

INCIDENT (E)

THE LINBAR RHINO TRAGEDY

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Introduction

On Tuesday, 25th March 1987, at 10.30 am, I was informed that a rhino was caught in Linbar. I was asked to cancel my leave since En. Mohd. Khan had requested Rahmat Topani and I to assist the Sabah Rhino Group (SRG) in handling the animal. About 27 hours later Rahmat and I arrived at Pit No.1 Linbar. The rhino was dead 25 hours ago and an autopsy done by Dr. Edwin with the help of a few others.

Reconstruction of the events that may lead to the capture, pit destruction, and death of Linbar rhino  
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The 21.5 cm male rhino while on its way to the wallow, about 200-250 ft away, had urinated and scrapped the earth as a territorial marking to mark its range. It proceeded about 110 ft toward the northeast direction, stepped on the trapdoor and went crashing onto the 18-24 inches twig layer which was meant to absorb its motion. The animal was terrified inside the pit. Broken bones, internal injuries and immediate death might be the possible fatalities related to the fall. Injury was not apparent when the workers first saw the rhino at 7:30 am.

The trapdoors were hanging 4 ft inside. The rhino might hurled the door which was firmly hinged to the main frame in desperation to get out of the pit. In the process of horning and hurling the door, the main upper frame (which was nailed to the posts for wall panelling) was dislocated. By now the whole wall posts were not secured onto the upper portion of the frame. The trapdoor dislodged and fell inside the pit, and the rhino might continue to work on the loose walls.

The highly active and robust animal was quietly watched by a worker who was as frightened as the animal itself. During the two critical hours before the team leader came, the inexperienced and untrained worker had not attempted to calm down the animal by distracting its damaging activity

nor did he offered/sprinkled water and food. In this event, he unknowingly watched the animal committing suicide due to aggravated shock and stress. In a natural condition, rhinos use mud wallow as a behavioral thermoregulation mechanism to control its body temperature relative to the prevailing ambient temperature.

Physiologically, when an animal is too active in our hot and humid climate, will results in increased body temperature, dehydration and thirst, and hyperpnoea (increased respiration rate). On the tissue level, lack of oxygenated blood can result in anaerobic metabolism, high accumulation of acid metabolites (lactic acid) and upset the balance of primary metabolites (sodium, chloride and potassium) which could increased vascular permeability. On prolonged period of high degree of overexertion, the fatigue muscles (skeletal and cardiac) will be overstrained. Homeostatic reactions commence and when a number of positive feedback (e.g. body temperature keep increasing) mechanisms become operative, it leads to irreversible shock, myopathy and haemorrhages due to rupture and lesions in heart and skeletal muscles. Such stress reaction is fatal.

Some eyewitness evidences to support the physiological and somatic stress:-

1. The animal was highly excited and frustrated that it worked to damage the wall in order to get out of the trap.
2. The animal refused water and food was indicative of fear/fright/terror which caused continual stress.
3. Labored respiration was observed and could be a good symptom of capture myopathy.
4. The animal was in sternal position which could develop respiratory distress and cardiac failure. This can be due to the enormous body weight on the diaphragm.
5. The animal attempted to roll in the watery and muddy pit - to regulate body temperature.
6. The nature of neurogenic stress can be reflected by the nature of response of effector organs. The sex organ was ejaculated.

### Analysis of the Situation

1. The pitfall design could not withstand a larger (21.5 cm), robust, and highly excited rhino. The pitfall must be redesigned to incorporate the following: *modified trap design*
  - double-walled wood panel
  - hingless trapdoor or hinged door with counterbalance
  - $\geq$  4 ft leaves and dead twig layer
  - shallower pit (perhaps 6 ft)
  - a trigger that could hold 200  $\leq$  400 lbs pressure
  - net in the pit

During and after construction, the pit must be inspected to strictly conform to the design.

2. Lack of preparedness, both mentally and material wise.

Experienced, attentive, and observant workers who have the ability to recognise distress rhino is invaluable.

Poorly equipped capture team will result in prolonged/increased handling time and could exert continual stress on the animal.

### Conclusion

The Sabah rhino capture operation should be suspended for an indefinite period until all pits have been strongly reinforced, the base camp is adequately equipped, and the capture personnels are physically and mentally prepared to handle wild animal in any severe field condition.

Appendix 1 : Capture equipment at base camp

- |   |                     |         |
|---|---------------------|---------|
| 1. Transport crate (wooden) @ \$400         |                     | 2       |
| 2. Nails 2"                                 |                     | 5 kg    |
| 3"  |                     | 10 kg   |
| 4"  |                     | 18 kg   |
| 5"  |                     | 18 kg   |
| 3. Bolts and nuts 6"                        |                     | 100 pcs |
| 7"  |                     | 120 pcs |
| Washer                                      |                     | 10 kg   |
| 4. Chain block : 1 ton                      |                     | 1 pcs   |
| 2 ton                                       |                     | 1 pcs   |
| 5. 1 gallon spray                           | 1 pcs               |         |
| 2 (large) gallon spray                      | 1 pcs               |         |
| 6. Chain (medium + large)                   | 2 boxes             |         |
| 7. U-circle (sizes : small, medium & large) | 12 pcs              |         |
| 8. Spanner set sizes 10 - 24                | - 1 set             |         |
| 9. Tool boxes                               | - 2 set             |         |
| 10. Round-headed hammer                     | - 2 pcs             |         |
| 11. Crow-bar                                | - 1 pcs             |         |
| 12. Chain-saw                               | - 2 pcs             |         |
| 13. Handsaw                                 | - 2 pcs             |         |
| 14. Hecksaw for wood + spare blade          | - 2 sets + 4 blades |         |
| 15. Hecksaw for metal + spare blades        | - 2 sets + 4 blades |         |
| 16. Chain cutter                            | - 1 pcs             |         |
| 17. Mechanized drill + drill bits           | - 1 pcs + 12 bits   |         |
| 18. Tri-square, curve chisel                | - 1 set             |         |
| 19. Axe                                     | - 2 pcs             |         |
| 20. 600 watt portable generator             | - 1                 |         |
| 21. 3-point gang socket                     | - 2 pcs             |         |
| 22. Plugs                                   | - 2 pcs             |         |
| 23 3-chord electrical wire                  | - 2 m               |         |
| 24. 2-chord electrical wire                 | - 2 m               |         |

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25. Socket set with sliding switch<sup>amp holder</sup> - 12 pcs
26. short and long florescent lamp/tube set. - 10 pcs
27. 4-gallon plastic jerry cans - 8 pcs
28. 4-gallon plastic buckets - 4 pcs
29. 6-gallon plastic buckets - 3 pcs
30. Plastic-type ice chests - 1 pcs
31. Water pump - 1
32. Connector to delivery hose - 1
33. Connectors from 2"  $\emptyset$  hose to 1"  $\emptyset$  hose - 1 set
34. 1"  $\emptyset$  hose - 1 roll
35. 2"  $\emptyset$  plastic hose - 1 roll
36. Hose clip for 2"  $\emptyset$  and 1"  $\emptyset$  hoses - 4 pcs
37. Garden spray head - 1
38. Hurricane lamp - 2
39. Pressure lamp - 2
40. Eveready multipurpose lamp (6 D-size battery) - 2
41. Monkey jack (?) - 1
42. Crocodile jack - 1
43. Pulley - 2
44. Screwdrivers (various sizes) - 10
45. Wire (electrical) cutter - 1
46. Plier - 1
47. Electrical test pen - 1
48. Plastic connectors (electrical) - 2
49. Electrical tapes - 5
50. 100-gallon plastic tank - 1

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51. 300-400 gallon water tank trailer - 1
52. Wheel barrow - 1
53. Trailer - 1
54. Fibre net - 1
54. Planks  $6'' \times \frac{3}{4}'' \times 8'$  - 290 pcs (base camp 60 pcs)
55.  $2'' \times 3''$  wood  $\times 10'$  - 180 pcs (base camp 100 pcs)
56. Plywood for base camp - 20 pcs
57. Tarpaulin canvas -  $40' \times 60'$  - 10 pcs
58. Stripped nylon sheet - 50m
59. Gas stove - 2
60. Large cooking pot - 2 pcs (untuk masak 20 orang)
61. Medium cooking pot - 4 pcs
62. Small cooking pot - 4 pcs
63. Large wok - 1 pc
64. Medium wok - 1 pc
65. Sudu, senduk - 12
66. Senduk - 4
67. Pinggan enamel - 20 pcs
68. Mangkok - 10 pcs
69. Chawan enamel - 20 pcs
70. Cherek besar - 3 pcs

Transportation

- 1. Self loading truck -
- 2. Scrambler motorcycle - 1
- 3. Crash helmet - 2
- 4. 4 x 4 WD vehicle - 1
- 5. Fibre glass boat - 1
- 6. 25 hp engine - 1
- 7. boat trailer - 1

Camping\_Gear

- 1. H-frame hoversack - 4
- 2. Jungle boots - 2
- 3. Mosquito net - 1
- 4. Raincoat - 1
- 5. Flysheets 10' x 15' - 1

Medicine

- 1. Complete first aid kit - 1
- 2. Obat gatal - 1
- 3. Paracetamol/Panadol - 1000 biji @ 3.00
- 4. Vitalyte/Geocelyte - 5 boxes
- 5. Cod liver oil - 1 bottle
- 6. Multivitamin - 1 bottle
- 7. Acriflavin solution - 1 bottle
- 8. Ellimans universal embrocation - 1 bottle @ 4.60
- 9. ~~Cnesten~~ - topical cream

Basic Vet Medicine at Camp

1. Acriflavin cream - 5 bottles
2. Glycerin/Healing oil - 5
3. Stress pak - 20 packs
4. Hydrogen peroxide - 1 gal
5. Eye ointment - 5 tubes
6. Immobilon/Rompun - ?
7. Asuntol - 1
8. Gusanex - 1
9. Terramycin 1a - 1
10. Catosol - 1
11. Silenium + Vitamin E - 1
12. Vitamin B Complex - 1
13. Dextroze(5%) - 5 pack
14. Syringes - 3 dozens

Fuel and Lubricant

1. Petrol
2. 2-T and 4-T engine oil
3. Grease
4. 4 x 4 WD engine oil



## Inventory equipment at Camp Sukau

Water pump 3.5 hp

- suction cord and connector : Yes
- delivery hose and without connector
- without connector set to 1"  $\phi$  hose
- no 1"  $\phi$  hose
- no 2"  $\phi$  plastic hose
- no head spray

1 unit chainsaw Dolma 100 - 13"

1 hand drill + bit

3/8 bolt + nuts 5 pcs

Paku 5" 3 kg

Paku 3" 2 kg

1 ATUR set

1 Toyota 4WD

30 mm rope 50ft.

15 mm rope 20ft.

Plywood 12 mm 11 pcs

First aid kit with bandage only

1 Pressure lamp

1 Jerry can for petrol (pinang dari Yayasan)

1 axe

Gas stove - out of order

1 hammer

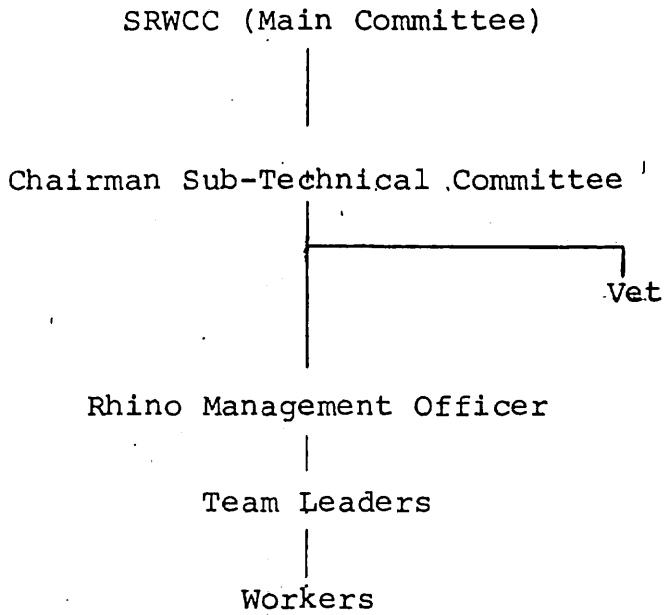
## Inventory equipment at Camp limbar

water pump  
delivery hose  
suction hose  
cable electrical wire  
10 W generator  
hand drill  
chain saw - large  
me paku  
ATUR  
4 WD vehicle  
transport crate  
hammer

## Inventory equipment at Camp Tengah Nipah

TUR tiada (rosak)  
paku 5" 3 kg  
tali  $\frac{1}{2}$ "  $\phi$  50 ft  
hammer

Appendix II : Rhino Capture Structure



Operation Office : Lahad Datu/Sandakan.

Appendix III: List of PERHILITAN Officers who  
could assist in wildlife capture

<u>Name</u>	<u>Experience</u>
1. Mohd. Tajuddin Abdullah	Rhino management
2. Rahmat Topani	Rhino management
3. Mohd. Samsuddin	Rhino management
4. Zaaba Zainol Abidin	Seladang management
5. Mohd. Nazli	Seladang management
6. Saharuddin	Seladang management
7. Shariff Daim	Elephant capture
8. Aziz	Elephant capture
9. Dr. Zainal	Post-capture treatment on rhino, elephant and deer.

Appendix IV : List of PERHILITAN rangers who could  
assist in wildlife capture

<u>Name</u>	<u>Experience</u>
1. Salehuddin	Seladang & rhino capture
2. Abdul Manan	Rhino capture
3. Nisom	Rhino capture
4. Suboh	Rhino keeper
5. Marid Hassan	Rhino keeper
6. Mat Shah	Rhino & Seladang crate builder
7. Rahman <i>Amid</i>	Elephant handling
8. Kamaruddin	Elephant handling
9. Mohd. Noor	Rhino tracker
10. Saidhu	Rhino tracker
11. Razak Ibrahim	Rhino tracker



Figure 1 : Defective Pit No.2 Linbar. The wall post not firmly nailed/secured to the upper main frame.

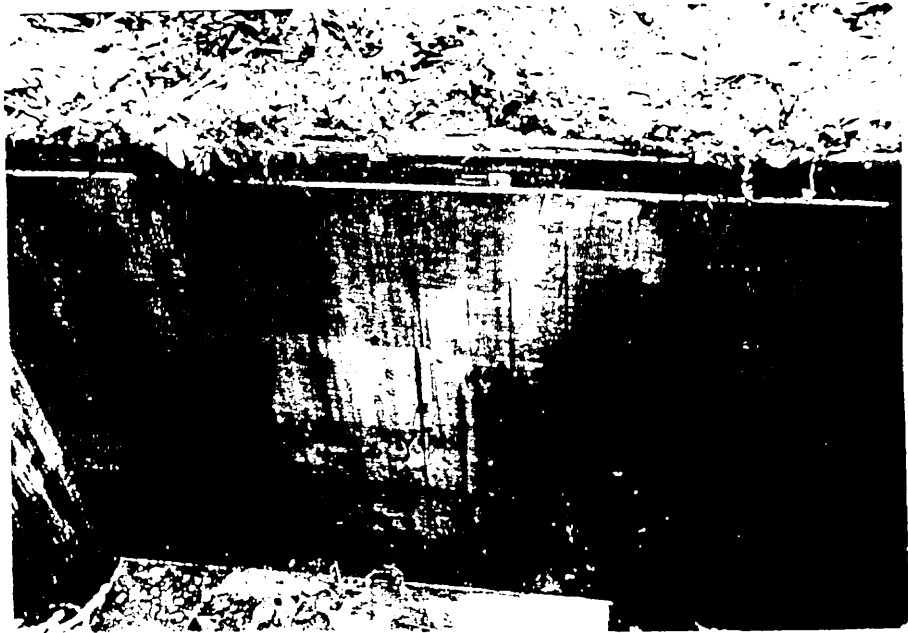


Figure 2 : Defective Pit No.2 Tengah Nipah. The pit was flooded under 2 ft of water.

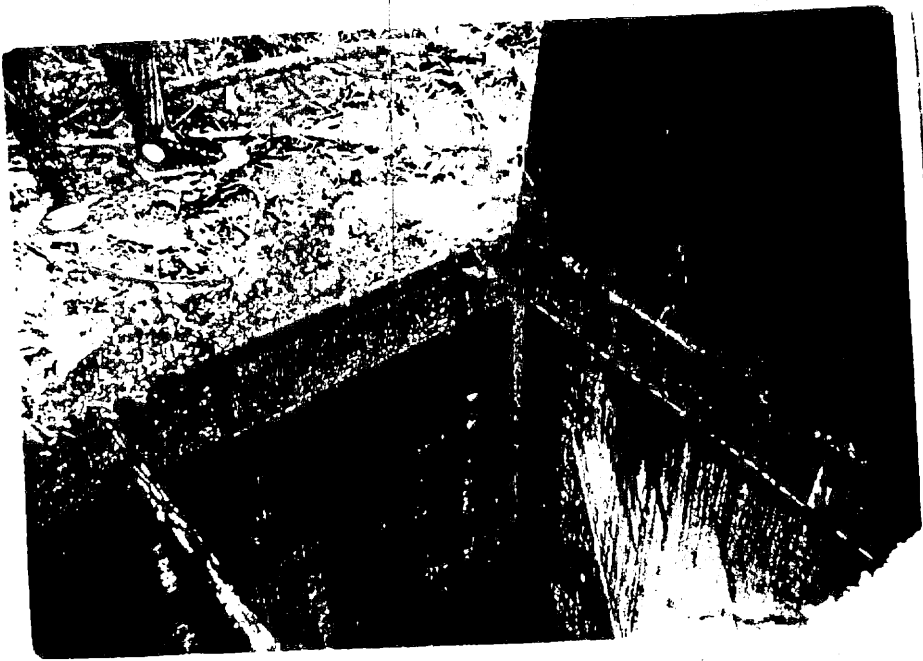


Figure 3 : Defective Pit No.2 Tengah Nipah.  
There is a gap at the corner wall



Figure 4 : Poorly equipped Tengah Nipah Base Camp



Figure 5 : Pit No.1 Tengah Nipah is located on an old logging road



Figure 6: Poles about 2-4 inches diameter for building stockade and passageway. The poles should be 4-6" diameter. A 20' x 20' stockade needs about 240 pcs of poles.