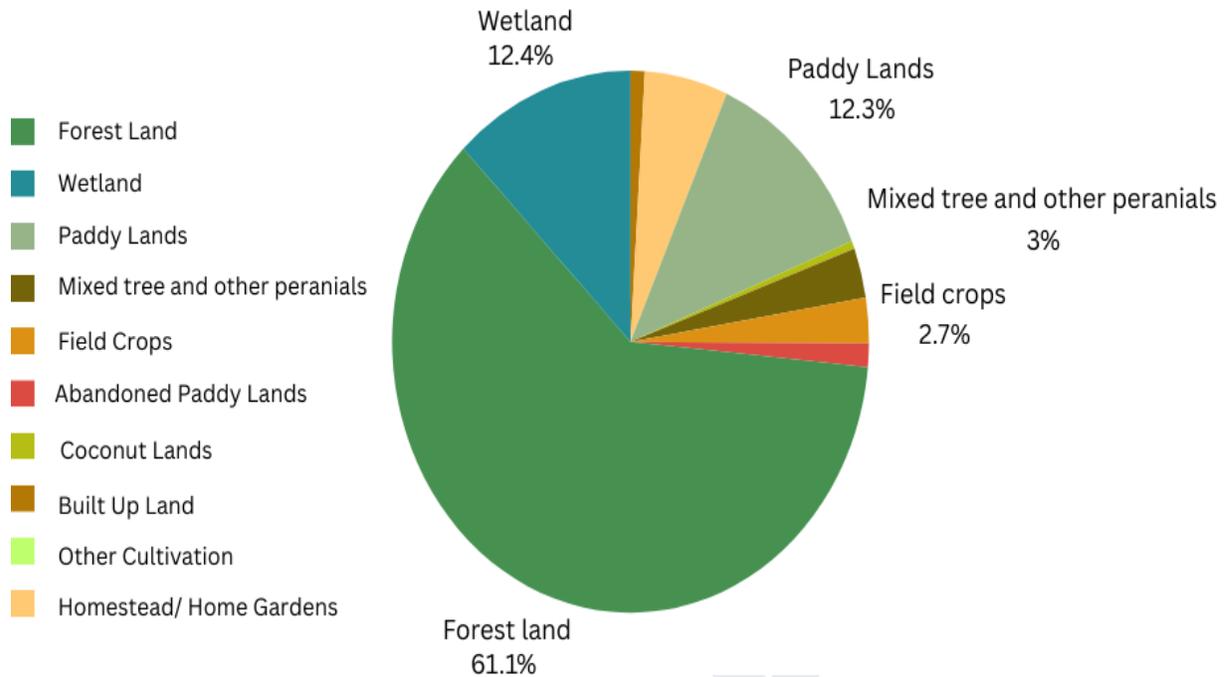
Nature of Land		Area (ha)
Built Up land		1905
Homestead/Home Gardens		11292
Agriculture Land	Paddy	24600
	Coconut	973
	Mixed tree and other perennials	5935
	Field crops	5381
	Other cultivation	6
Abandoned paddy lands		2789
Forest land		122038
Wetland		24681
Total		199600

(Source: District Land Use Planning Office, Mannar)

<sup>1</sup> "Statistical Handbook 2023 Mannar District" (Department of Census and Statistics), accessed June 9, 2024, <http://www.statistics.gov.lk/ref/HandbookDictionary#gsc.tab=0>.

<sup>2</sup> "Mannar District Office – Department of Fisheries and Aquatic Resources," accessed June 5, 2024, <https://www.fisheriesdept.gov.lk/mannar-district-office/>.

<sup>3</sup> "Land Use Plan Mannar District" (Land Use Policy Planning Department, 2016), [https://www.luppd.gov.lk/images/content\\_image/downloads/pdf/lirc\\_mannar.pdf](https://www.luppd.gov.lk/images/content_image/downloads/pdf/lirc_mannar.pdf).



(Source: Authors construction based on data from the District Land Use Planning Office, Mannar)

Accordingly, there are 9,403ha of agricultural land in the Mannar town divisional secretariat and 7,890ha of agricultural land from the Manthai west divisional secretariat which is in proximity to the VNR.

According to the main report on smallholder farmers in Mannar district adjacent to the economic census of 2013/2014<sup>4</sup>, a farmer is an individual who engages in the Cultivation of crops, Raising animals for meat, milk, or egg production, Cultivation of fresh/brackish water (lake/salt) aquatic life” and individuals who work on their land but a part of a group of farmers are sub farmers they are the main decision maker. Their numbers are given below.

Table 2: Farmer census details

Divisional secretariat	No. of farmers			No. of Sub farmers			Total		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Mannar Town	957	799	158	23	17	6	980	816	164

<sup>4</sup> “ආර්ථික සංගණනය 2013/2014 ඉඩා ගොවි කණ්ඩායම් පිළිබඳ මහජන මධ්‍යම දිස්ත්‍රික්කයේ මූලික වාර්තාව” (Department of Census and Statistics, 2016), <http://www.statistics.gov.lk/Agriculture/StaticallInformation/new/EconomicCensus2013-14-AgriculturalEnumeration-BasicReports-MannarDistrict>.

Manthai West	2305	1935	370	39	26	13	234 4	1961	383
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(Source: Department of Census and Statistics, Sri Lanka)

## SECTION 2: Methodology

To conduct the stakeholder analysis and mapping for Vidaththalthivu Nature Reserve, the snowball sampling technique was employed, a method particularly suited for identifying and engaging stakeholders within a complex and interconnected ecosystem. This technique involves initially identifying key stakeholders and then expanding the sample through referrals from those initial contacts, thereby capturing a comprehensive range of perspectives and affiliations.

The analysis process was conducted through a combination of stakeholder interviews and desk research to gather pertinent data and insights. Stakeholder interviews were conducted in an open-ended interview format to elicit information on stakeholders' interests, power dynamics, engagement levels, and potential impacts on the nature reserve.

Upon collection of stakeholder interviews and desk research findings, stakeholders were initially categorised into broad groups of state and non-state actors to delineate between governmental entities and other organisations or individuals. Subsequently, stakeholders were further grouped into multiple categories based on criteria such as livelihood activities and their influence on the VNR.

Table 03; interview details

Location	Number of people Interviewed	Type of meeting	Their livelihood
Erukkalampiddy	04	01 FGD	Fishermen
Vidaththalthivu	03	01 FGD 01 KPI	Fishermen and Paddy farmers
Pappamodai	02	02 KPI	Cattle herders
Anthonyapuram	02	02 KPI	Fisherwomen Shop owner
Mannar town	01	01 KPI	Former IUCN employee
DWC, Mannar	02	01 KPI	-
DFAR, Mannar	01	01 KPI	Asistant Director DFAR Mannar
Mannar DS office	02	02 KPI's	Assistant divisional secretary and Assistant Director of Planning (ADP)
Manthai West DS office	02	02 KPI's	ADP and Land division officers

### SECTION 3: Land Use Patterns Within and in Proximity to the VNR

The community in the boundaries of the Vidaththalthivu nature reserve has historically used this land mainly for livelihood-based activities. The main form of livelihood activity within the VNR is fishing, both mechanized and non-mechanized techniques are used, catering to a diverse range of seafood harvests.

During my interactions with local fishermen, I encountered a variety of equipment and methods utilized for harvesting seafood. Some of these include:

- Mechanised and non-mechanized boats; include traditional boats unique to the north like Vellam boats and local trawler boats that fishermen in comparatively well-to-do villages such as Pesalai and Pallimunai in the waters of the VNR.
- *Ja-kotu* fishery
- Ral bund for shrimp farming
- Crab nets (nandu val)

The pastures of the VNR for generations have been utilized as grazing land for cattle and goat herding. Communities in Mannar breed both cows and goats and have been doing so for generations even way before the war. A goat who weighs about 20kg costs about Rs.20,000 while a milk cow costs around Rs.100,000 to Rs.140,000. The VNR lands were reported to be key for cattle grazing during harsh drought times since the mangrove and thorn bushes are the only vegetation for grazing.

The main agricultural cultivation is paddy with land utilized to cultivate other vegetables such as chilies, peanuts, and other pulses in small land portions. Smaller plantation-like cultivations of coconut and Palmyrah exist as well. It is significant to note that there are privately owned paddy land and coconut land within the VNR that are disputed.

There are a couple of aquaculture activities within and in proximity to the VNR, Three main aquaculture projects are Shrimp farming, Sea cucumber farming, and Seagrass cultivation. Other than shrimp farming the other two are mainly owned and managed by individuals in these communities.

**Shrimp Farming** - There are two shrimp farms located within the buffer zone of the Vidaththalthivu Nature Reserve operated by the Taprobane Sea Food. One is situated within the Mannar island in Erukkalampiddy and the other is right opposite the nature reserve within its buffer zone down the Mannar Jaffna road at Vidaththalthivu.

**Sea cucumber** - Multiple sea cucumber pens have been licensed by the National Aquaculture Development Authority of Sri Lanka (NAQDA) in Mannar; these pens are owned and managed by the community mostly. Two of the villages I went to had sea cucumber farms which are Erukkalampiddy and Anthonyapuram. After processing 1kg of sea cucumber which holds about 40 pieces is sold for approximately Rs.60,000.

Further upward from Thevanpiddy, there are a couple of seagrass farms owned and managed by community members.

Within the VNR down the Mannar- Jaffna road there is a garbage disposal ground that has been managed by the Mannar urban council. The garbage dump has been operated before the declaration of the VNR. However, due to court restrictions as per a legal case lodged by an environmental group, the disposal of garbage in this land area has been halted.

## SECTION 4: Community Livelihood

The Primary activity in the VNR area is fisheries. Communities engage in coastal, offshore, and inland/aquaculture fisheries. While men typically venture out to sea, women are actively involved in fishing activities, particularly in post-harvesting tasks such as cleaning, cutting, mending nets, and processing fish for dried and Maldive fish. Women also fish in brackish waters, traditionally catching shrimp by hand. Since the end of the war, aquaculture farms, such as those for sea grass and sea cucumbers, have become popular. Villages in the north of VNR, like Thevanpidy and Anthonyapuram, host multiple aquaculture farms, often owned by women. Children often assist their parents with fishing-related tasks, including mending nets, and some begin sea fishing as young as 14.

Fishing occurs year-round in this coastal belt, with the catch variety changing with the seasons. A kilogram of prawns from the "*raal bunds*" sells for Rs.1300, mud crabs for Rs.10,000 per kilogram, fresh sea cucumbers for Rs.1100 per 400 grams, and dried, processed sea cucumbers for Rs.60,000 per kilogram.

The second main livelihood activity is paddy cultivation. In Mannar, paddy is cultivated in two seasons: the Maha season, which relies on rainwater and begins in November, with harvesting occurring 3 to 4 months later, and the "*Sirupogam*" season, which uses irrigation and starts at the end of April, coinciding with the Yala season in the south.

Animal husbandry is the third main livelihood activity, involving the breeding of cattle, goats, and poultry for eggs, milk, and meat. In areas with large concentrations of cattle, herding is conducted in groups, with herds exceeding 1000 cattle. Currently, a liter of fresh cow's milk sells for Rs.175, eggs for Rs.40-60, and live-weight beef for Rs.1400-1600 per kilogram. A mature bull weighs between 450 to 650 kilograms.

In addition to these main activities, community members run small businesses such as grocery shops and food stalls. Many young people leave their villages for jobs in Colombo, while women find employment in nearby crab and prawn processing centers or garment factories in town.

Most people have a mixed livelihood portfolio, with fishermen also engaging in paddy cultivation or cattle breeding. For instance, in Erukkalampiddy, most families are involved in the fisheries sector, while the wives of fishermen engage in cattle and goat breeding and herding.

## SECTION 5: Stakeholder Mapping and Analysis

In our stakeholder mapping, we've delineated nine stakeholder categories. These encompass governmental bodies like the Department of Wildlife Conservation (DWC) and the Department of Fisheries and Aquatic Resources (DFAR), alongside Non-Governmental Organizations (NGOs) focused on VNR (Visual Natural Resources) and diverse community representatives. The table below outlines these stakeholder groups, their cohorts, sub-cohorts, and their overarching roles.

Table 04; Stakeholder category and their role

Stakeholder group	Cohort	Subcohort / specific area of activity	The role they play concerning the VNR
DWC	Head Office	Director Protected area	Conservation
		Marine protection Divison	Conservation
	Mannar Range office	Vidaththalthivu Bittu office	Conservation
		Vankalai Bittu office	
Ministry of Wildlife & Forest Resources Conservation	Minister of Wildlife & Forest Resources Conservation	-	Conservation
DFAR	DFAR Mannar	-	Management of fisheries
NAQDA	Coastal Aquaculture Monitoring & Extension Unit – Northern Province	-	Permitting, monitoring, and regulating aquaculture activities
Urban council	Urban council Mannar	-	Operated a garbage dump within the VNR

State administration	Divisional Secatariat(DS) office	Manthai West DS office and Mannar town DS office	General administration
Farmers	Paddy cultivators	Paddy farmers within the VNR	Livelihood-based land use
	Coconut cultivators	Coconut farms within the VNR	Livelihood-based land use
Fishermen	Indigenous fishermen	-	Fishing activities
	Artisanal prawn farmers"Raal bund"	-	Fisheries related activities
	Fishermen using illegal fishing methods	Bottom trawler boat fishermen Dynamite fishermen Fishers that use illegal nets	Fisheries related activities
Other livelihood operators	Cattle breeders	Herders, herds	Livelihood-based land use
	Goat breeders	livestock within the VNR	Livelihood-based land use
	Aquaculture farmers	Operate sea cucumber or sea grass farms within the VNR	Livelihood-based land use
	Toddy tappers	-	Livelihood-based land use
Private large-scale businesses	Prawn farms	Taprobane fisheries	Operates two farms, one within the VNR boundary in Vidaththalthivu and another in proximity to Erukkalampiddy
Security forces	Navy	Vidatalativu Naval Detachment	Assists DWC with providing them with boats for patrolling,
	Police	-	Assisting DWC
Non-profit organizations	Opened	-	Social welfare
	EFL	-	Wildlife conservation
Other	Pelagikos	-	Wildlife conservation and fisheries management

Figure 1: stakeholder onion according to effect on and affected by VNR



## STAKEHOLDERS ACCORDING TO AFFECT ON AND AFFECT BY THE VNR

Cattle and goat breeders and herders	Communities who collect wood from the VNR	People who own private lands within the VNR	Sea cucumber farms owners and workers	Sea grass farm owners and workers
Indigenous farmers	Fishermen	Tourism operators	Coconut farmers	
Fishermen who engage in dynamite fishing (Negative)	DWC officers (Positive)	DFAR (Positive)	Mannar Urban council (Negative - with regards to the garbage dump)	
NAQDA (Providing sea cucumber farms registrations)	Tourism operators	Aquaculture farms		

(Source: Author's construction based on data collected)

The stakeholder onion outlined above consists of four layers of the Vidaththalthivu Nature Reserve (VNR). The first layer, positioned closest to the core, encompasses stakeholders directly impacted by the VNR declaration. This includes individuals experiencing immediate consequences such as the stop of livelihood activities, exemplified by sea cucumber and sea grass farmers, as well as those obstructed from accessing the VNR, like livestock herders.

Moving outward, the second layer represents groups indirectly affected by the VNR. These individuals may not have experienced significant changes in their livelihoods yet but face looming threats and potential future impacts.

The third layer encompasses stakeholders with direct effects on the VNR, showcasing both positive and negative influences on the reserve. Entities such as the Department of Wildlife Conservation (DWC) and Department of Fisheries and Aquatic Resources (DFAR) contribute positively, while fishermen using illegal methods such as dynamite fishing and bottom glass trawler boats, as well as the Urban Council's disposal of garbage within the VNR, exert direct negative impacts.

Finally, the fourth layer involves stakeholders with an indirect influence on the VNR. Although their impact may not be immediately visible, their activities fall under regulatory restrictions within the reserve.

## 5.1 Conservation Cost and Benefits

Conservation entails multiple costs, many of which often go unaccounted for. These costs are not always monetary; they can include economic sacrifices made by communities and expenses incurred by governments in policy implementation for protected areas (PAs). Understanding these costs is crucial for effective conservation planning and securing the necessary funding and resources to support long-term conservation goals.

The previous discussions provide a deep understanding of the case study of the VNR with its variety of stakeholders, their users, and uses, etc. This also hints at the multiple costs of implementing conservation activities concerning the VNR. Hence, inevitably there is a variety of diverse costs for the VNR.

### Core Institutions Costs

Core institutional costs include expenditures to maintain institutions, policies, and capacities. These are borne by the government, particularly the Department of Wildlife and Conservation (DWC) and the Ministry of Wildlife and Forest Resources Conservation, which are the primary state entities responsible for protecting the PA. In the context of the VNR, some of these costs are also borne by non government entities such as Pelagikos.

### Operational Cost

These costs mainly refer to expenditures to run Protected areas (PAs) and implement conservation plans.

Operational costs include salaries for DWC officers in charge of the VNR, training and development programs for conservation implementing staff, and costs for infrastructure and maintenance<sup>5</sup>.

As VNR is the 1st PA to have a management plan(MP) created by the DWC itself the operational costs should include activities mentioned in the MP. This includes but is not limited to, building a range office and a Bittu office building, employing a range officer, and providing training. Currently, the VNR lacks a range office and

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<sup>5</sup> Thomas B White et al., "What Is the Price of Conservation? A Review of the Status Quo and Recommendations for Improving Cost Reporting," *BioScience* 72, no. 5 (May 1, 2022): 461–71, <https://doi.org/10.1093/biosci/biac007>.

only has a rented Bittu office. The five-year budget for the VNR<sup>6</sup> includes line items for assessing staff numbers and training.

### Opportunity Costs

Opportunity costs refer to foregone or diminished development, land, and resource use opportunities. In the context of the VNR, multiple opportunity costs affect various stakeholders. The main costs are incurred by the community due to regulations halting livelihood practices like aquaculture and preventing new initiatives. Local authorities, such as the DS office, might see these lands as suitable for sea cucumber farms but must forgo this because it is a PA. This is similar to banned tourism activities. The community also bears the cost of losing land used for paddy cultivation, coconut plantations, or cattle grazing. Unfortunately, these opportunity costs are not reflected in the five-year budget.

### Transactions Costs

Transaction costs include time, effort, and resources required to comply, engage, and participate in conservation. Although community engagement is rare in the VNR, these costs include community engagement. Some of these costs, such as community outreach, are addressed in the DWC budget.

### Conservation Benefits

The conservation benefits of the VNR are significant for a multitude of stakeholders. Conservation ensures ecosystem services, such as water purification, by halting polluting activities like shrimp farms and aquaculture. The protection of seagrass and mangroves enhances water quality and fish density, indirectly supporting fishermen.

The community in VNR has reported increased flooding during monsoons and extreme droughts. Protecting the VNR helps prevent further environmental degradation and promotes regeneration, reducing costs associated with disaster recovery from floods and droughts.

Similar to the neighbouring Vankalai sanctuary, the VNR is home to migratory birds. Protecting this environment ensures the conservation of these species. For authorities, conserving the VNR supports national and international environmental policies and commitments, such as biodiversity targets and the climate agreements Sri Lanka has signed.

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<sup>6</sup> Annexure 02

Businesses can also benefit by supporting and investing in conservation efforts to enhance their reputation and fulfil corporate social responsibility (CSR) commitments.

Understanding costs including land prices, operational costs, and opportunity costs will enable us to allocate limited funds most efficiently. Understanding benefits increases awareness of the economic value of ecosystem services provided by natural systems and will help us estimate the economic value<sup>7</sup>.

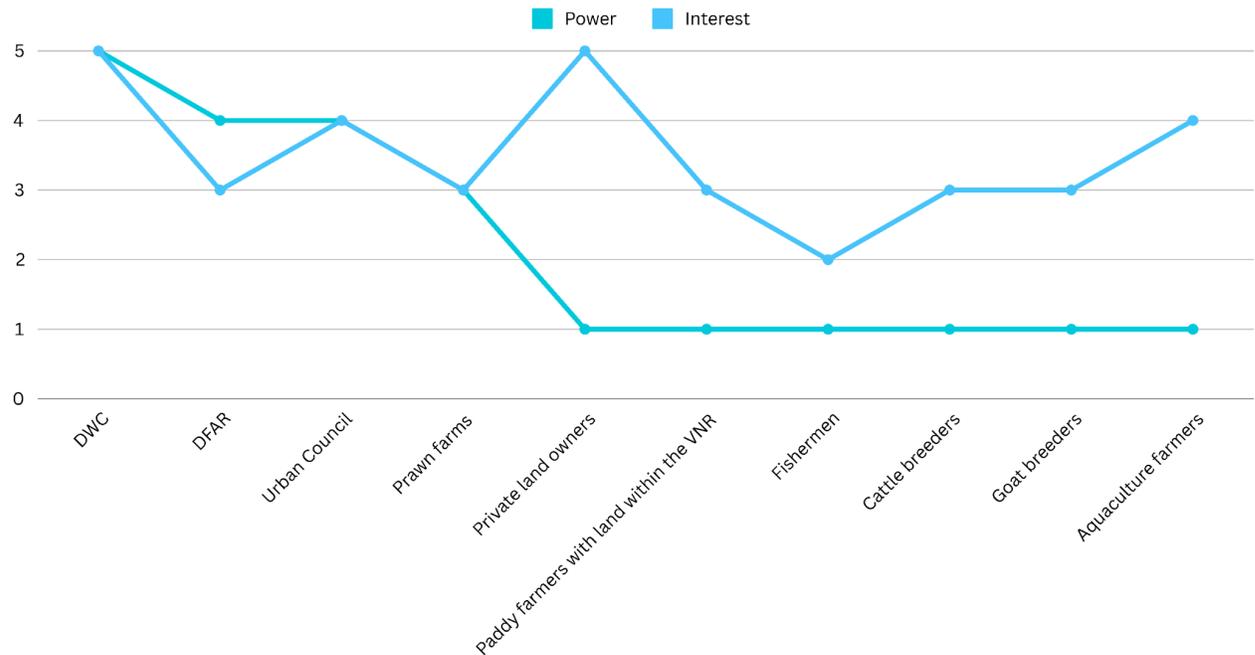
## 5.2 Stakeholder Power Dynamics

Table 05; Stakeholders and their effects, influence interest & power with regard to VNR

Cohort	How are they affected by the VNR (Directly/Indirectly )	Influence	Power	Interest
DWC Mannar range Office	Not affected	Positive	High	High
DWC Vidaththalthivu Bittu office, Mannar	Not affected	Positive	High	High
DFAR Mannar	Not affected	Positive	High	Mid
Urban council Mannar	Indirectly	Negative	High	Mid
DS office, Mannar Town	Indirectly	N/A	High	Low
DS office, Manthai West	Indirectly	N/A	High	Low
Paddy cultivators	Directly	N/A	Low	Low
Coconut cultivators	Directly	N/A	Low	Low
Indigenous fishermen	Indirectly	N/A	Low	Low
Trawler boat fishermen	Indirectly	Negative	Mid	Low
Prawn bund owners	Indirectly	N/A	Low	Low
Fishermen using illegal fishing methods	Indirectly	Negative	Mid	Low
Cattle breeders	Directly	negative	Low	Low
Goat breeders	Directly	negative	Low	Low
Aquaculture farmers	Directly	Negative	Low	Low

<sup>7</sup> Gretchen Daily et al., "Nature's Services: Societal Dependence On Natural Ecosystems," *Bibliovault OAI Repository, the University of Chicago Press*, January 1, 1997.

Figure 2: Stakeholders and their effects, influence interest & power with regard to VNR



(Source: Author's construction based on Information collected)

The above diagram presents to you the power concerning the interest in the Vidaththalthivu Nature Reserve. For this analysis, I have selected 10 stakeholder groups that either conduct operations within the VNR or in proximity. includes state entities such as the Department of Wildlife Conservation, Urban Council and the Department of Fisheries and Aquatic Resources, and the prawn farms which is a private business entity along with the community stakeholders such as paddy farmers, fishermen, etc. Power refers to the power the stakeholder group has concerning their position in the community. Interest may come in two forms: interest in the conservation of the VNR and interest in their activities within or in proximity to the VNR. For example, aquaculture farmers have low power due to social standards however, has a higher interest in the VNR due to their farms being situated in the VNR and due to fear of losing their livelihood. This is also similar to livestock breeders their interest is higher than power since they use the VNR as grazing land for cattle.

### 5.3 Stakeholder Relationships - Alliances, Conflicts, Dependencies, and Interactions

Stakeholder relationships manifest in various forms, ranging from beneficial partnerships to dependencies and, at times, conflicts.

The DWC serves as the primary state entity responsible for managing and conserving the Vidaththalthivu Nature Reserve (VNR). It undertakes essential tasks such as patrolling protected areas, wildlife monitoring, and poaching prevention. Despite the pivotal role played by the DWC, its relationship with other state agencies, such as the Divisional Secretariat (DS) office, Urban Council, and the Department of Fisheries and Aquatic Resources (DFAR), appears minimal. However, non-governmental organizations like Pelagikos endeavor to foster collaborations between the DWC and DFAR. The DWC has three overseeing offices for Vidaththalthivu: the DWC Vavuniya regional office, the Wildlife Range Office Mannar, and the other is the Vidaththalthivu Bittu office.

The DWC is in conflict with the Mannar urban council about the garbage dump managed by the urban council that is situated within the Vidaththalthivu nature reserve down the Mannar Jaffna main road. environmental agency Environmental Foundation (Guarantee) Limited went to court concerning the garbage dump and the court has given a direction that garbage should not be dumped until the next date of the case. However, there is a conflict here since the DS office and urban council claim that the land should be degazetted and given to the urban council since the garbage dump existed before the declaration of the VNR and due to the limitation of suitable garbage disposal land in the peninsula.

Image 3: *The garbage dump managed by the urban council in the VNR*



(Source: CSF field researcher)

Cattle breeding and other livestock breeding is one of the main livelihood activities of the communities in the communities surrounding the VNR and in Mannar in general. Further, the lands of VNR have been historically used by these farmers for grazing for generations. In Erukkalampiddy the community told CSF

that it's the women in the family who act as cattle and goat herders while their male counterparts go to sea. However, in recent months there have been obstacles to entering these lands. The villagers said that authorities allow the cattle and goats to enter the VNR grasslands but not herders. This poses threats to breeders as they complain about not being able to track their herd and attend to any animals that stray away or get hurt. In Pappamodai cattle herders from the Manthai West region spoke about their long request for grazing land, cattle breeders and derers have requested authorities to provide legally gazetted grazing land for many years which has gone unheard. They currently face a shortage of grazing land as lands they have been letting their cattle graze for generations are now claimed by both the Wildlife Conservation Department under the VNR and by the Forest Department. Cattle pens which were once situated within the VNR along the Mannar Jaffna road are now on the opposite side of the road as per complaints made by the DWC. However, the herders fear they will need to move from there as well since that land belongs to the Department of Forests. the herders do agree that cattle feed on mangroves but claim it is very minimal and only happens during the extreme dry season when all other grass is dried out "We take them into the VNR because there is no other place for us to take them, we have been grazing in these lands for many years before the nature reserve came to be". They claim this can be mitigated by providing them with suitable and sufficient grazing land gazetted by authorities.

Numerous parcels of land lie within the boundaries of the VNR, privately owned by the local community. Among these are paddy fields, actively utilized for indigenous livelihood activities, permitted by the FFPO. The communities have petitioned the DWC to relinquish control of these lands. During interviews with DWC officers in Mannar and DS offices, both agencies emphasized the necessity to degazette privately owned lands, following verification of ownership. They cited the erratic nature of boundary mapping, attributed to the utilization of Google Maps as one of the key reasons for this conflict.

Another contentious issue concerns tourism operations within the VNR, particularly in the mangrove and maldiva coral reef area surrounding the village of Vidaththalthivu. As per the regulation outlined in the FFPO tourism activities are prohibited within the nature reserve. However, residents of the village, predominately fisherfolk, shared insights into their past practice of conducting tourism activities, including guided tours of mangroves and visits to the maldiva coral reef. they expressed these forms of tourism served as supplemental income streams and emphasized the untapped tourism potential that could benefit the village significantly. Officers from the Manthai West DS office echoed similar sentiments, highlighting the tourism prospects and the need to explore and capitalize on them. They also spoke about plans they hope to put up.

The National Aquaculture Development Authority of Sri Lanka (NAQDA) conducted surveys post-2016 and issued licenses for several sea cucumber farms situated in the northern areas of VNR, specifically in the villages of Anthonyapuram and Thevanpidy. Historically, the renewal of these licenses fell under the purview of the District Secretariat (DS) office. However, a significant change occurred this year when farmers seeking license renewal were informed that the DWC would handle the process instead. To the dismay of the farmers, the DWC has declined license renewals citing regulations from the FFPO, which prohibits aquaculture projects within the VNR. This unexpected turn of events has stirred apprehension among the communities, particularly because many of these aquaculture farms are predominantly managed by women, serving as a vital source of income and empowerment for them. The affected communities are now grappling with the potential loss of income and livelihood, prompting questions about NAQDA's decision to approve these farms within a designated nature reserve. There's a growing sentiment of frustration towards state agencies, as community members feel they are bearing the brunt of negligence and poor governance practices.

## **SECTION 6: Community Perceptions on the declaration and management of the VNR**

### **6.1 Community Knowledge of the VNR Boundaries**

Among the three villages I visited, Erukkalampiddy stood out due to its proximity to Mannar town, while Vidaththalthivu held significance as the location of the DWC Bittu office and the namesake of the nature reserve. However, Anthonyapuram, situated further north of Vidaththalthivu at almost the northern edge of the Nature reserve, lacked awareness among its residents about bordering a nature reserve. Notably, while boundary stones were observed along the road leading to Vidaththalthivu, they were absent thereafter. Additionally, farmers from Vidaththalthivu expressed uncertainty about whether their cultivation lands fell within the VNR boundaries, highlighting a broader lack of awareness regarding the reserve's physical boundaries and regulations. This gap in knowledge raises concerns about the potential for illegal activities within these areas.

### **6.2 Community Understanding of the VNR Regulations**

The community has very poor knowledge of the regulation that the VNR comes under and its provision.

When queried about their familiarity with VNR regulations, communities demonstrated awareness of certain rules about mangrove protection, prohibition of illegal fishing methods, and preservation of biodiversity against physical harm. However, their knowledge appeared to be scarce regarding regulations governing aquaculture/mariculture, farming practices, and animal husbandry within the reserve.

### 6.3 Communities' Mistrust of DWC

Do not feel the DWC addresses the key ENV threat and is critical of its effect on their livelihood. This mistrust mainly comes from the lack of action on the part of the DWC concerning numerous complaints made by the community of Erukkalampiddy on dynamite fishing and both communities of Vidaththalthivu and Erukkalampiddy are disappointed with the lack of active response about the shrimp farms.

Communities express a profound mistrust towards the Department of Wildlife Conservation (DWC), perceiving it as failing to adequately address key environmental threats and negatively impacting their livelihoods. This distrust primarily stems from the DWC's inaction in response to numerous complaints lodged by the Erukkalampiddy community regarding dynamite fishing. Additionally, both the Vidaththalthivu and Erukkalampiddy communities are disappointed by the DWC's lack of proactive measures in addressing concerns related to shrimp farms.

## SECTION 7: Conclusion

The reason we have provided this comprehensive information is to highlight critical aspects that need to be considered in managing the VNR and developing financing mechanisms. This ensures that all actual costs of conservation are addressed, particularly protecting powerless stakeholders from bearing the brunt of these expenses. Integrating local communities actively into conservation efforts is essential, ensuring they also share in the monetary benefits. This approach helps identify and bridge gaps, address inequities, and recognize uncompensated costs, unfunded expenses, unrewarded conservation actions, and unpenalized threats to conservation.

In terms of financing needs, it is crucial to identify who bears the costs of conservation and what these costs entail. On the other hand, the benefits, such as ecosystem services, economic opportunities, and social well-being, need to be equitably shared among all stakeholders, especially local communities.

In summary, effective management and financing of conservation initiatives must ensure that all stakeholders are considered, costs are fully covered, and benefits

are equitably distributed, thereby promoting a sustainable and just approach to conservation.

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# ANNEXURES

Annexure 01:

## Annexure 1: Conservation Threats

Below is a range of threats that have been identified; this list comprises threats The Department of Wildlife Conservation has identified in its Management plan for the VNR and a few others that we have identified through our desk research and field visits.

1. Shortage in staff
2. Competency of staff
3. Shortage of data and information
4. Use of illegal methods of fishing - The utilization of illegal fishing methods remains a persistent challenge to conservation efforts, despite national regulations prohibiting such practices. Instances of dynamite fishing and the use of unauthorized nets persist, both within the Vidaththalthivu Nature Reserve (VNR) and in general. While organizations like the Department of Fisheries and Aquatic Resources (DFAR) and Pelagikos endeavor to mitigate this threat, their efforts have yet to yield significant success.

Image 4: Confiscated fishing nets piled up at the DFAR office in Mannar



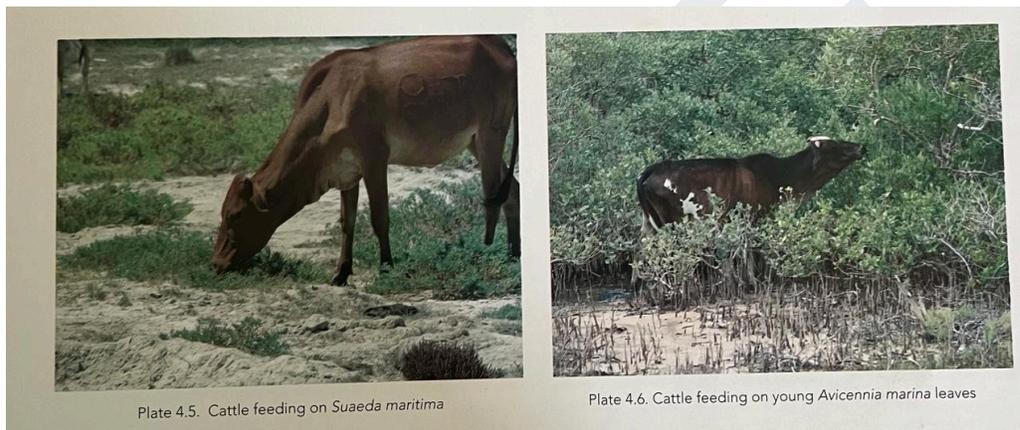
(Source: CSF field researcher)

5. Non-compliance of stakeholder development plans with conservation

6. Damage caused by domestic animals- Wildlife officers from the Department of Wildlife Conservation (DWC) in Mannar have highlighted the detrimental impact of cattle feeding on mangroves, posing a substantial threat to conservation. Despite previous attempts by the DWC to address this issue, such as constructing fences using threads, success has remained elusive.

Conversations with cattle herders revealed that cattle typically resort to consuming mangroves during exceptionally dry seasons. They assert that designating proper grazing land for cattle through gazettement could alleviate this problem.

Image 5: Cattle feeding on mangroves



(Source: Mannar Range office)

7. Existence of private lands within the nature reserve - The presence of private lands within the nature reserve poses a notable challenge. Among these lands are indigenous paddy fields, permitted for cultivation under the guidelines of the nature reserve. The primary reason for this occurrence stems from the initial haphazard demarcation of the VNR boundary, relying on methods such as Google Maps, which does not accurately depict ground realities.

8. Acquisition of lands for other development activities - There have been attempts to acquire lands from the VNR for other purposes such as a state aquaculture farm which is halted currently, but the threat is still evident.

9. Mangrove cutting - Mangrove cutting is predominantly carried out by fishermen employing illegal nets and dynamite for fishing purposes. These individuals often resort to cutting mangroves and placing them in the deep sea to

aid in fish pooling. While arrests have been made in the past to address this threat, it persists unabated.

10. Release of pollutants - The release of pollutants has emerged as a significant concern, particularly from the community's perspective. A focal point of contention is the Tabrobane prawn farm, notably the one situated within the buffer zone in Vidaththalthivu. Communities have voiced their grievances through protests and letters to authorities, alleging that the factory's discharge of untreated chemical water into the stream leads to a decline in the fish population, upon which the community heavily relies.

In response to inquiries, the Department of Wildlife Conservation (DWC) stated that they intermittently monitor water levels every few months, with tests conducted in Jaffna. However, they lack a baseline for comparison, thus impeding their ability to question the factory effectively.

11. Fishing of Illegal Sea Fish

12. Natural Disasters (flooding, drought) - issues such as drought have directly affected the increase of other conservation threats as mentioned above with animal husbandry

13. Illegal Land Grabbing

14. Unregulated Tourist Activities

15. Spread of Invasive Species - In the VNR, the invasive plant *Prosopis* sp. (kalapu andara) has spread widely. In 2023, 1 hectare of it was removed. Professor Ranawana's study found 609 hectares of invasive plants in the VNR. DWC recommends cutting them every three months. Currently, they cut the trunk and branches and burn them using petrol, which has been successful.

Image 6: Prosopis sp. (kalapu andara) along the VNR

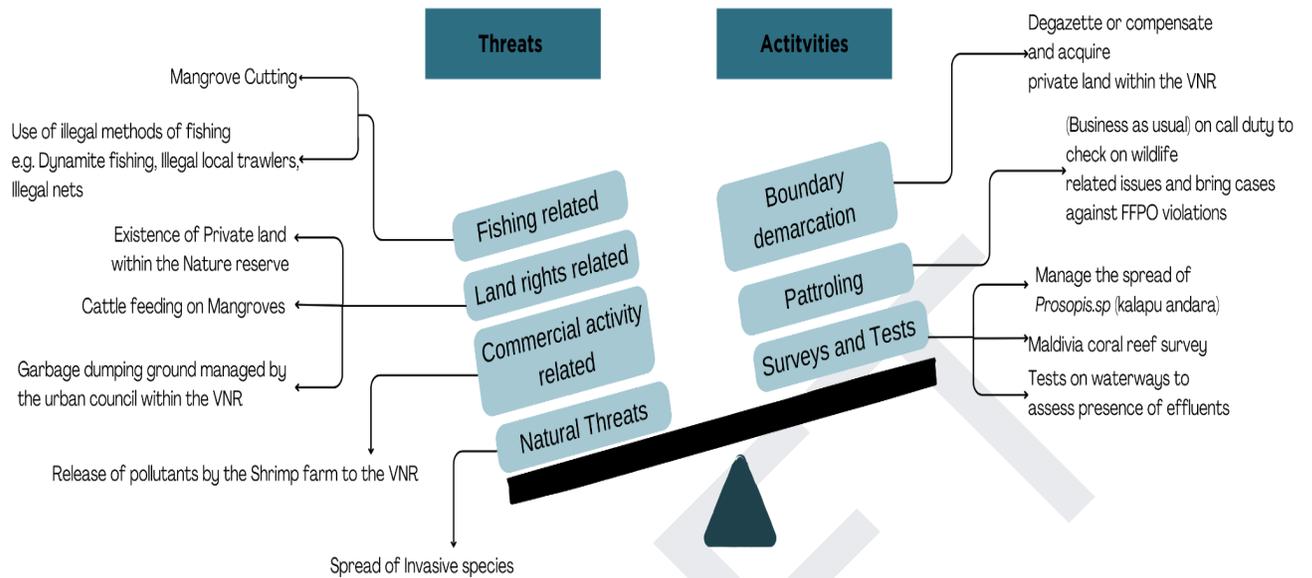


*(Source: CSF field researcher)*

16. Land Use Planning Issues of Lands Surrounding the Nature Reserve
17. Collecting Animals and Plants
18. Bird Hunting
19. Setting Hunting Traps

The following diagram illustrates the key threats we have identified, along with the activities conducted or needed to be conducted by the Department of Wildlife Conservation (DWC) in response to these threats.

Figure 3: Conservation threats and activities identified



(Source: Author's construction based on DWC management plan and field research information)

## Annexure 02

### Annexure 2: DWC VNR budget for 5 years(2024-2028)

	2024	2025	2026	2027	2028	Total
Administration and Zonation (Annex 16)	1.74	1.78	1.715	1.747	1.715	8.66
Administrative Review						7.5
Training						1.17
Protection, Enforce & CR (Annex 17)	0.59	56.21	13.84	13.09	13.09	96.82
Establishing legal boundary of VNR PA						92
Establishment of Administrative Boundaries within the Reserve Areas						0
Preparation of security-related maps						0.1
Patrols						2
Law enforcement						0

Establishing security-related signals, sign boards, and marks						2.35
Establishment of communication facilities						0.02
Installation of Firearms Hangers						0.35
Visitor Service Management (Annex 18)	-	-	-	-	-	0
Natural Resource Management (Annex 19)	0.8	0.5	0.4	0.4	0.4	2.5
Habitat Mapping						0.5
Removal of Invasive plants						1
Declaration as a RAMSAR site along with Vankalai Sanctuary						0
Restoration of Natural Habitats						1
Community Outreach (Annex 20)	0.04	0.29	0.29	0.29	0.29	1.2
Depicting areas of interaction						0
Micro plans for Villages						1
Community Participation in Conservation						0.2
Wildlife Health Management (Annex 21)	-	1.45	0.25	-	-	1.7
Facilities for the rescue of wildlife						1.2
Rehabilitation facilities						0.5
Research and Monitoring (Annex 22)						3.6
Assessing the research requirements						0.6
Monitoring plan for PA						3
Infrastructure Development (Annex 23)	-	-	7.5	29.2	1.7	38.4
Establishing new infrastructure						35
Providing furniture and office equipment requirements						3.4
Disaster Management (Annex 24)	-	-	-	-	-	0
Total	3.92	60.98	24.69	45.42	17.89	152.88

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