



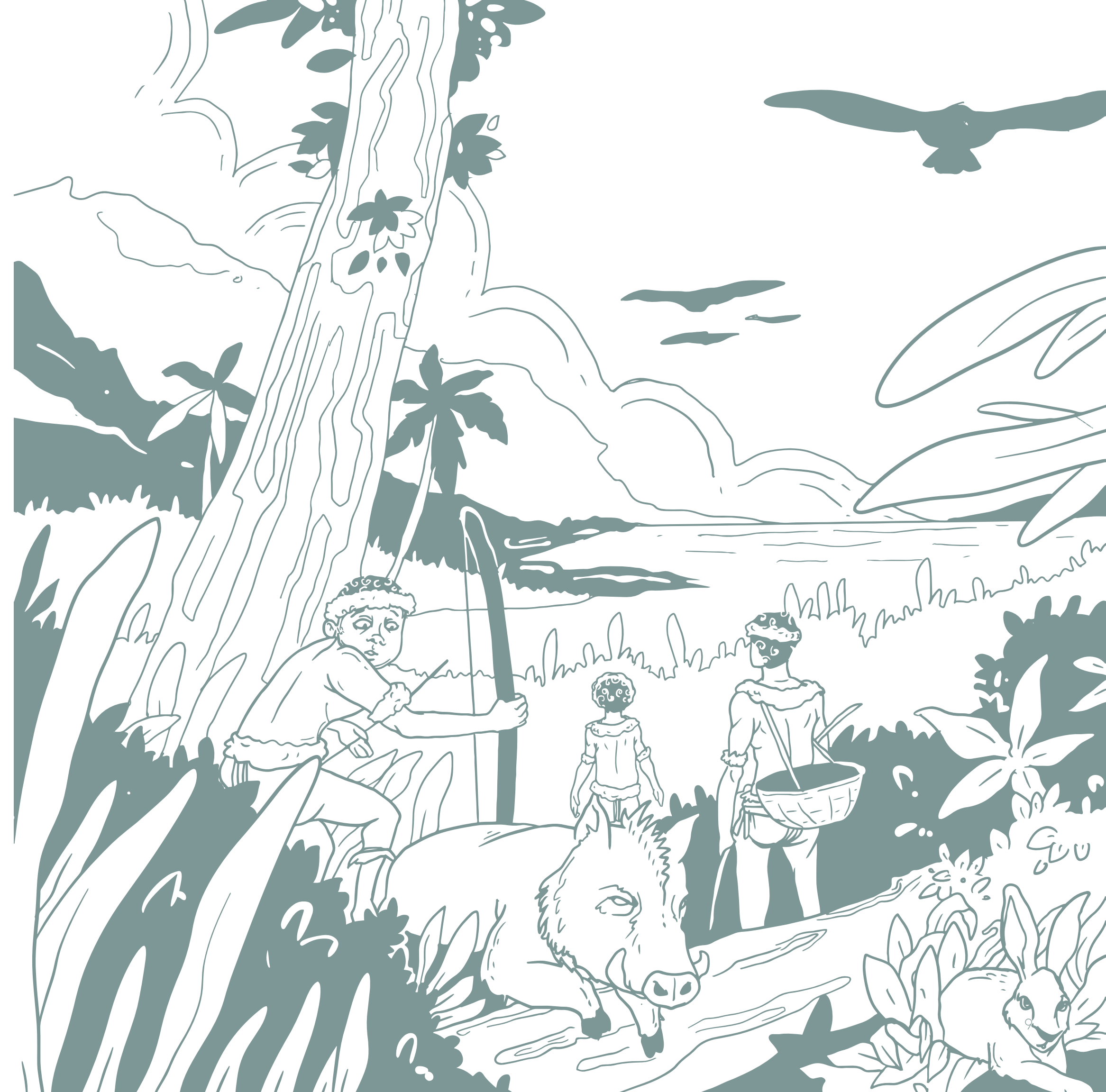
COMPREHENDING THE INDIAN OCEAN TSUNAMI

"Hazards are natural, disasters are not" - Terry Canon

The book revisits the 2004 Indian Ocean Tsunami and its aftermath from the viewpoint of resilience and vulnerability. Vulnerability is a multi-faceted concept that lies at the intersection of diversity of risks and their actualization in everyday lived experience. Vulnerability is not the property of people but it is a relational outcome of complex relationships between people and their ecologies in the face of hazards. Understanding disasters such as these from the viewpoint of vulnerability presents real insights into realizing how the disaster is an outcome of multiple interweaving processes at several layers of abstraction. These range from local and global processes related to the social, economic and cultural abilities and coping mechanisms of communities in transition. In this book we emphasize the adaptability, capacity, vulnerability and resilience in the wake of disasters.

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Introduction



Amidst the lush and dense forests of the Andaman and Nicobar islands, a group of Jarawa hunters embarked on a vital mission. Their goal was to secure food for their tribe in their traditional way of life, passed down from generations of skilled and proud warriors. Jarawas are among the many indigenous tribes that call this archipelago their home.

As the hunters made their way through the jungle, the rustling of leaves caught their attention. With stealth and precision, they readied their weapons, ready to take down any unsuspecting prey that crossed their path. The hunters held their breath, waiting for the perfect moment to strike. However, their hopes were quickly dashed as a wild boar burst from the undergrowth and fled the scene. Despite their disappointment, the elders of the tribe were not discouraged. They collected their weapons and set off in search of another opportunity. It was then that they noticed something unsettling. The animals around them ran away from the sea or climbed up into the trees. The elders' hearts raced as they realised that something was amiss. The once peaceful jungle was filled with unease they had never experienced before.

Fate had another unlucky chapter waiting for Jarawas as the seabed rumbled somewhere on the west coast of Sumatra...

On December 26, 2004, the world was forever changed by a massive undersea earthquake that struck off the coast of northern Sumatra in Indonesia. Dubbed the Indian Ocean Tsunami, Boxing Day Tsunami, or the Sumatra-Andaman earthquake, this event was one of the deadliest natural disasters in modern history. With a magnitude ranging from 9.1 to 9.3, the earthquake was caused by a rupture along the fault line between the Burma Plate and the Indian Plate. The seismic waves it generated were felt across several countries in the region, including India, Bangladesh, Myanmar, Sri Lanka, Malaysia, Thailand, and the Maldives. However, it was the resulting tsunami that brought the most destruction. The intensified waves crashed along the coasts of the Indian Ocean with devastating force. The aftermath of the Indian Ocean Tsunami was a scene of utter chaos and heartbreak, with communities hurt and countless lives lost ^[1].

"[...] vulnerability seen as an internal risk factor must be related not only to exposure of the material context or to the physical susceptibility of the exposed elements, but also to the social frailties and lack of resilience of the prone communities. This means looking into the capacity to respond to or absorb the impact. Deficient information, communications and knowledge among social actors; the absence of institutional and community organization; weaknesses in emergency preparedness; political instability; and the absence of economic health in a geographic area, all contribute to greater risk. This is why the potential consequences are not only related to the impact of the event but also to the capacity to withstand the impact and their implications in the considered area."

- Omar Cardona ^[2]

When a disaster strikes, it's not uncommon for certain communities to be hit harder than others. Vulnerability is a social concept and these communities are impacted by various socioeconomic and demographic factors such as poverty, age, race, and education level. Unfortunately, these communities are less likely to recover quickly and may endure long-term consequences due to the disaster. In the aftermath of the devastating tsunami that struck the Andaman and Nicobar islands, the world was left in suspense about the fate of the rare tribes that inhabit the archipelago. With communication systems down and telephones not working, it was impossible to reach the isolated islands and check on the well-being of the Jarawas, Onges, and Sentenalese tribes. The concern for the survival of these six indigenous communities only heightened as news of the catastrophic event spread. Questions loomed about whether these precious cultures, deeply rooted in the island's history, would withstand the force of the killer wave.

While this book tries to bring about the themes of vulnerability and resilience of the inhabitants of the Andaman and Nicobar Islands, other actors such as the Indian Defence personnel also play a major role in the Islands. The Andaman and Nicobar Islands are strategically located at the crossroads of the Malacca Straits and Ten Degree Channel, through which trillions of dollars' worth of trade flows between Southeast and North Asia. These islands play a crucial role in the Indo-Pacific region, being only 237 kilometers from Banda Aceh in Indonesia and overseeing the sea lanes to the Sunda and Lombok Straits, the two primary entry points into the disputed South China Sea.^[3]

Historically the islands have remained strategically important in this Indian Ocean region. During India's colonial past these Islands were used as a Jail to imprison the political leaders of country and separate them from mainland India. This cellular jail was known as Kala Pani (Black water) and was used for exiling political prisoners of the British colonial government in India. A number of Independence activist such as Mahatma Gandhi, Jawaharlal Nehru and Vinayak Savarkar, amongst many others who fought for the country. Currently these islands are the stronghold for Indian defence to maintain their strategic position in the Indian Ocean region.

The Indian defense system was dealt a serious blow by the Tsunami, with a significant portion of their defensive capabilities being compromised. The extensive damage to the runway at the Car Nicobar Airforce base has left only 6000 ft of the original 9000 ft intact, and the air traffic control unit was also badly affected. The psychological toll on the 1700 personnel who witnessed the loss of 106 fellow airmen and family members was taxing^[3]. The surviving families of all the 250 officers and airmen stationed there were being shifted to Tambaram air force base near Chennai. Post tsunami, the Indian government had declared that the Car Nicobar Airforce base to be a non-family station to reduce loss of lives of families of defense personnels.^[4]

In order to understand the interplay of vulnerability and resilience involved in the 2004 Tsunami the rest of the book is divided into a few chapters which highlight the background and worldview of the island communities. It describes the cause of the tsunami, the challenges of early warning and the aftermath of the disaster. The book analyzes the disaster from an analytical viewpoint of the Pressure and Release (PAR) model. Finally it concludes with a hopeful note of learning from the disaster, enhancing resilience and sustaining livelihoods.

Ways of life of the Tribal communities



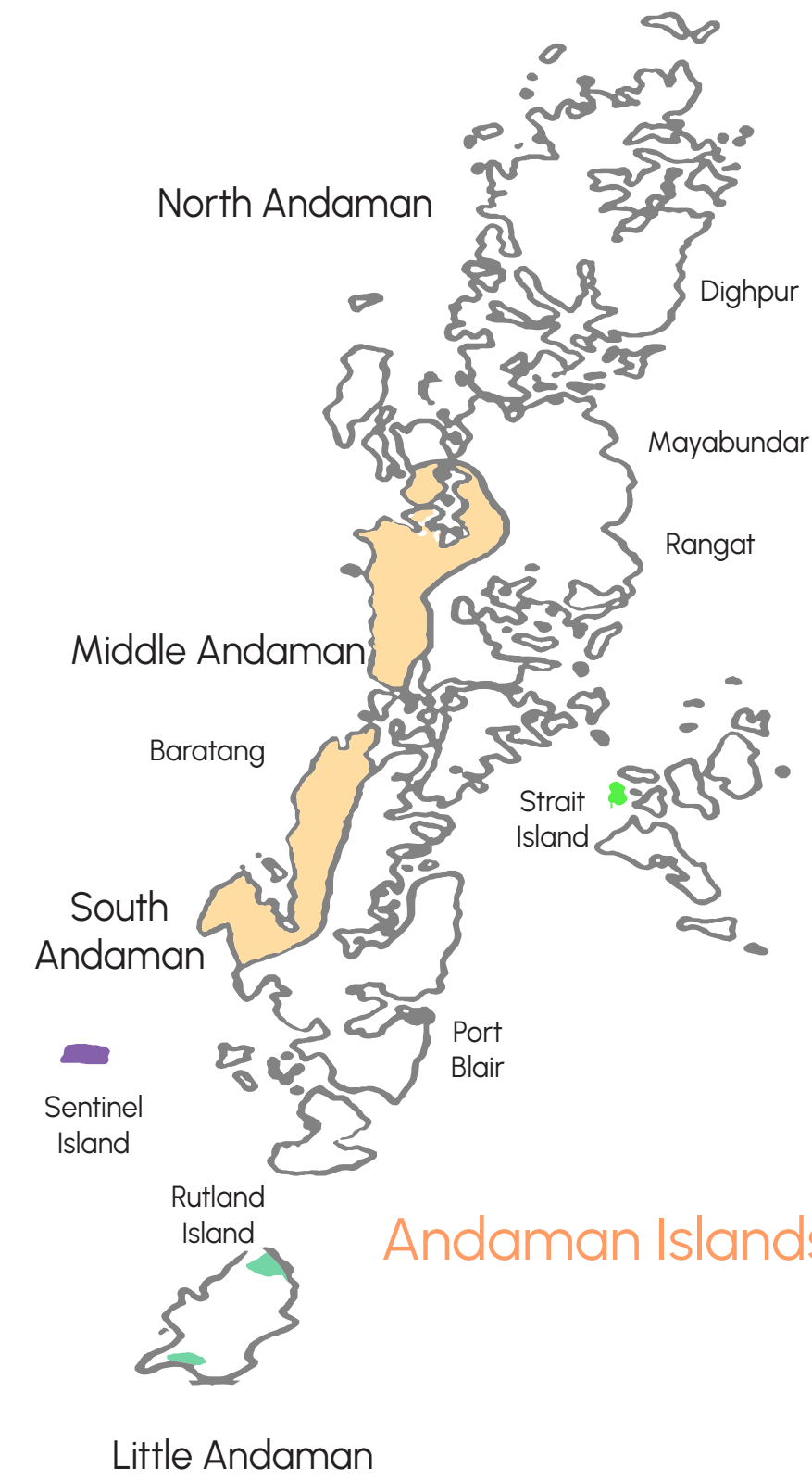
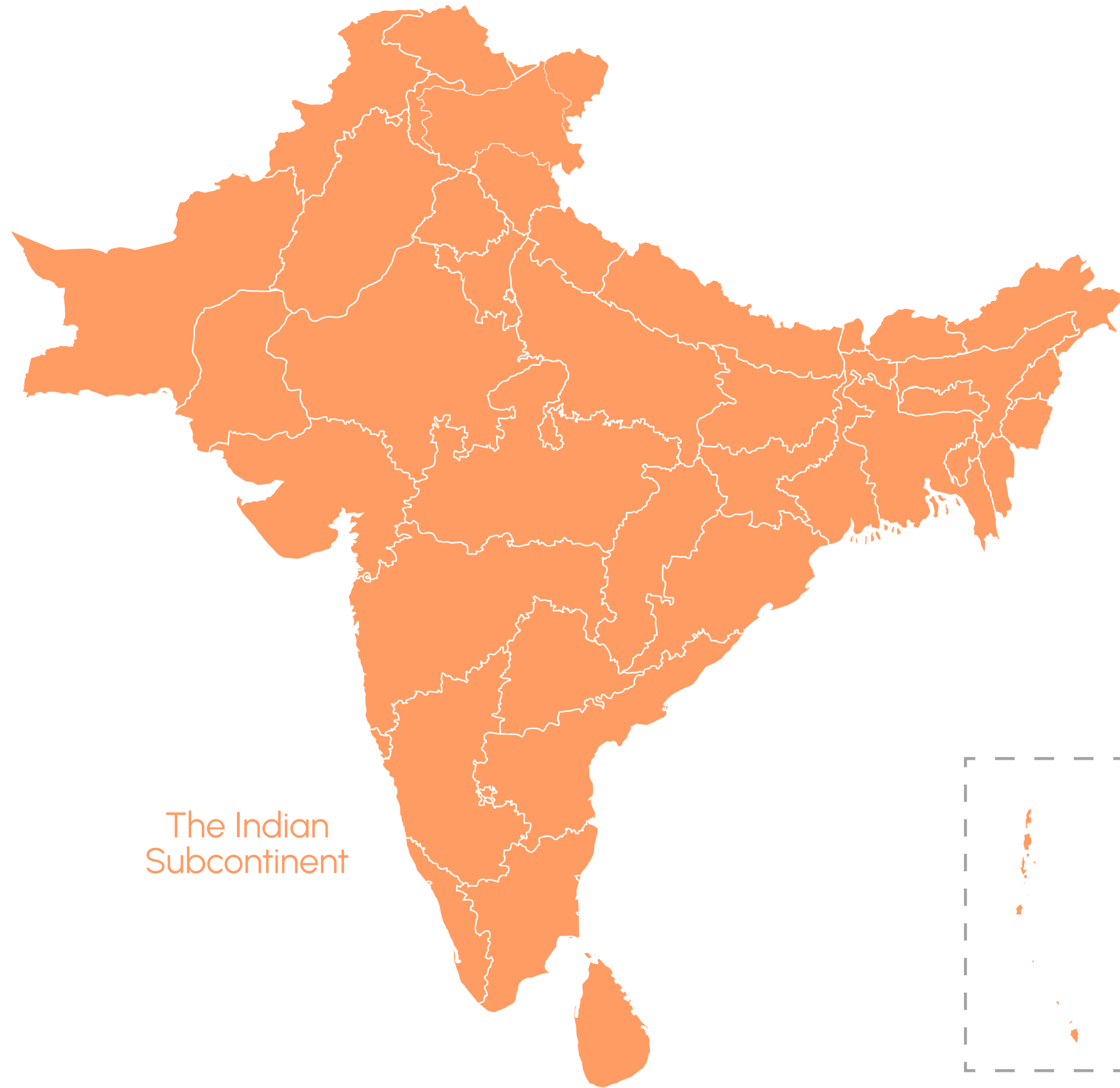
"Pygmalion point is the real southern tip of India. You can feel the nation behind you"

—Usha Deshpande, Director of movie "Song of silence", based on aboriginal tribes of Andaman and Nicobar Islands. ^[3]

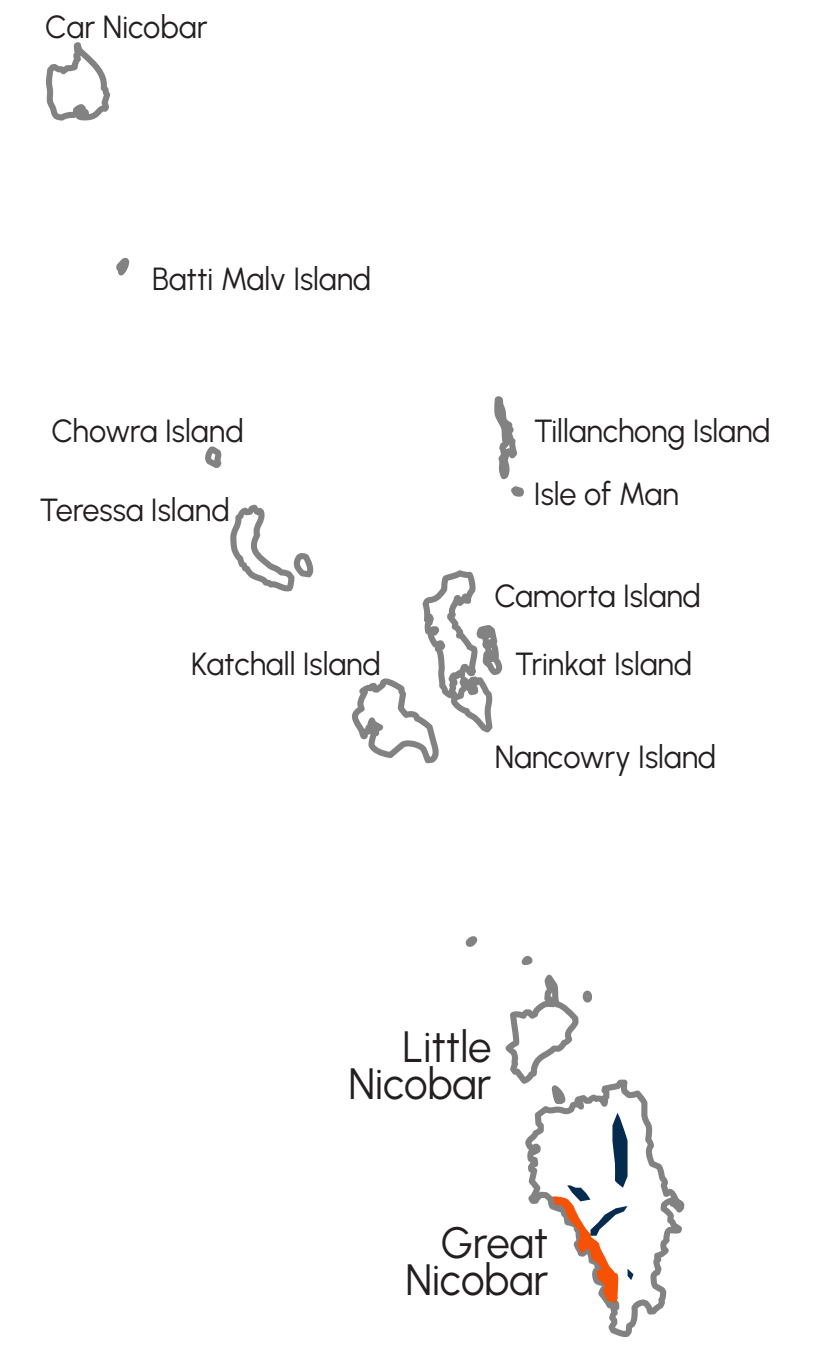
PL Purohit (2005, Jan 1) recalls an incident when his friend Officer P Brown in 1955 wanted to take him for a drive around the island in his Jeep. He points towards the trees surrounding the Jarawa houses, "The coconut palms and bananas you see around belong to the community. Naturally, money is of little use to them, and hence there are no thefts either." Much further, we came across a group of Jarawas. P Brown remarked, pointing at one of the Jarawa women, "You know these lasses can walk away with any boy they like. Their children are looked after by the entire community if the girl decides to leave her own mate and move in with someone else. She is free to do so, but her new mate has to pay a penalty of one pig to the village." Six years later, things were shocking when PL Purohit returned to the islands. Simple folk were civilized. The coconuts had to be bought. [...] and there were occasional cases of thefts as well. ^[5]

The Islands are home to a diverse group of indigenous tribes, each with its unique history and way of life. These tribes include Jarawas from South Andaman and Middle Andaman, Great Andamanese from the Strait Island, Shompens from the Nicobar Island, Onges from the Little Andaman and Sentinalese from North Sentinel Island. The five major tribes of the islands are of immense anthropological importance, and their potential extinction is a cause for great concern among scientists and researchers. In the aftermath of the Tsunami, some have even suggested collecting genetic samples to revive the tribes through cloning, should human cloning ever become legal. "Their loss, if confirmed, would be an immense anthropological disaster." ^[6]





- Great Andamanese
- Onges
- Jarawa
- Sentinalese



- Shompens
- Nicobarese

Figure i: Location of aboriginal tribes of the Andaman and Nicobar Islands

Due to their remote existence and secluded lifestyle, the island tribes have acquired a notoriety. As early as 672 AD, the Andaman and Nicobar islands had been referenced in the writings of Tsing, a Chinese traveler who journeyed the Indian seas. He referred to the islands as "Andaban" and depicted its inhabitants as "Cannibals." In 870 AD, two Arab travelers documented their visit to these islands, painting a picture of a cruel and savage people who ate anyone not of their own race. Centuries later, Niccolò de' Conti, an Italian merchant who was involved in creating sea maps, visited the Andamans in 1414-1439 and recorded the chilling tales of the islands' inhabitants tearing strangers apart and devouring them. These frightening legends persisted until 1625, but with the advent of British East India Company's interest in developing the islands, the world finally gained insight into the people of Andaman and their ethnological details. ^[7]

Among the most prominent of these tribes is the Great Andamanese, once the largest of the tribes but decimated by infectious diseases by British colonists in the 1860s. The Great Andamanese people belong to the Negrito race and are known for their dark complexion and peppercorn hair. Despite their short stature, with an average height for men being 4 feet 9 inches and for women 4 feet 5 inches, the Great Andamanese have well-built bodies. The Nicobarese are a Mongoloid ethnic group, with a complexion ranging from yellowish to reddish brown. They are sturdy and well-built, with the average height for men being 5ft 4in and for women being 5ft. Their Mongoloid features suggest that they may have originated from Burma, Sumatra, or Indo-China. ^[8]

The Onges, semi-nomadic hunters and gatherers living on Little Andaman, and the Jarawas, a traditionally hostile tribe, who have recently begun interacting with outsiders, on the western coast of middle and south Andaman. The Sentinelese, a fiercely isolated community living on North Sentinel Island, are known for their hostility towards outsiders. Lastly, the Shompens, a semi-nomadic tribe of hunters and fisherfolk scattered across Great Nicobar Island, are considered the only primitive Mongolian tribe in the archipelago. Each of these tribes holds a unique place in the cultural tapestry of the Andaman and Nicobar Islands, and their stories are woven together to create a rich and natural history



Sourav Sanyal recalls his first encounter with the Jarawa tribes. He distinctly remembers his conversation with his driver, "Don't you know that you have to pass through Jarawa reserves? They are very fond of red, they might just tear off your T-shirt", irrespective of the warnings they proceed. After 100 meters, the driver stops, pointing at a group of people; it was a Group of Jarawas in the middle of the road sporting red headgear, armbands and waistbands. It was a group of 6 boys between 6-15 years old. They asked permission to get in the auto, and before permission was given, they were inside it. "Bikkut hai? Paan hai?" asked the Jarawa boys for biscuits or paan. Avoiding any reply, Sourav asked where they were coming from. The Jarawa boys revealed around ten fish in a homemade basket. They asked, "Macchi pakda, dekho chahiye?"

After dropping them off at the village. They moved ahead, where they had a second encounter with the Jarawas. Around 23 Jarawas with wooden bows and metal arrows. Their arrows were blood-stained. Noticing the tense proceedings, a middle-aged Jarawas says, "Hum suvar mara. Teen suvar"(We killer boars, Three boars) ^[9]

Amongst these various tribes, the Jarawas were earlier hostile towards any outsider interactions. With the development of the Andaman Trunk Road in the 1970s the Jarawas were rapidly brought into proximity of the outsiders. This has, over the years, changed the dynamics of the tribe and its interaction with the outside world and warrants further attention.

Encounters between mainlanders and the Jarawa community were not uncommon. These interactions often carried a sense of unease and apprehension due to the limited contact and unfamiliarity between the two groups. The Jarawas, who had lived in isolation for thousands of years, were cautious of outsiders, while mainlanders were captivated by the unique culture and way of life of the indigenous tribe.

The term Jarawa bears the meaning 'Stranger' or 'unknown person' and they are semi-nomadic food gatherers and hunters still living in stone age situation. Like other Negrito tribes of the Andamans, Jarawas also have short stature, black complexion and curly spring—like hairs. Presently, only about 250–300 individuals of Jarawas exist and they are endogamous people having closely knit society. They inhabit Reserve forests of west coast of middle and south Andamans.

-Shareif and Panda (2017, p.1863) ^[7]

The Jarawas reside in a large forested area stretching from South Andaman to the Southern part of Middle Andaman, spanning roughly 647 square km. This region has been designated as the "Jarawa Reserve" ^[7]. They hunt pigs, turtles, and fishes in the coral-fringed reefs using bows and arrows. They target various species, including striped catfish-eel and toothed ponyfish, and gather wild fruits, roots, tubers, and honey. The bows used in these activities are made of chooi wood, which is not found throughout the Jarawa's territory, requiring them to make long journeys to Baratang Island to obtain it.

Both men and women of the tribe participate in the wild honey collection. The process involves climbing tall trees and singing songs of joy while they collect the honey. To keep the bees away, the collectors chew the sap of bee-repellent plants like Ooyekwalin and spray it from their mouths. Once the bees are gone, the nest is cut and placed in a wooden bucket for transport. After consuming honey, it is customary for the Jarawa to bathe. ^[10] The term "Jarawas" mean "Strangers" or "unknown persons." Like other Negrito tribes of the Andamans, Jarawas also have short stature, black complexion and curly spring—hair. They are a close-knit and endogamous society. ^[7]

The Jarawas' diet consists primarily of sea animals and wild pigs, with the meat of wild pigs being their favourite food source due to its high levels of protein and fat. While adult males typically go hunting for pigs, the females and children are responsible for fishing, gathering food, and collecting honey. All food collected is considered the property of individual families, but the pigs and other animals caught are shared among the tribe. The females of the tribe typically prepare the food, which can be consumed raw or after being boiled, roasted, or baked.

