

Sumatran Rhino 'Rosa' Rescue Program
Bukit Barisan Selatan National Park

Internal Report of Rosa Rescue Program
From Driving to Translocation

Bukit Barisan Selatan National Park
Way Kambas National Park
Indonesian Rhino Conservation Program (PKBI)
Yayasan Suaka Rhino Sumatera

December 2005

DRIVING and TRANSLOCATION 'ROSA' **8 October – 25 November 2005**

*Submitted by Marcellus Adi CTR, DVM, as Operation Deputy Manager
Of Rosa Rescue Team (RPU BBSNP and SRS)*

- "Driving" and or "guiding" or we call *penggiringan* in Bahasa Indonesia is the term to describe the trip when Rosa is directed by RPU (Rhino Protection Units) of Bukit Barisan Selatan (BBS) National Park to move. Most like "ask" or "beg" rather than force Rosa to walk together.
- When Rosa was found in the villages, RPU will drive her back to the forest.

5 October 2005

- Report from RPU BBS about the illness on her both eyes. They found a white cloud in her eyes ball and tears out continually.
- They were suspected that it happen because Rosa went to the village close to volcanic area call *Hantatai*.

9 October 2005

- The Expedition Team (RPU and SRS) met Rosa at *Kali Kumbang* Village at 9 October 2005, examine the illness of her eyes and found the right eye was even close.
- The Team started to give medication, that is ZnSO₄ to her both eyes. The same medication is give to rhinos in SRS when they get conjunctivitis.

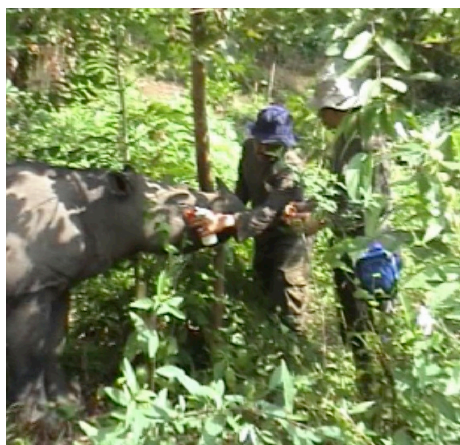


Figure 1 & 2. Condition of Rosa's eyes and its treatment with ZnSO₄ by SRS Keeper, 9 October 2005

- From 9 to 12 October, The Team was observed Rosa, continuing give medication for her eyes and prepare the last driving of Rosa from *Kali Kumbang* to Camp 50.
- Camp 50 is on the side of Sukaraja-Bengkunat Road -- is one of the public roads that are across Bukit Barisan Selatan National Park.
- Rosa was reported for the first time crossing this road and it was seeing by truck and car drivers, farmers and other people.
- Forest track from Kali Kumbang to Camp 50 actually could be spent in normal way for 4 to 5 days by RPU. But with Rosa walking with the Team, it could be spent 10 days or maybe more. Some factors that should be consider is:
 1. Rosa. According to the RPU's experience, during driving Rosa might be walk not in the track as planned by RPU. Because it is impossible to tie up Rosa in the night when RPU build a camp, there are many possibilities that Rosa could be gone away in the night and difficult to follow her track in the next day because she could too far away. Sometime Rosa also did not want to drive by RPU, walk away and choose her own track.
 2. Climates. If there are a lot of rains, the journeys will be more difficult.
 3. Logistic. Because the track is so heavy, the Team could be run out logistic and must wait the Back Up Team for bring new supply. That will spent more days.
 4. Team members get sick. If there will be a personnel that get sick, the journey will delay or waiting for back up.

Day One (13 October 2005)

- The Driving Rosa Team was consisting of the RPU of BBS NP (2 Forest Police and 3 RPU members, and SRS (6; 2 SRS member, 3 veterinary and 1 biology student for behavior observation/research and as a rhino medical team support), and 3 porters carrying logistic for 10 days.
- Day one driving started at 7 AM from *Kali Kumbang* (100 m altitude) to the *Basalila* Camp in the mountain (925 m alt.).
- Team was divide by two teams, that is a logistic team using short route but very steep (50–75 degrees) and the other team walk with Rosa using less steep (45-60 degrees) route but take longer time (see picture below)
- The Logistic Team came to Basalila Camp at 12 AM. The Team with Rosa walked slowly and sometime stops to let Rosa eat. Rosa also allowed to sometime going down to the river (around 100-200 meters from the track) to drink and bathing.
- Rosa was walk and climb steep track together with the team.
- At 14 AM, 500 m from Basalila Camp, Rosa was walk away from the track and lost into the forest. She seemed go to *Way Ngaras* (874 m alt.), 2 km from Basalila. Some members of the Team tried to follow Rosa's track but because heavy rain, they decide stop searching. Most possibility she looked for small stream to wallowing and looking food to foraging.

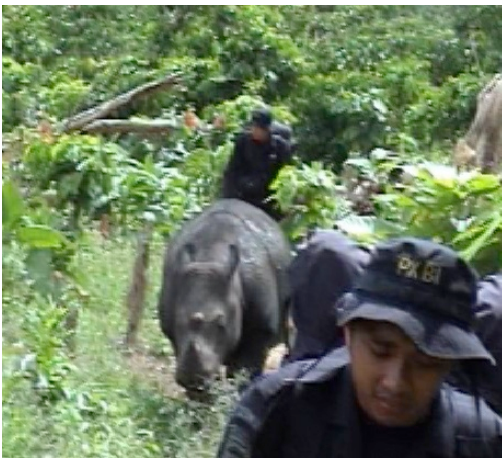


Figure 3 & 4. Day one, 13 October 2005, when The Team walk together with Rosa started climb the mountain.

Day 2, 14 October

- 06.50 AM, some Team members searching Rosa and found she was eating not to far from the camp (500 m).
- Rosa was drive to the camp, give her water and the first team left the camp and walk with Rosa.
- The second Team started later carrying logistics.
- The track was go up and down the mountain with around 30 degree steep
- 10.30 Rosa suddenly afraid, run and hide behind the group. After that The Team heard sound of group of elephants.
- A Team member, police forest Mr. Haryanto fire a gun to force the elephants away.
- Team was stopped at *Umbul Pasir* (\pm 800 alt) at 12.30 to take a rest and discuss whether we continue walk or build the camp because seems the rain will heavy. But because the bigger risk is met again with the group of elephant, team continues the journey.



Figures 5 & 6. Rosa in Basalila before leaving the camp and when took a rest in Umbul Pasir.

- The Team decide to continue the journey and finish the day 2 at 16.00 AM in *Talang Babi*.
- Along the journey, we let Rosa to foraging. The team also collect fruits for Rosa to avoid her to run away and take the other tracks, because we still heard elephant sounds in far.
- In *Talang Babi* Camp, Rosa slept just close to the tent.



Figures 7 & 8. Rosa walked between tents and eating in the night close to the camp.

Day 3, 15 October 2005

- 07.06 AM, Rosa eat and play around the tent before we started walk together at 08.00.
- This time, Rosa tends to walk alone and seems little nervous. At 9.40, she became more nervous and difficult to "control"; run little here and there and suddenly did not want to walk further and tends to walk back.
- According to RPU's experiences, seems that Rosa detected again group of elephant in front. Some members decided to walk further and the other members with Rosa stop for a while.
- There was a big group of elephants and The Team started to force away with made noisy sounds, yelling and shouting. But the elephants continue walked closer to The Team and become only 20 m left.
- Forest Guard started to fire a gun and finally force away the elephant gone down to the valley and away from track that we use.
- After the elephants away, Rosa become calm and we continue the journey without any further problems.
- The team with Rosa finished the day 3, in *Talang Puncak* (726 m alt.) at 14.00. Then Rosa walked away down to the valley, but The Team let her go because The RPU known there are some Rosa's wallow.
- At 16.00 AM, some members were tried to search and locate Rosa, but after 1 hours they could not found her. Rosa's foot track showed that she walked 1 km away. The team decide to stop searching and just hope that Rosa will easy to find next morning or she might be back to the camp herself. But if not, The Team will be search Rosa again and the base camp will be still in *Talang Puncak*.

Day 4 (last day), 16 October

- Since 07.00, 2 of the Team members started to find Rosa and after 1 hours, Rosa was found foraging not too far from her wallow.
- Rosa then drove back to the camp and eat leaves that collect by The Team.
- 09.30, the team did medical check of Rosa, such as body temperature, respiratory rate, etc., and spray the eyes with ZnSo4 that still have small spot of cloud. Rosa was normal.
- 09.10, the team started walk. Again divide in 2 teams. The journey was heavy because the track was entirely going up and down of the mountain with variety of elevation between 15 – 45 degrees. Also took slow because Rosa quiet often took other track and walk away. But in general Rosa still in "control".



Figures 9 & 10. 16 October, Rosa eat before leaves Talang Puncak and walked together with the Team.

- 14.00, the first team with Rosa finished the journey in Camp 50. But 500 m from the camp, Rosa walk away from the group and entered into the forest.
- Some team members stayed with Rosa and try many times to ask Rosa to follow, but she did not want to go and even walk further away. Finally the team left Rosa on *Talang Joni* (about 1 km from Camp 50).
- All Team members finished in Camp 50 at 15.30 without Rosa and again hope that Rosa will show up in the camp next morning. All members back to Kota Agung for take a rest, and some RPU's members will search Rosa next morning.

17 October

- Rosa was difficult to find. She was not in *Talang Joni*. Her tracks showed that she walk back again to the hills. The RPU members divide to 3 groups went to the hills but until 15.00 Rosa was lost.
- 16.30, when 2 groups of RPU started to give up and walk back to the camp 50. Information from the villagers was receives that Rosa was in around Joni's house, 1.5 km from camp 50.
- The RPU again ask her to walk to camp 50 but she refused it but only like to play with people. When Rosas likes to play with RPU, she will be sniffing, pretend to bite, pushing, chasing and or hit. Sometime she will be running and jumps around people. If we do not want to play, hide or run away, some time she become angry and destroys tress or bushes.
- Rosa still did not wanto to leave Joni's house. Even Zen Afrial, a closest RPU's member with Rosa, fail to beg Rosa to walk to Camp 50. At 18.00 when become dark, Rosa was left by RPU.

18 October

- Morning, 2 groups of RPU started to checked Rosa again. Group 1 went to Joni's house and group 2 went to *Umbul Bambang* because RPU expecting she must be gone away somewhere around there. It was right that Rosa already left Joni's house and her track goes to hills again.
- Almost whole days all RPU could not find Rosa. But then at 16.00, very new Rosa's track was found went to protected forest (adjacent to closest village).
- 16.35, Rosa was found sleep in front of a villager house. Again whole RPU, including Zen Afrial and Agung Setijono ask Rosa to move to Camp 50. But then again Rosa did not want to be together with RPU. She even walked back to the forest and went deep in the forest. 21.00 AM, Rosa was left by RPU in the forest.

19 October

- 8.00 AM RPU divide by 3 groups and started to search Rosa. The 1st went to the forest when Rosa was left a night before, the 2nd go to the village and the 3rd go to plantation of villager.
- The 1st group however just met Rosa after 30 minutes searching. This time Rosa was just follow the RPU and move directly to Camp 34, where the adaptation Boma were ready. The other Team then back immediately to secure the area, because Rosa will across the public road Sukaraja Bengkulu on busy traffic time.
- Rosa came down to the Road with Zen but then she stopped to eat for about 10 minutes. Some motorcycles were stopped till Rosa across the road and walk down to her boma.

- 08.50 Rosa was entered the Boma without any problems. She directly went to the wallow than started to wallowing. The Boma was divided into 2 connected enclosures. 1st was the forest larger boma (2 ha wide) and 2nd was less forest small boma (0.5 ha) for care and husbandry with the door to rhino crate.

Acclimatization and preparation of Translocation

- Since 19 October till 25 November 2005, Rosa was kept in the Boma of Camp 34, on the side of Sukaraja Bengkunt Road Bukit Barisan Selatan National Park.
- During acclimatization, Rosa was automatically adapt the situation because she used to close with people around, browses and fruit for food that give by people and she seems had not a problems to live with limited area. But when she was left alone inside of the Boma, she will make lots of voices.
- Rosa always got her food inside if her crate. Every time she wanted to eat, she will be entered the crate.
- She also was examined not only with the routine check such as respiration, body temp, etc. but also treat with blood, faecal and urine collection for check parasite or any diseases that could be infected her when she was around villages. Specially dangerous blood parasite such as *Trypanosoma*, *Brucella*, *Leptospira*, *Babesia*, *Toxoplasma* and *Herpes*
- All tests for blood parasite was done in Veterinary Research Laboratory in Bogor and Parasitology Laboratory IPB, and almost all resulted negative. *Babesia*, *Anaplasma* and *Theileria* were found positive in Rosa's blood sample in very small amount. This will not affected on Rosa's health, and those parasite is also an endemic disease in Sumatran rhino and Sumatran elephant.
- But faecal examination indicated positive worm (egg and larva). As general treatment, deworming was applied with Ivermectin[®].
- 4 November 2006, millions of white worms with 1-2 cm length were excreted in faeces. Laboratory examination indicated that the worm is *Oxyuris sp.*, commonly found in cattle, goat and horse. But Rosa did not showed any clinical signs.
- 19 November 2006, Rosa was started to trained stay longer and sleep inside of the crate. A rubber carpet was bond to the wall and floor of the crate to avoid injuries when she moves a lot.
- 22 November 2005, a corridor from the door of small boma to the truck that will carry Rosa's crate was started to build. The crate will be placed on the truck and Rosa will train to eat and stay inside of the crate.
- After Rosa was done 3 days training and looks comfortable to stay, eat, drink and lay down inside of the crate with the door close, material (browse, fruit and water), medical equipment, personnel (veterinarian, keeper, security) and administration stuff were prepared and organized well, The Translocation of Rosa was ready.

Translocation of Rosa

25 November

- Preparation was done and after look upon all process of Rosa's acclimatization, Rosa was ready to moved to Way Kambas. Drs. Widodo S. Ramono was the leader for transport Rosa to Way Kambas.
- To avoid busy traffic, it was planned that the convoy will leave Camp 34 at 20.00 and hopefully will be arrived in SRS at 06.00. The Convoy will lead by local Police Car and secure by forest guard of BBSNP.
- After The Road blocked, at 20.00 AM, Rosa was guided to walk to enter the crate. Unfortunately she was not entered the crate soon like on training. She looked doubt and little nervous. It could be happened because so many people around although all were silent.
- 20.17 Rosa finally entered the crate and the door close. She still looked nervous but not make a lot move. Zen Afrial, RPU and SRS Keeper were in the truck and try to make Rosa calm. She then just feed fruits that give to her.
- One truck and other 8 cars that fill with other personnel from PHKA, BBSNP, RPU, YMR, SRS and some local people to help on emergency situation were ready to leave Camp 34.
- 20.47 the convoy started to move down to *Sedayu*, where the Police Car was waiting to join and led the convoy. The road down to *Sedayu* was rough and some time quiet steep (20-40 degrees), so the truck moved very slowed to reduce uncomfortable situation for Rosa.

- Rosa was calm and sometime she just lay down but she did not want to eat and drink. When the road went down, she could adjust her position to move her weight to the back.
- 22.44, the convoy arrived at *Sedayu* and the Police joined. Since *Sedayu*, the road was smooth and the convoy can move more speed.

26 November

- 00.10, the convoy arrived at *Kota Agung* without any problems. After took a rest for 10 minute when the veterinarian checked Rosa's condition, the convoy started to move again.
- With the 40-50 km/hours speed, the convoy arrived at *Tanjung Karang* Lampung at 02.27. Truck and all car then was stopped at gas station and filled fuel. Along the journey from Kota Agung to Tanjung Karang, Rosa looked little confuse and nervous, she eat fruits but not the browse.
- Finally at 05.09, convoy of Rosa arrived ant the Plan Ijo Gate in Way Kambas NP and arrived in SRS at 05.57.
- Because some misunderstood, the crane truck that supposed to lifted Rosa's crate from the truck to the ground in front of the gate of Stall 1 in SRS was not on time.
- 07.20, a hole was started to dig to let the truck the height will be parallel with the ground. 08.38, Rosa's crate was succeeded to move from the truck with the rail. At the time the truck with the crane was come.
- 09.08, Rosa's crate was completed move just in front of the stall 1 gate, and 09.10 Rosa was step her foot for the first time on SRS.

Rosa in SRS

- Since 26 November till 31 December Rosa was placed in Boma (1 ha) in SRS. She was done routine husbandry like the others rhino. She also had several examinations through blood, faecal and urine collection. Rosa's acclimatization in SRS was very good.
- Zen Afrial and Agung Setijono, The RPU of BBSNP members who very closed with Rosa stayed in SRS till February 2006 to assist on handling Rosa.
- Rosa had no problem in feeding, foraging in the forest, explore and other rhino activities. She also got practise on Electric Fence power to make her know about the fence and new captive situation. She touched the fence many times in some days before finally she realize that the fence is dangerous for her.
- At 15 December 2006, Rosa was introduced with Torgamba behind the fence to observed her reaction when she met male. At that time Rosa looked interest but mostly she run away because Torgamba was attacked. But then she came back again to see Torgamba. Torgamba sometime was aggressive to attack Rosa, but also looks interest to touch. However, mostly Torgamba had not more attention and showed any willing to do courtship.
- At 3 January 2006, Rosa was release in the big paddock from her boma. She directly walked to explore the area. But she still liked to always close with the keeper. In the afternoon, when Keeper left her in the forest, she started to voicing and seems want to be continue accompany by keeper.
- At 15 February 2006, Rosa was introduced with Bina behind gate in the central area. Bina's reaction was so interest to touch Rosa. These 2 females had no aggressive each other and seems enjoy their meeting. Even Bina still wanted to meet and stay in the gate when Rosa was guide to leave Bina and came into the forest.
- Some examination on Rosa indicated she was infected by worm (*Fasciola and paramphistomumi*), protozoa (*entamoeba, Balantidium, Ciliata*). But again the amount was not significance and no clinical sign were observe. Medication for worm was given but after couple month the egg and larva still in Rosa's faeces.
- Rosa's reproduction track also was examined with ultra sound by veterinary (Dedi Candra and M Agil) in SRS assist by Dr. Radcliffe when he came to SRS. Rosa showed normal cycle and good reproduction organ status.
- January - June 2006, Rosa's weight is between 513 to 537 kg and its increase from time to time. In average, she ate 20-30 kg browses and 5-6 kg fruits by hand feeding in the stall. In the forest Rosa was always foraging and do the same normal behaviour when eating, wallowing, sleep in the ground, etc.
- Generally Rosa is in good condition and has normal behaviour, except worm infection (egg and larva) that still always showed in her faeces.

Reporting by:

1. Marcellus Adi CTR, DVM (SRS)
2. Zen Afrial (RPU BBS)
3. Agung Setiono (RPU BBS)
4. Dedi Candra, DVM (SRS)
5. Muhammad Agil, DVM, MSc.Agr (SRS/Faculty of Veterinary Medicine IPB)
6. Yenny Saraswati, BVSc (Faculty of Veterinary Medicine IPB)
7. Kurnia O. Khairani, BVSc (Faculty of Veterinary Medicine IPB)
8. Riki Siswandi, BVSc (Faculty of Veterinary Medicine IPB)
9. Sarno, Sugiono, Dede Nurdin, Rois Subadri, Yuhadi, Rakimin (Rhino keeper of SRS)
10. Maaike Lenen (Wageningen University)

Team Personnel of Driving and Husbandry Rosa BBSNP

- A. Operation Manager : Mr. Tamen Sitorus (Head on BBS NP)
- B. Rosa Team from Kali Kumbang to Camp 50 (13- 16 October 2005)
- RPU BBSNP : - Heryanto (Forest Ranger)
- Didin Kamarudin (Forest Ranger),
- Zen Afrial (RPU member)
- Agung Setiono (RPU member)
- Merly Aloc Hulu (RPU member)
- SRS (+IPB) : - Marcellus Adi CTR, DVM (SRS Site Manager/
Deputy Manager of Rosa Operation),
- Sarno (SRS Rhino *keeper*)
- Riki Siswandi, BVSc (behavior ecology observer),
- Yenny Saraswati, BVSc (behavior ecology observer)
- Kurnia O. Khairani, BVSc (foraging ecology observer)
- Maaike Lenen/Wageningen University (*foraging ecology observer*)
- C. Husbandry Supporting Team (Camp 34)
- Rosa's Guards/Assistant of Observer (RPU BBSNP) : Suryadi, Hendra Wijaya, Romianto
 - Keeper (SRS) : Sugiono, Dede Nurdin, Rois Subadri, Yuhadi, Rakimin
 - Rhino Health Adviser (SRS) : Muhammad Agil, DVM, MSc.Agr., Dedi Candra, DVM.
 - Facilities Adviser (SRS) : Sumadi
- D. Translocation:
- Operation Leader: Drs. Widodo S. Ramono (YSRS)
 - Health Examiner: Muhammad Agil, DVM
-