

# Background info on Javan Rhinoceros *Rhinoceros sondaicus annamiticus* in Vietnam

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## Introduction

The Javan Rhinoceros is perhaps the most threatened large mammal in the world. Only two populations are known to exist. In the Ujong Kulon National Park on Java (Indonesia) there are about 50 to 60 animals. The second population is in Cat Tien National Park (Vietnam) where only 5 to 10 animals remain.

This document provides a general overview of the past and present status of the Javan Rhinoceros in Vietnam. It also gives some information on the animal's ecology and discusses the threats for the continued existence of the species. It continues with an overview of what activities are required to save the Javan Rhinoceros in Vietnam and what is currently being done to achieve that goal.

## Past distribution of Javan Rhinoceros

In the past, Javan rhinos were spread over a large area in South East Asia. They were to be found in India, Bhutan, Bangladesh, China, Myanmar, Thailand, Laos, Cambodia, Vietnam, Malaysia and Indonesia (Sumatra and Java). Reports of local people and explorers indicate that the animals were quite numerous during the late 19<sup>th</sup> and early 20<sup>th</sup> century.

The *Rhinoceros sondaicus annamiticus* sub-species was found in Vietnam, Laos, Cambodia and the eastern parts of Thailand. The *Rhinoceros sondaicus sondaicus* sub-species was found on the islands of Sumatra and Java and the Kra Isthmus and peninsula Malaysia.

## Past and present status of Javan Rhinoceros in Vietnam

Old Vietnamese and French reports indicate that both the Sumatran and the Javan Rhinoceros were once common in Vietnam.

Apparently the Sumatran rhino became extinct in Vietnam early this century. Early this century the Javan rhino was to be found in the

northwestern and southwestern parts of Vietnam.

In the 1960's, it was feared that also the Javan Rhinoceros got extinct in Vietnam and thus on mainland Asia. In 1969 Van Peenen wrote: "at present there probably are no living members .... in South Vietnam, although as recently as the 1920's rhinoceroses were hunted not far from Saigon" (in Schaller *et al.*, 1990). But in 1988 a hunter shot a female rhino near the Dong Nai River in Cat Tien District. He was arrested after he tried to sell the horn and skin on the market. This incident renewed the attention of the Vietnamese and international conservation community for the rhinos of Vietnam. A number of publications in the early 1990's (Schaller *et al.*, 1990, Santiapillai *et al.*, 1993 and Dang, 1994) report on different field investigations on the plight of the Javan Rhinoceros in Vietnam. From these investigations it became clear that local people had seen rhinos on different occasions and in different places in Southern Vietnam over the past decades. But the last observation of rhino in Northern Vietnam was from 1964 and the species is considered extinct in that part of the country.

It was clear that the rhino population has suffered from the war. Defoliants destroyed large parts of its habitat and mines must have blown up quite a few rhino's. It has also been reported that soldiers hunted rhinos. After the war a lot of high powered arms remained in circulation and it would not be surprising if it was found out that rhinos have been killed by hunters in the years after the war. Schaller *et al.* (1990) report sightings by local people and different signs of rhinos in the Song Be, Lam Dong and Dong Nai Provinces. Santiapillai *et al.* (1993) report tracks only in Lam Dong Province and an animal which crossed the river into Song Be Province. It seems that at that time the rhinos of Dong Nai Province had permanently retreated into Lam Dong Province.

The number of rhinos in Vietnam has been falling steadily over recent years. It is estimated that there are only 5 to 10 animals remaining in Vietnam.

### **Rhino ecology**

Javan rhinos measure about 130 – 150 cm. in height and can weigh up to 1,500 kg. The *Rhinoceros sondaicus annamiticus* sub-specie in Vietnam is considerably smaller than its Ujong Kulon counterparts in Indonesia.

It is generally said that only the males carry a small horn. The horn is actually a dense formation of hair; it does not constitute of bone. Rhino horn is highly valued as a traditional medicine. However, it is important to know that its effects have never been scientifically proven and that hunting of and trade in (parts of) any rhino is forbidden under the international Washington Convention (CITES). The Javan rhino is basically a solitary animal. If more than one rhino is seen together, it most of the time concerns a female with its young. The gestation period of these rhinos is about 16 months. A young stays with its mother for about three to four years. Javan rhinos become sexually mature after four to six years.

The Javan rhino is quite adaptable to its environment. They live in semi-evergreen forests and like to graze in open grassy areas. In Vietnam the rhino's are pushed into a very un-hospitable area of steep hills covered with in-accessible bamboo and rattan thickets.

They eat a wide range of plants but their diet is largely unknown. To supplement their diets they need to consume salt regularly. In Ujong Kulon the rhinos drink therefore seawater. In Vietnam the rhinos are known to frequent a number of saltlicks; springs with mineral rich water. The saltlicks are of crucial importance for a rhino to survive. If the rhino can not get its minerals from the saltlick, it will certainly die. Saltlicks are also places where these solitary animals meet each other regularly.

Because rhinos are very plump, it is difficult for them to keep their body temperature low enough. Therefore rhinos stay out of the sun and like to bathe a lot in so called wallows. The dried-out mud on their skin helps to protect them against dangerous radiation from the sun and also against all kinds of parasites. Wallowing is therefore very important for rhinos. Wallow sites are also often the place where different rhinos meet each other. Without wallow sites rhinos will probably find it difficult to find a partner for mating.

The footprints of the rhinos in Ujong Kulon and Vietnam are quite different. The ones in Vietnam are much smaller. Scientists estimate that the Vietnamese rhino is about 60 to 70% of the size of its Indonesian relative. Although they are of the same species, scientists believe the populations are so different that they can not crossbreed. Important is to note that in fact very little is known about Javan rhinos, especially the ones in Vietnam.

### **Threats**

It has already been pointed out that the range of the rhinos in Vietnam has been greatly reduced over the past years. Also their numbers are going down all the time.

In order to protect the rhinos, the Vietnam Government established the Cat Loc Rhinoceros Reserve. This protected area is about 35,000 ha large. In 1998 this protected area was administratively integrated with the Cat Tien NP. In total the protected area is now about 75,000 ha, divided over two areas of about similar size. This is a sizeable area, but small for animals like rhinos, elephants or tigers. These animals need large areas to be able to find enough food. Also, having a protected area with only a few animals of a certain species is not a healthy situation. In-breeding will result in all kinds of defects and likely the extinction of the species. A protected area should therefore be large enough to maintain a sizeable population. Many scientists put the lower limit of a healthy population at 50 individuals. One rhino needs about 600 to 1,000 ha to survive; a tiger about 1,000 ha. One can now estimate how many animals could stay in the Cat Tien NP. But, between the two sections of the park lies an area, which is becoming more and more occupied with farms. Nowadays it is not possible anymore for the rhinos to move between the two protected areas. In fact, over the last years no single report of rhinos in Bien Phuoc (before part of Song Be) or Dong Nai have been obtained. They only still exist in Lam Dong Province. The protected area is split in two smaller parts, which is a very bad situation for wildlife management.

The last report of a hunted rhino was the one of 1988. After that it seems that the hunting of rhino in Vietnam has been stopped. But it does not take much for a hunter to wipe out the whole population. What if one person would kill the only surviving female?

Within the protected area a lot of people are living. Some of these people lived there since time immemorial. Others are recent settlers. The continued in-migration of settlers into the protected area is of great concern. New agricultural land is opened up all the time, destroying the last bits of forest for cashew and mulberry plantations. Human populations are known to be able to grow fast and it is certain that this un-checked situation will destroy the protected area for good. The large number of people cause already disturbance by their mere presence; making noise with radio's and grass cutters, and polluting the area with plastic and other garbage. Of special concern is that the areas surrounding the saltlicks are progressively turned into agricultural land. It is becoming more and more difficult for the rhinos to get to these important places.

Settlements along the Dong Nai river physically prevent the rhinos to range into other areas. They have to remain now in a small. This can be dangerous for the continued existence of the animals. It only needs one human made or natural disaster to wipe out the whole population. The encroachment into the protected area makes it impossible for the rhinos (and other animals) to escape to other areas when such a disaster comes. For instance, in the event of a particularly dry year, the rhinos can have no access to last remaining water bodies for drinking because everywhere there are people living along the Dong Nai river. A small fire can then also burn down the whole park.

It is important to realise here that bringing-in rhinos from Ujong Kulon to re-stock the rhino population in Vietnam is not possible. Although they belong to the same species their physical characteristics are completely different and crossbreeding is not possible.

A more indirect threat is the apparent uncoordinated nature of developments within the protected area. On the one hand the protected area is under the management of the Ministry of Agriculture and Rural Development in Hanoi with major objective to conserve the area's natural ecosystem. On the other hand, other ministries and other governmental levels (such as Districts and Provinces) make development plans (and implement those) which do not always pay attention to the areas principal function: conservation of the ecosystem. Such developments make it more attractive for people to live in this protected area. It is important to work towards raising the standard of living of people. But not within protected areas, which were agreed to be set-aside as examples of Vietnam's natural ecosystem for our future generations.

### **Threats to the Survival of Rhinoceros in Vietnam:**

1. Poaching
2. Agricultural encroachment.
3. Habitat fragmentation.
4. Disturbance.
5. Loss of access to saltlicks and secure water sources.
6. Little protected area.
7. Split protected area.
8. Genetic in-breeding.
9. Lack of co-ordination of development activities.

### **What should be done**

The rhinos of Vietnam should be vigorously protected. Activities such as hunting, land clearing, tree felling are unacceptable within the park. Further in-migration of people into the park should stop. Forest guards of the Cat Tien National Park should patrol the area continuously to control and stop such illegal activities. At the same time the forest guards ought to educate the local people about the importance of these last valuable resources; valuable for Vietnam and for the rest of the world.

A wider information campaign is required. Such a campaign should be backed by the government while foreign non-governmental organisations could assist. In general, all governmental levels should back-up the efforts of Cat Tien NP. Police and judicial forces should support the Park when it comes to arrest and court cases against violators of the law. Education departments could play an important role in conservation education. A respectful remuneration of the forest guard's services also belongs to the Government's considerations.

Development activities need to be co-ordinated. As the primary objective of protected areas in Vietnam is conservation of the natural ecosystem, development activities should not take place within protected areas. The park authorities ought to be in a legal position to halt development activities within its boundaries. The park authorities should also have a say in decision making about development activities inside the buffer zones of the park. Regular co-ordinating meetings between all parties concerned should therefore be held and institutionalised.

One of the first things such a meeting should decide upon is a policy on existing human settlements within the Park. Ought people to be re-settled or will people be allowed to remain within the park? Special consideration should be given to the indigenous communities in the area. If re-settlement is decided upon, this should be a participatory and respectful process which pays attention to the desires and needs of the people involved. Foreign agencies should assist the Government in such a scheme by providing alternative sources of livelihood in the receiving areas.

Consideration could be given to integrating indigenous communities into the National Park service. Most of these people know the area extremely well and wish to remain to live within the forest. A limited number of them could be given this opportunity.

The Cat Tien NP is aware of the difficulties local communities face. Living conditions in the area are poor. The park would like to assist these communities in finding a better way of life. To achieve this, a frank and open discussion is needed. One of the topics to be discussed is family planning. Families in these rural areas are quite large. In the future all these children have to go to school and find a way to make a living. It is clear that opening-up more farmland does not belong to the viable solutions. People should understand that large families are just an expensive affair; expensive for the parents but also for the country at large. Therefore a campaign on family planning should be held, explaining its benefits and the different methods available. Contraceptives should be made available even in the remotest rural areas. Only small healthy families have a reasonable future!

Also required is to gain a better understanding of the rhinos in Vietnam. Sex and age structure of the population have to be established because this information has important implications for the management of the park. Also the feeding ecology of the rhino's needs to be better understood so that natural regeneration of the area's ecosystem can be supported by the planting of rhino food trees. In this respect, one of the priorities is to stop agricultural activities around the rhino saltlicks and let these areas regenerate into a natural vegetation again. Regular monitoring of the rhino population is required to see whether the population is stable, increasing or decreasing.

And lastly, in the future the two sections of Cat Tien NP should be joined together. A corridor has to be established in order to allow animals to move between the two areas. Only if this is done, sizeable populations of wildlife can exist in Cat Tien NP.

### **What is being done**

After the Cat Tien NP was expanded administratively in December 1998, a number of activities have been stepped-up. The Cat Tien NP deployed more forest guards in the area where the rhinos live. These guards do their best to control the illegal activities in the area and discuss conservation issues with the local people.

Means of transport have been purchased and new guard stations are being built.

The park also started a dialogue with local communities to assess the possibilities for a voluntary re-settlement. Special attention is being given to the saltlick area. Compensation is being discussed with the farmers to stop farming and grazing of cattle in these important areas. With different Governmental organisations a dialogue is being maintained on all kinds of issues related to the National park. One of those is a policy on re-settlement.

In January 1999 a survey was held to estimate the number of rhinos in the area. These surveys will be held regularly. Later in 1999 a number of automatic cameras will be put in the rhino area. With the help of pictures it is hoped to get a better insight into the sex and age structure of the population.

The Cat Tien NP is being assisted in these activities by a project funded by The Netherlands Government through the Indochina Programme of the World Wide Fund for Nature. This project has also considerable resources to assist local communities in finding more

environmentally friendly ways to make a living.

**Further reading**

Much of the information presented here was abstracted from:

Asian Rhinos, status survey and conservation action plan  
(IUCN/SSC Asian Rhino Specialist Group, 1997).

Javan rhinoceros in Vietnam (George B. Schaller, Nguyen Xuan Dang, Le Dinh Thuy and Vo Thanh Son. in *Oryx* Vol 24, No. 2, April 1990).

Conservation and Management of Javan Rhino (*Rhinoceros sondaicus annamiticus*) in Vietnam (Charles Santiapillai, Pham Mong Giau and Vu Van Dung in *Tiger Paper*, Vol. XX, No. 4, Oct.-Dec. 1993).