The programme will continue with, as primary objectives, focus on completion of management plans, the development of materials for conservation education and public awareness, the development of the butterfly and crocodile conservation/utilization projects, the beginning of a large southeast Irian Jaya conservation programme involving deer management, reserve management planning, and a wetlands conservation project. Assistance will also be given towards the implementation of the Cyclops Mountains management plan.

Project 1960
Ujung Kulon, Javan Rhinoceros
WWF Expenditure 1984 — $6,357
(Total since 1980 — $32,916)

Project Executants: Haerudin R. Sajudin, Sukianto Lusli, Universitas Nasional, Jakarta.

Participating Organization: Biology Faculty, Universitas Nasional.

Objectives: To monitor population dynamics of the Javan rhinoceros, with particular emphasis on immature animals; to elaborate a practical conservation and protection programme.

The distribution of the Javan rhinoceros *(Rhinoceros sondaicus)* used to cover a wide area including Bangladesh, eastern parts of India, Burma, Thailand, Laos, Kampuchea, Vietnam and the Malaysian peninsula. It is also thought to have been found in the southern parts of China, along the Mekong and Songkoi rivers. In ancient Indonesia it was found in Sumatra and Java.

A drastic and rapid population reduction of this once widely distributed species started at the beginning of the 20th century. Frequent and indiscriminate hunting almost wiped out the Javan rhinoceros, and it is now found only in Ujung Kulon in western Java, where its population growth is constricted due to the relatively limited habitat.

Ujung Kulon is covered with almost impenetrable forests and swamps, making the rhinos very difficult to observe. In 1955 Hoogerwerf estimated the Javan rhino population there at 35. Schenkel in 1969 estimated it at only 25. The Government of Indonesia and WWF then cooperated to save the species from extinction. Ujung Kulon was tightly guarded; guard posts and patrol personnel were added, equipped with logistic and transport facilities such as boats, ground vehicles and firearms, to stop illegal hunting; and an annual census of the species was carried out. The efforts were successful, and the population of Javan rhinoceros has slowly increased.

In 1981, the census estimated a minimum of 54 animals and a maximum of 60. The 1984 Javan census was carried out in Ujung Kulon in April and involved 47 people, including 11 students from the Biology Faculty of the National University. The rhino population was estimated at 50-54, a substantial drop from previous years. The decrease might be related to five deaths from an unknown cause, probably disease, which occurred in 1981-82.

Prints of three newly-weaned calves, however, were found and the census indicated that the population had a healthy age composition: prints most often found were those classified in the category of adult females or young males (74.83%). The composition of print classes suggests that the population of the Javan rhinoceros in Ujung Kulon can be expected to grow, assuming that no major limiting factors emerge. Some rhino experts believe that the rhino population in Ujung Kulon has almost reached saturation point. The Chairman of the IUCN Species Survival Commission Asian Rhino Specialist Group has made a plea to revive earlier plans to set up a second breeding population in a suitable area in Sumatra.

The results of the census also show that the range and distribution in the reserve is uneven. The largest population concentration occurs in the central part of the Cape. West of the Gunung Payung complex to the tip of the Cape, very few prints were found. The distribution extends eastwards to the Karanganyar area. This shows that this region, empty after the death of the five rhinos there in 1981-82, has been reinhabited as a ranging area.

In addition to the rhinoceros, other wildlife was recorded during the census. Banteng *(Bos javanicus)* need to be given special attention and continuously monitored; they are thought to be the main ecological competitors to the rhinoceros, as they occupy the same habitat and feed on some of the same vegetation species.

Since the April 1984 census, one rhino was killed in Ujung Kulon by poachers. Three poachers were arrested in March 1985 for killing a rhino the previous December. The horn was confiscated. This was the first time poaching had occurred in the national park for several years.

The Ujung Kulon National Park has included the uninhabited island of Panaitan (17,500 ha), 10 km offshore, since 1980. The island has only secondary vegetation as it was swept bare by the tidal wave following the eruption of Krakatoa in 1883. The Biological Science Club, affiliated to the Indonesian Institute of Science, studied biological and conservation aspects of the island's ecosystem during 1984 and 1985. It is recommended that it should be kept as a wilderness area with strictly managed tourism, and that the possibility of translocating some endangered mammals from Java to the island should be investigated.