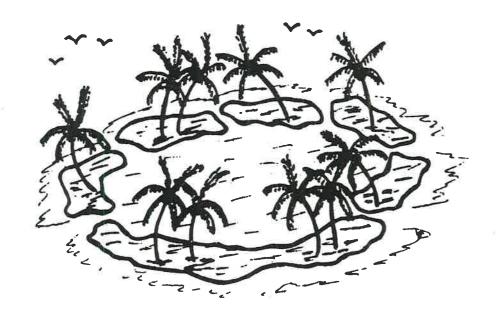
# ATOLL RESEARCH BULLETIN

149. Geography and Ecology of Diego Garcia Atoll, Chagos Archipelago

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## A. Discovery

The islands of the Chagos Archipelago were probably discovered and named by Portuguese navigators sailing from the Cape of Good Hope to Goa in the first two decades after Vasco da Gama pioneered the route in 1498; but it was more than two hundred years from their discovery before the positions of the Chagos and other islands were reasonably determined. Clusters of islands probably representing the Chagos appear on Alberto Cantino's world map of 1502; but though Addu Atoll at the southern end of the Maldives was clearly marked on Joan Martines's chart of 1578, the islands to the south remained schematic (Bagrow 1964, Skelton 1958). Generally navigators sought to avoid the maze of islands and short steep seas of the Great Chagos Bank, which had no trading importance compared with the factories of India and, later, the colonies of the Mascarenes. The standard histories of the Indian Ocean contain little but conjecture for this early period (Toussaint 1961).

The Mascarene Islands, which had been discovered in 1505, were not permanently settled until the seventeenth century, and the Ile de France itself (Mauritius) was not formally annexed by France until 1717. During the century after 1734, when Mahé de la Bourdonnais became governor of the Ile de France and Bourbon (Réunion), the French systematically explored the islands to the north, from time to time clashing with the English. The first major voyage of discovery was that of Lazare Picault, who visited Peros Banhos Atoll in the Elisabeth in 1744. Picault's journals have not been published in full, though parts are available (Fauvel 1909). British ships visited the Chagos islands in 1719 (Stranger) and 1728 (Grantham), and Diego Garcia itself in 1745 and 1755 (Pelham and Mary, respectively). Growing rivalry between France and England led to a reappraisal of the value of these remote islands. In September 1769 a more thorough survey was made of Diego Garcia by the French ships L'Heure du Berger (Chevalier Grenier) and Vert Galant (Lt La Fontaine), and in 1770 La Fontaine made the first survey of the Diego Garcia lagoon. He reported that "a great number of vessels might anchor there in safety; but the principle object is wanting: for though it is covered with woods, it is not provided with fresh water" (quoted by Scott 1961, 68; Unienville 1838, 182). These observations, together with those of the Abbe Rochon (1793) and of the hydrographer D'Après de Mannevillette (1775), led to a much more detailed understanding of the topography of the

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central and western Indian Ocean (Figure 33), which is reflected in charts from about 1780 onwards (e.g. Grant 1801).

The dangers associated with navigation in these seas are vividly illustrated by the fact that the hydrographer James Horsburgh was himself wrecked on Diego Garcia in the Atlas on 30 May 1786. "The charts on board were very erroneous in the delineation of the Chagos Islands and Banks," explained Horsburgh (1809, 132), "and the commander trusting too much to dead reckoning, was steering with confidence to make Ady or Candy (which do not exist) for a new departure, being in their longitude nearly, by account, and bound to Ceylon; but, unfortunately, a cloud over Diego Garcia prevented the helmsman from discerning it (the officer of the watch being asleep) till we were on the reef close to the shore; the masts, rudder, and everything above deck, went with the first surge; the second lifted the vessel over the outer rocks, and threw her in toward the beach."

### B. Early Settlement

The French did not try to settle on Diego Garcia, and the first attempt to do so, in 1786, was by the English, who wished to use the atoll as a victualling station. Six shiploads of soil were sent from Bombay by the East India Company, in the hope of growing vegetables and cereals, but the experiment was a failure. Documents concerning the planning of this expedition by the Bombay Council, including a diary kept by the leader, R. Price, on Diego Garcia between 29 April and 24 September 1786, are preserved in the Bombay Secretariat Record Office (Secret Department, Vols. 33A, 1-77; 34, 532-890; 35, 10-11, 133-139, 195-215; 36, 395-7; 39, 177-208, 223-4, 327-47; 288, 1-185). By the time the French heard of the attempted settlement, and sent the frigate Minerve from Mauritius to deal with it, the English expedition has withdrawn. Magon de Médine on arrival formally reasserted the French claim to the atoll. The French made no settlement, and again the English returned, Lt Archibald Blair of the East India Company Marine making a survey in 1786.

French settlement began in the late 1780s, when a M. Le Normand was authorised by Depuit de la Faye to settle at Diego Garcia and to supply coconuts to the Ile de France. In 1793 this was taken a step further, when M. Lapotaire was given permission to establish a factory at Diego Garcia to export copra and oil rather than whole nuts to the Ile de France. He began by taking two ships, each with 25-30 men, and slaves, to the atoll: and in 1794 he exported 900 veltes of oil (about 1350 gallons or 6100 litres). A few years later he was joined by brothers named Cayeux in the same business.

Thie profitable enterprise attracted others, however. Two new factors, Blevec and Chépé, appeared, making oil in a very wasteful way. In 1808 Lapotaire petitioned the captain-general of the Ile de France

with new proposals. He suggested that the two sides of the atoll be allotted to him, and the southern part to Cayeux. No other factors would be allowed. He also proposed the prohibition of oil manufacture on the atoll, on the ground that it provided too great temptation to the English; instead, copra would be sent to mills in the Ile de France. On 26 April 1809, however, the captain-general gave Blévec and Chépé authority to exploit the eastern part of the atoll, while at the same time prohibiting oil manufacture. These grants were subject to cancellation on failure to replant coconuts, and the concessionaires were also to be responsible for the care of any lepers sent to Diego Garcia from the Ile de France. It had been intended that these lepers would live only on the small islets, but this was not adhered to. The population of the atoll at this time totalled 275, including 37 lepers (Moreau 1827).

# C. The Plantations under the English

On 3 December 1810 the Ile de France capitulated to the English, and although at the treaty of Paris in 1814 several territories, including Bourbon, reverted to France, this did not apply to the Ile de France and its dependencies (including Diego Garcia), which remained under British Administration (Treaty of Paris, 30 May 1814, Article 8; proclamation in Mauritius 15 December 1814). The coconut concessions on Diego Garcia continued, but the English policy of ending the slave trade and finally (1839) of abolishing slavery led to problems in the plantations. Discontent at Diego Garcia among both slaves and lepers led to the appointment of the first government agent, M. Le Camus in 1824. In addition to administration, he was concerned to provide pilotage for visiting ships, and also with the construction of a lazarette on one of the small islands. New surveys were carried out at this time, by Col. E. A. Draper, who mapped Lapotaire's concession on the west side in detail (1824), and by W. and C. T. Hoart in 1824-5 (Figure 34). Camus served for five years, and in 1830 was given Lapotaire's concession as a reward. In 1837 Commander Moresby made the first full hydrographic survey of the atoll; some of his observations were used by Darwin (1842) and others were published anonymously (Anon. 1845).

In 1859 Commissioners (Lt H. Berkeley, Mr. J. Caldwell) were appointed by the Mauritius Government to report on conditions in the island dependencies, and in 1864 a district magistrate was appointed for the islands, visiting Diego Garcia the same year. Conditions must have been prosperous at this time, for the present plantation buildings, including the large manager's house, were being built at East Point. The population of Diego Garcia in 1851 totalled 334, and 1861 554 (males 417, females 137).

In 1865 the Government gave the concessionaires the opportunity to change their holdings from jouissance, essentially a right of usufruct subject to revocation, to a holding in perpetuity on cash payment of two shillings per velte of oil produced, based on the 1864 output: the production of oil had clearly been resumed at some time following the 1809

Pal

prohibition. In 1864, the output at Diego Garcia was as follows:

Marianne Minni Minni	20 000 12 000	veltes veltes veltes	(30 (18	000 000	gallons) gallons)	136 82	000	litres litres litres
Total	66 000	veltes			gallons)			litres

These figures seem extremely high: at about 24 1bs of copra per velte of oil, representing about 75 nuts, it indicates a total yield of nearly five million nuts. Assuming 800 nuts to the acre, i.e. not particularly intensive or well-managed plantations, this would indicate that almost the whole area of the atoll (6250 out of 7488 acres) was being cropped for coconuts. These rough calculations simply indicate the order of magnitude of the operations at this time. Under the new administrative arrangements, the government retained the right to resume up to two acres in each property for any government purpose. The powers of magistrates for the island dependencies were defined in 1872, and in 1875 the first regular magistrate's tour was made by E. P. Brooks (Brooks 1876). The total Diego Garcia oil production of 66 000 veltes in 1864 compared with 13 500 on Salomon, 26 000 on Peros Banhos, 11 870 on Egmont, and 8 000 on Eagle (Lane 1956b, 671-3).

The three estates on Diego Garcia were amalgamated in 1883 under the Société Huilière de Diégo et Péros. James Spurs, the company manager at East Point, who later went to Aldabra, was a remarkably capable and enlightened man. He had strict regulations over liquor consumption, and ran his plantations in a benevolent if despotic manner. His labourers were expected to collect, dehusk and break 500 nuts a day, and the women to scoop out 1200 shells a day. There were hospital buildings on each of the estates.

# D. The Coaling Stations

In 1881 the Orient Steam Navigation Company gave up its coaling station at Aden and surveyed Diego Garcia as an alternative. The Company operated twelve ships on the England to Australia run, and in 1882 it opened the first coaling station on Diego Garcia. The London company of G. Lund opened a second coaling station in the same year: it had only two cargo ships plying between England and Australia, but proposed to sell coal to any ship which called. Both Orient and Lund began at East Point. Orient employed James Spurs, who had resigned as manager for the Société Huilière, as their agent on the atoll, and imported both Somali and European labour. Lund appointed G. Worrell as local agent, and used local labour when required. The coal stocks were kept in hulks anchored off East Point and Minni Minni, and Orient also had yards on shore at East Point. At the time of the Magistrate's visit in 1883 there was a stock of 15,000 tons of coal at the atoll, two-thirds of it belonging to Orient. The target of the operators was to fuel 180 ships a year, each turning around in 24-68 hours; passengers were not allowed to go ashore.

The following year, 1884, Orient moved from East Point. Its hulks were anchored closer to the lagoon entrance, at Barton Point. The Company leased two of the small islets, Middle Island for Spurs as agent, and East Island for labour. Already there were considerable labour troubles, and also problems arising from the passage of large emigrant ships, many of whose passengers managed to get ashore. Ivanoff Dupont, the magistrate, was kept busy with incidents (Scott 1961). In November 1885 a police post had to be established at Minni Minni, consisting of two officers and six men, to keep order, but there was constant squabbling between the Mauritius Government and London over payment of the costs involved. With the British Government unwilling to pay, the Mauritius Government finally revoked the arrangement. G. C. Bourne gives an interesting insight into the nature of the labour problems during his visit in 1886: 'Mr. Leconte told me that on his arrival on the island three years ago, he found the Negroes in a most insubordinate condition, and that within a month of his landing, his verandah was besieged by a body of thirty men, armed with knives and bludgeons, who declared that they would not leave the place until they had taken his life. Luckily for him they were as cowardly as they were insolent, and he was able to keep them at bay by presenting a revolver, until he had succeeded in reducing them to a more reasonable state of mind" (Bourne 1886b, 389-390).

The coaling stations again focussed attention on the strategic value of Diego Garcia, for the first time since the East India Company's foray in 1786. In February 1884 Lund made a proposal to the Mauritius Government for a mail service from Mauritius to Colombo, linking at Diego Garcia with the frequent Cape to Australia services, thus bringing mail to Mauritius much more rapidly than directly from the Cape. But the direct Cape-Mauritius service had just been renewed and Lund's proposal was not taken up. If it had, the strategic importance of the atoll would have been more apparent. The interest of the Imperial Government was great enough, however, for H.M.S. Rambler under Commander the Hon. F.C.P. Vereker, R.N., to make the first thorough hydrographic survey of the northern half of the Iagoon in 1885. Vereker's survey, with Moresby's more general survey of the southern lagoon, remains the basis of the published charts.

In spite of its turbulence, the coaling station period was a brief one. In 1888, after only six years' operation, which had proved unprofitable, the Orient Company ceased using Diego Garcia and sold its facilities to Lund. James Spurs left the atoll and went to Aldabra. It is not known how long Lund continued working, but by 1900 Diego Garcia was once again simply a supplier of coconut products.

# E. The Twentieth Century

After the withdrawal of the coaling stations, the atoll reverted to a plantation economy. The buildings at East Point were renewed, and a chapel added in 1895. Later a church and a jetty with light railway were added, and East Point emerged as the main commercial centre of the atoll.

The buildings at Minni Minni, Middle Island and East Island were abandoned and are now in ruins or have disappeared. Pointe Marianne is little more than an outstation of East Point, where all processing is carried out, and the large manager's house at Marianne has disappeared. Figures for oil production given by Bergne in an unpublished manuscript dated 1900 are remarkably similar to those of 1864:

Plantation	Lessee	Oil production, galls.	Litres		
East Point	M. Liénard	50-60 000	227-273 000		
Pointe Marianne	M. Levieux	30-35 000	136-164 000		
4/	M. Liénard				
Minni Minni	M. Margery	16-20 000	73- 91 000		

But in spite of this apparent stability, the industry was about to undergo a major technological change. In 1903 the Government of Seychelles introduced copra platforms into the islands to dry copra by a combination of sum and artificial heat, and by about 1910 copra was the main coconut product exported from the islands to Mauritius. The "Oil Islands", as the Chagos group had been known, were oil islands no longer. It is not known when exactly the change occurred at Diego Garcia, but presumably it was at about the same time as on other Indian Ocean islands (Dupont 1938). Wiehe (1939) gives a detailed account of the operation of the coconut plantations and of copra production on Diego Garcia, Peros Banhos and Salomon immediately before the Second World War: at this time the atoll was yielding about 5.3 million nuts a year. In 1967 the copra production was 707 tons, half the total for the British Indian Ocean Territory. This must represent a yield of at least 4.5 million nuts, and suggests that the annual production has not greatly changed over the last century.

Diego Garcia had brief notoriety during the early months of the First World War. In 1899 the German warships Bismarck and Marie had anchored in the lagoon, and two days after they left the British heavy cruiser Hampshire arrived with the Empress of Russia, which entered the lagoon (Hoyt 1967): the powers were clearly interested in oceanic anchorages. When war broke out the German cruiser Emden was in the Indian Ocean, and during its pursuit by English warships called at Diego Garcia on 9 October 1914 to coal and clean its bottom. At this time the local inhabitants were unaware that war had been declared. The Assistant Manager "came into the wardroom and made very good practice with the iced whisky and soda. For us the conversation became interesting from the moment that we recognised that this manager and the inhabitants had no idea that there was a war on in the world" (Hohenzollern 1928, 133). Battle damage to the ship was explained as having been caused by storms; the ship took on a large live pig, fish and fruit in return for wine and whisky, and it left on 10 September shortly before English warships arrived. The Emden was finally caught and destroyed at Cocos-Keeling on 9 November 1914.

The strategic value of the atoll again became apparent during the Second World War. Following the Japanese attack on Colombo in April 1942 and heavy British naval losses in the central Indian Ocean, it was decided to develop Addu Atoll in the Maldives, previously used as a refuelling

station and anchorage, as a military base (Roskill 1956, 25). Diego Garcia became one of a number of places used as fuelling and minor operational bases for naval craft and flying boats (Kirby 1958, 58; Roskill 1956, 33), and defended by six-inch guns. A wrecked Catalina still lies on the beach at East Point, but the military interest was short-lived and the installations were in decay at the time of Ommanney's visit in 1948 (Ommanney 1952, 233). Several books by Thompson (1946, 1949, 1956) give a largely fictional account of the atoll in war-time.

In 1965, Diego Garcia, together with the rest of the Chagos Archipelago, was detached from the administration of Mauritius and incorporated in the new British Indian Ocean Territory. An agreement was entered into between the United Kingdom and the United States in 1966, under which either party could have the use of any part of the Territory for military purposes for not less than fifty years. H.M.S. Vidal under Captain C. R. K. Roe, R.N., made a detailed hydrographic survey of the entire lagoon in 1967. Military use of the atoll had been comtemplated for many years, and Bourne (1886b, 391) made the following comment after his visit eighty years ago: "I have even heard that it is proposed to protect the island by some sort of fortification, but how this is to be done, and of what use it would be to fortify an island 10 feet high, which might be completely commanded by a ship sailing outside of it, I am at a loss to know".

# F. Introduction of animals and plants

There is little documentary evidence of the introduction of plants and animals to Diego Garcia, though from the beginning of the sixteenth century it was general practice to land sheep, goats, cattle, and even rabbits and hares on uninhabited islands in the Indian Ocean to provide a future food supply. Some introduction of plants probably took place in 1784 when the ship-loads of soil were brought from Bombay. By the end of the eighteenth century pigs and dogs were being bred in the islands for export, and bees and poultry had been introduced (Findlay 1882). Donkeys had been imported into the Chagos Archipelago and other islands by the 1840s to work the oil mills. There is an early description of these animals on Agalega (Leduc 1897-1906; Scott 1961, 145-146), where they "appear to thrive well ... and breed very fast" (Anon, 1845, 479).

Moresby in the late 1830s recorded maize, tobacco, cabbages, "greens", sweet potatoes, onions, carrots, turnips, "leaks", garlic, "and all the common vegetables cultivated in India, with limes and citrons" (Anon, 1845, 480). He also noted that "pompions and plantains grow wild and are of good flavour", and that cotton was widespread. Moresby was responsible for introducing Artocarpus to the Archipelago: "Of the bread-fruit tree, when Captain Moresby first visited these islands, they had none; but he brought about thirty young plants from Ceylon, which succeeded well, as also did the Malabar yam" (Anon, 1845, 480).

Bourne in 1886 found bananas, custard apples, bitter oranges and a few other tropical fruits in the gardens at East Point, Minni Minni and Pointe Marianne. According to him attempts to introduce potatoes and vegetables had been defeated by rats.

In addition to donkeys and rats, there were pigs and poultry in abundance in Moresby's time, together with feral cats (Anon, 1845). "Among the occupations of these Negroes was the feeding of swine, with which the dwellers on many of these islands lived in terms of considerable intimacy" (Anon. 1845, 483).

In 1967 donkeys were seen, generally in groups of 3-12, near the northwest point, south of East Point, along the southeast side, and south of Pointe Marianne. The population may number over one hundred, and individuals are occasionally shot for food. Rats are extremely numerous and are seen constantly during daylight running upon coconut trunks: There is a bounty of three cents a rat for each body produced. A similar bounty thirty years ago brought in more than thirty thousand rats a year (Wiehe 1939, 23). Chickens, cats and dogs are plentiful in the settlements.

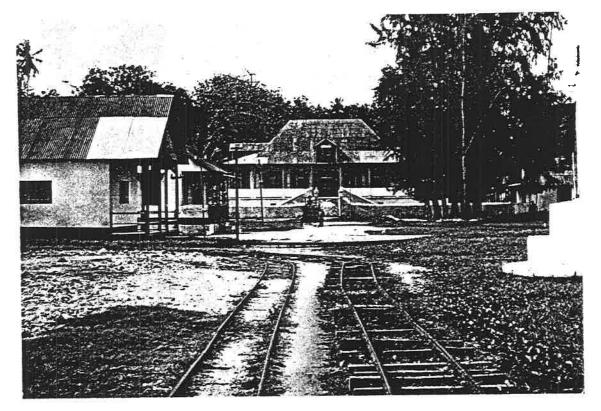
Weeds and cultivated plants have been described in Chapters 11 and 12, and introduced insects, particularly the rhinoceros beetle Oryctes rhinoceros, in Chapter 14.

### G. Conservation

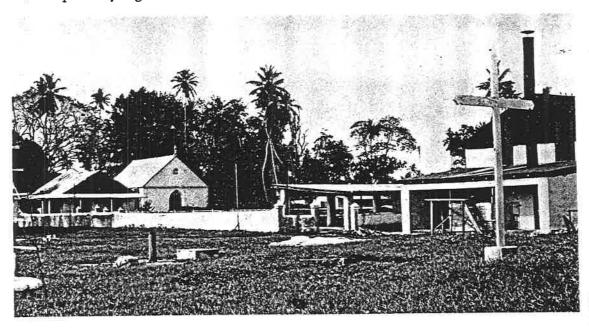
Little attention has been paid at Diego Garcia to conservation: the atoll has simply been used as a supplier of coconut products, and to a lesser extent of dried fish and turtles, for Mauritius. Both the Green and Hawksbill turtle used to nest here in some numbers: the Hawksbill from December-March, and the Green at all seasons. The early settlers found the frigate birds, boobies, noddies, terns, herons and tropic birds to "breed on these islands. ... (They) are considered good eating; the feathers, too, make excellent bedding" (Anon. 1845, 483).

The first practical conservation measures were taken by James Spurs, when manager in the 1870s. He forbade the killing of sea birds, turtles and cipaye (Birgus) on his estate, to prevent any decline in numbers. As a dependency of Mauritius until 1965, the conservation legislation of that Colony applied to Diego Garcia, but in the absence of enforcing authority or of any clear need for conservation it is unlikely that much attention was paid to it. The main statutes affecting conservation in the Chagos islands were the Exportation of Plumage Birds Ordinances 1914 and the Wild Birds (Protection) Proclamation 1939, each with a schedule of birds. The Lesser Dependencies Importation of Animals statute 1933 prohibited the import of any mammal, bird, fish, reptile or living insect in the Chagos islands. Other Mauritius conservation legislation is relevant only to the Mascarenes proper (Lane 1946a, 1946b).

Following the creation of the British Indian Ocean Territory in 1965, its Commissioner took powers by Ordinance 2 of 1968 to make regulations for the protection and preservation of wild life in the Territory. These powers are intended not only to cover interference with animals but also "any change or alteration" in an animal's environment. Regulations under this Ordinance (S.I. No. 11 of 1968) have prohibited the taking of Green Turtle throughout the Territory, and also the possession or sale of any turtle products, from 13 August 1968.



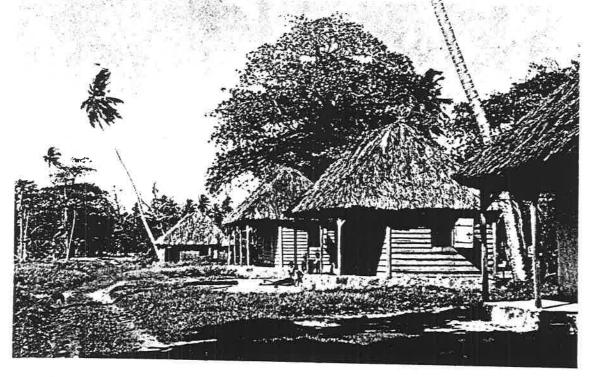
- 43. The Manager's house and other buildings at East Point: compare a similar photograph in Chum (1903). The railway leads to the jetty
- 44. Copra-drying sheds and the church at East Point



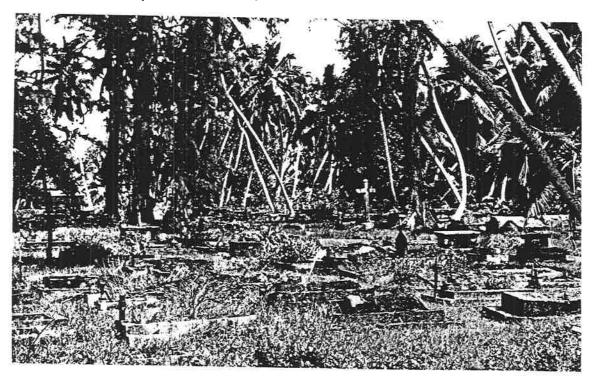


- 45. Motorable road through coconut plantations between East Point and Minni Minni
- 46. Ruined buildings seen through an avenue of old  $\underline{\text{Ficus}}$  trees at Minni Minni





- 47. Labourer's houses at Pointe Marianne village
- 48. The cemetery at East Point





- 49. The disused cemetery, with a massive Ficus tree, at Pointe Marianne
- 50. Wild donkeys in coconut plantations southwest of Barachois Maurice

