WORLD HERITAGE NOMINATION - IUCN SUMMARY

609: KOMODO NATIONAL PARK (INDONESIA)

Summary prepared by WCMC / IUCN (April 1991) based on the original nomination submitted by the Government of Indonesia. This original and all documents presented in support of this nomination will be available for consultation at the meetings of the Bureau and the Committee.

---

1. LOCATION

The national park is located in the Lesser Sundas. It comprises a coastal section of western Flores and the islands of Komodo, Padar, Rinca and Gili Motong and the surrounding waters of the Sape Straights. 219,322ha.

2. JURIDICAL DATA

Komodo was declared a national park in 1980 and extended to 219,322ha in 1984 to include an expanded marine area and a section of mainland Flores. Komodo was accepted as a biosphere reserve under the Unesco Man and Biosphere Programme in January 1977.

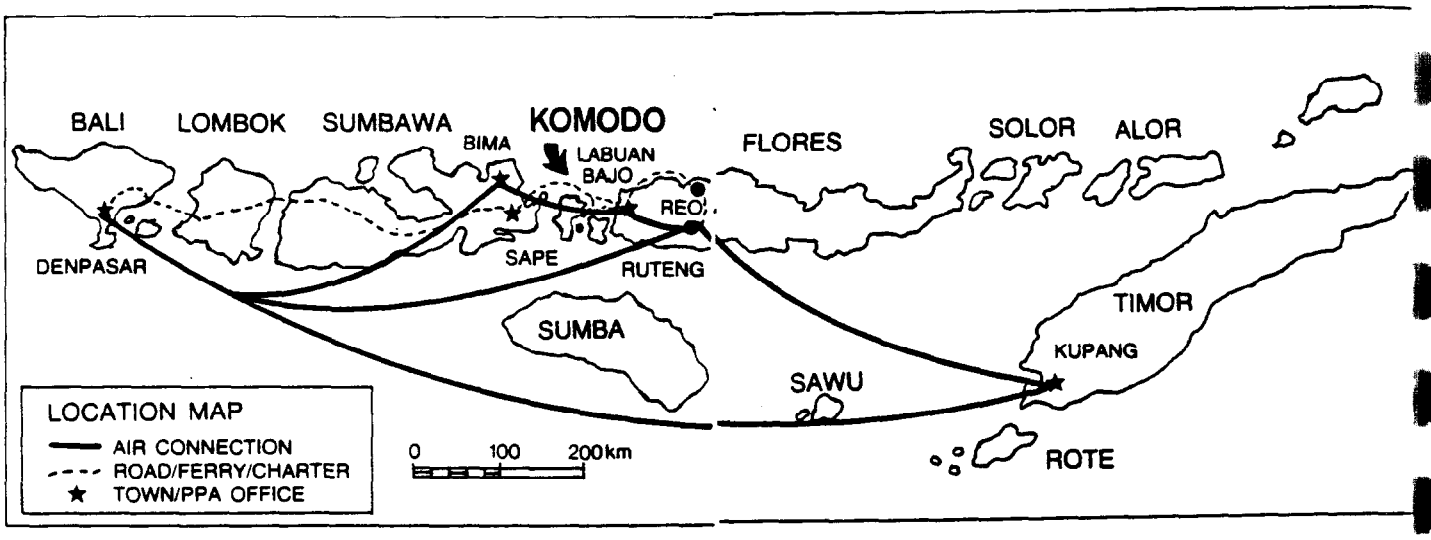
3. IDENTIFICATION

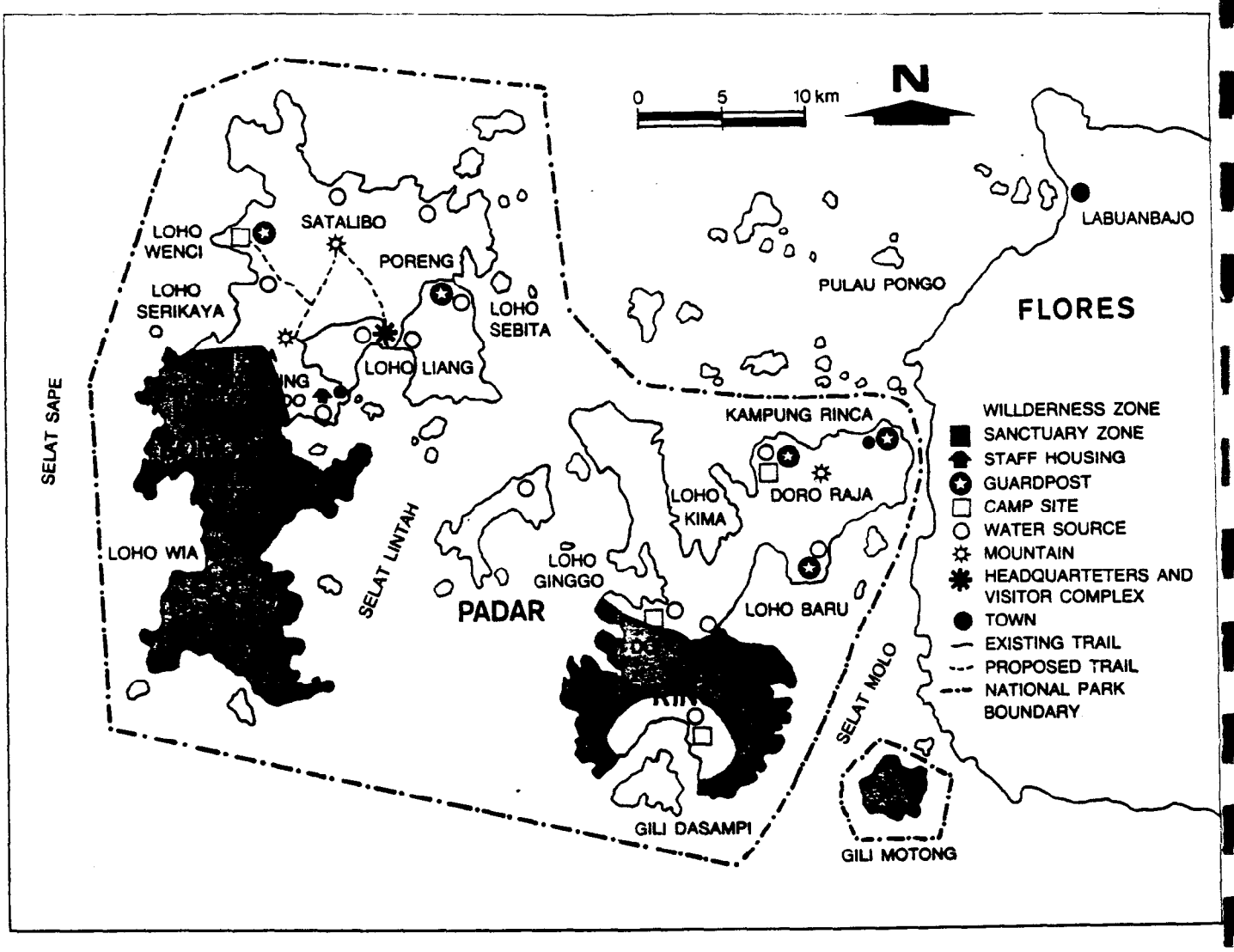
The generally rugged topography reflects the position of the park within the active volcanic 'shatter belt' between Australia and the Sunda shelf. Komodo, the largest island, has a topography dominated by a range of rounded hills oriented along a north-south axis. To the east is Padar, a small, rugged island, the topography of which rises steeply from the surrounding sea to between 200m and 300m. The second largest island in the park, Rinca, is dominated by the 667m Doro Ora massif, while to the north the steep-sided peaks of Gunung Tumbah and Doro Raja rise to 187m and 351m, respectively. The coastline of all three islands is generally rugged and rocky although sandy beaches are found in some sheltered bays. The mainland components of the park lie in the rugged coastal areas of western Flores, where surface fresh water is more abundant than on the offshore islands. Fringing and patch coral reefs are extensive and best developed on the north-east coast of Komodo and the south-west coast of Rinca and Padar.

The predominant vegetation types are open grass-woodland savannah, mainly of anthropogenic origin and covering some 70% of the park, and tropical deciduous (monsoon) forest along the bases of hills and on valley bottoms. Other vegetation types include cloud forest above 500m on pinnacles and ridges and mangrove forest in sheltered bays off Komodo, Padar and Rinca. Extensive sea grass beds occur to the north of Rinca Island.

(iii) **Superlative natural features** The park's landscape is regarded as among the most dramatic in Indonesia, with the rugged hillsides of dry savanna and pockets of thorny green vegetation contrasting starkly with the brilliant white sandy beaches and blue waters surging over coral.

(iv) **Habitat of threatened species** The park is virtually the only place in the world where the Komodo monitor exists in the wild. Being an island and relatively isolated, it is one of the best locations in which to ensure the long-term survival of the species.


BALI
LOMBOK
SUMBAWA
KOMODO
BIMA
LABUAN BAJO
FLORES
SOLOR
ALOR
REO
DENPASAR
SAPE
RUTENG
TIMOR
SUMBA
KUPANG
SAWU
ROTE
LOCATION MAP
AIR CONNECTION
ROAD/FERRY/CHARTER
TOWN/PPA OFFICE
0 100 200km


0 5 10 km
N
LABUANBAJO
PULAU PONGO
FLORES
SATALIBO
LOHO WENCI
PORENG
LOHO SERIKAYA
LOHO SEBITA
LOHO LIANG
SELAT SAPE
KAMPUNG RINCA
LOHO KIMA
DORO RAJA
LOHO WIA
SELAT LINTAH
LOHO GINGGO
PADAR
LOHO BARU
SELAT MOLO
GILI DASAMPI
GILI MOTONG
WILLDERNESS ZONE
SANCTUARY ZONE
STAFF HOUSING
GUARDPOST
CAMP SITE
WATER SOURCE
MOUNTAIN
HEADQUARTETERS AND VISITOR COMPLEX
TOWN
EXISTING TRAIL
PROPOSED TRAIL
NATIONAL PARK BOUNDARY

WORLD HERITAGE NOMINATION - IUCN TECHNICAL EVALUATION

609: KOMODO NATIONAL PARK (INDONESIA)

1. DOCUMENTATION

i) IUCN Data Sheet

ii) Additional Literature Consulted: None.

iii) Consultations: Indonesian Government Officials, R. Salm, R. Petocz, A. Robinson, K. MacKinnon.

iv) Field Visit: April, 1990, Jim Thorsell.

2. COMPARISON WITH OTHER AREAS

Indonesia is a complex of thousands of islands, although there are only a few dozen of substantial size. Komodo (discounting the presence of the Komodo monitor) is physiographically quite typical of the small, low-rising dry islands in the Eastern Lesser Sundas, and also quite similar to the lower elevations of the larger adjacent islands in the chain (eg. Sumbawa and Flores). Its terrestrial species richness is moderate because it lacks extensive rain forest (though remnants of moist forest of earlier eras are interesting and diverse). But what it may lack in diversity it makes up for in special characteristics as a Wallacean transition biota. In general it is a good representative of these eastern islands, and of Wallacea, but of course very distinctive from the larger, higher, wetter and therefore (at least originally) heavily forested Greater Sundas to the west, Kalimantan and Sulewesi to the north and Irian/Papua New Guinea to the east. What sets it immediately apart from the majority of Indonesian islands is that by comparison it is virtually uninhabited, with only about 600-700 people living on each of the two major islands of the group, in essentially only two strictly defined locations, whose livelihoods are almost exclusively oriented towards marine resources, not terrestrial ones.

The major distinguishing feature of Komodo that sets it apart from all others is the existence there of the Komodo monitor lizard. This, the world's largest lizard, has a very restricted distribution centred on the park and along the northern position of the adjoining main island of Flores.

3. INTEGRITY

The main concern over Komodo has been the lack of adequate protective legislation. Although the history of protection goes back to 1938 and the area was declared a national park in 1980 by Ministerial Decree, there was no legislative authority for its existence. In 1990, however, a major new comprehensive conservation law was passed which will provide, when combined with implementing regulations, a solid legal basis. All Indonesian national parks, including Komodo, which currently owe their existence to only a (reversible) ministerial decree, are in the process of being redeclared on the basis of the national law, elevating the legislative mandate to the parliamentary and presidential level. Although the specific implementing regulations have yet to be finalised, there is momentum for them and a high potential for getting good, specific regulations which will replace the confusing series of edicts, designations, decrees which date from early Dutch colonial times. This process is expected to be completed for Komodo by the end of 1991.

Although the management plan for Komodo was proposed in 1979, it is quite specific and adequate to guide current decisions. A revision would be warranted soon, particularly in the light of the fifteen-fold growth in tourism since it was prepared.

The boundaries of the park encompass the main features and are considered adequate. The two reserves on Flores Island, both of which harbour some Komodo dragons are, however, best left out of the property. Both these areas, Mbeliling Nggorang and Way Wuul, are not under any management regime at present and are only attached to the Komodo office for administrative ease. Occasional capture of dragons for zoo purposes takes place and the long-term survival of the species on Flores is not assured even though these two isolates may have a role in providing genetic variety.

There is an extensive marine buffer zone to the park, in which park staff have authority to regulate the type of fishing permitted and to some extent even the presence of outsider fishermen. This authority over a large buffer zone has a great deal to do with gains in anti-poaching (of deer, a monitor prey species). In general the buffer is a very progressive management arrangement which (as it becomes better and better patrolled) can become very significant in long term protection of the park.

In terms of management at the local operational level, Komodo ranks as one of the best in Indonesia. Morale seems high despite chronic low salary problems and motivation and work habits of staff are good. The current park director has aggressively pursued unorthodox ways of insuring small portions of tourist revenues are recycled into park maintenance. He also aggressively continues the tradition of close cooperation with police and military officials to address

patrol issues and especially the poaching of deer and damaging fishing practices. The growing popularity of Komodo National Park as a destination for adventure travel has focused PHPA's attention on this park, and has had a major influence on keeping good staffing and routine budgets.

A minor problem is the existence of a pearling station on Rinca Island. This activity may not be damaging but the permanent structures built to operate it are obtrusive and in violation of park regulations.

The major management issue, as suggested above, is the increasing tourism and a singular focus on the Komodo dragons. The challenge will be to broaden the interest of visitors to other natural attractions (particularly the marine environment) through interpretive programmes and appropriate facilities (eg. nature trails). There are a number of maintenance requirements and equipment needs (eg. boats) as most facilities were provided in 1982 and are in need of repair or replacement.

4. ADDITIONAL COMMENTS None.

5. EVALUATION

The central concern over the nomination of Komodo has been the singular focus of the park on one species - the Komodo monitor. There are thousands of islands in different parts of the world that are home to endemic species of plants (eg. New Caledonia with 2474), or animals such as birds (Solomon Islands have 14). Other islands are exceptional for their geological features, coral reefs or scenery. The challenge with Komodo is to determine its particular importance to science and to conservation in the global context of other islands.

Certainly, the most dramatic argument for Komodo's importance to science is the presence of a very impressive and remarkable animal - Varanus komodoensis - which occurs almost nowhere else. Evolutionary influences such as isolation, lack of competitors or predators, a harsh environment, rising and falling sea levels, climatic change, volcanism impacts and others have all acted in various ways, both subtle and obvious, to shape the Komodo monitor's current morphology and ecological status. As a laboratory for studying such changes, Komodo National Park ranks highly among a few similar areas already recognized for their unique evolutionary history, the Galapagos and Hawaiian archipelagoes being the best examples. The monitor itself is only the most obvious element of the fauna; it seems likely that ultimately other very important questions will be addressed in this ecosystem, including how the presence of a unique top carnivore has affected the evolutionary and ecological history of other elements, and how the environment itself has changed over the extremely long period (millions of years) this sort of Varanid has existed.

Obviously, continued effective management of the area as a reserve or park is crucial to eventual scientific study of these issues.

The size, appearance and behaviour of the Komodo Monitor itself is truly impressive both in the technical and scientific sense as well as its impact on visitors. Although much exaggeration of the lizard's aggressiveness and threat to humans has been spread, and its linkage to dragon mythology exploited, the fact remains that V. komodoensis is unique among the world's lizards in its large size, predatory habits and behaviour characteristics. Scientists and zoo keepers who have studied the species also consider it one of the most intelligent reptiles in the world.

The importance of Komodo National Park to conservation is a subjective judgement, since it can be argued that loss of smaller, almost unnoticed species can be just as important a loss of more dramatic ones. And it may be suggested that focusing effort on large tracts of Indonesia's least disturbed lands of high species diversity will have a greater payback in numbers of rare forms protected or genetic diversity maintained. Both points are valid but there is still substantial conservation awareness value (both within Indonesia and overseas) to relatively modest projects which concentrate on the dramatic or symbolic lifeforms for which Indonesians already have considerable pride and sympathy. The Komodo monitor is one such species (as is the Javan rhino at Ujung Kulon, another World Heritage nomination).

Aside from the monitor's uniqueness there is the whole complex of flora and fauna of the Komodo group which is an excellent representation of the evolutionary richness of this region. Although Alfred Russell Wallace never visited Komodo, nor were the Komodo monitors known to science in his day, it could be speculated that had he known the story he would have had even more convincing evidence of the factors governing natural selection. In any case, Komodo has, in addition to the dragon, a number of other natural features including its marine environment, its flora, and intact natural scenery which combine to make it a park of memorable quality.

The conclusion is that Komodo National Park thus meets criteria (iii) (superlative natural features) and (iv) habitats for animals of outstanding universal value. The conditions of integrity for both are met.

6. RECOMMENDATION

Komodo National Park should be inscribed on the World Heritage List. The boundaries should encompass the offshore island groups and not the buffer zone or the reserves on Flores Island. The Indonesian authorities should be encouraged to complete the gazettement process and report back on progress by the December meeting of the Committee.