

# Conference on Conservation of Biodiversity for Sustainable Development in Odisha



Organised by Odisha Biodiversity Board, one-day conference on 22<sup>nd</sup> May, 2015 at Hotel New Marrion, Bhubaneswar, Odisha.

“Securing the future of highly problematic Sloth bear population in Nilgiri, Balasore.



Presenting by  
**Prakash Chandra Mardaraj**  
*IUCN/SSC-Bear Specialist Group*

*Funded by*





## Bears

- The bear species currently exist in more than 60 countries on four continents.
- Ursidae are a small group of mostly large mammals with 8 species in 5 genera.
- Family Ursidae do not occur in Africa, Madagascar, Australia, Antarctica and various oceanic islands.
- Four species of bear have been reported in India, among 4 Sloth bear (*Melursus ursinus*) is endemic to the Indian sub-continent.
- Sloth bear is listed as 'Vulnerable', appendix I & placed in Schedule I of the Indian Wildlife (Protection) Act, 1972.

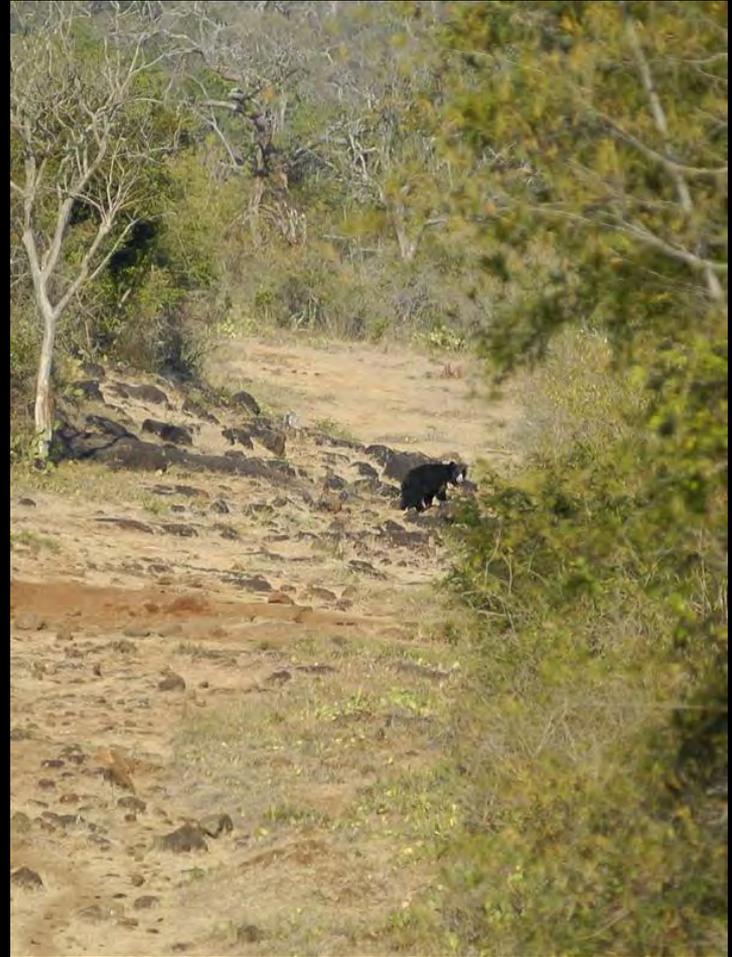
# Sloth bear



- Presently in India, sloth bear is distributed in 19 different states of India, in total 174 protected areas (PAs), which include 46 (NPs) and 128 (WS).
- Sloth bears have long shaggy coat, a distinct broad, white 'U' shaped chest blaze, and their with Ears also have long hairs.
- Sloth bear is the only myrmecophagus bear. a nearly long & naked snout and nostrils which can be closed voluntarily.
- snout is mobile, the lips are loose, protrusible, mobile and bare. and they are missing of upper incisors.
- They have long (6-8 cm), curved, ivory-colored front claws, which are used for digging.

# Significant

- Sloth bear has probably suffered as much as any large mammal from human impacts on forested areas
- Although sloth bear is one of the most widely distributed large mammal, yet little is known of its ecology and behavior.
- Effect of grazing by local and migratory livestock; settlement and demarcation; fuel wood cutting, minor forest produce collection.



# Study area

- The study focused on Swarnachuda Reserve forest in Nilgiri wildlife range, under Balasore wildlife Division, Odisha.
- The Mixed deciduous forest type provides a very good habitat for the sloth bear
- Swarnachuda reserve forest is surrounded by 18 villages.



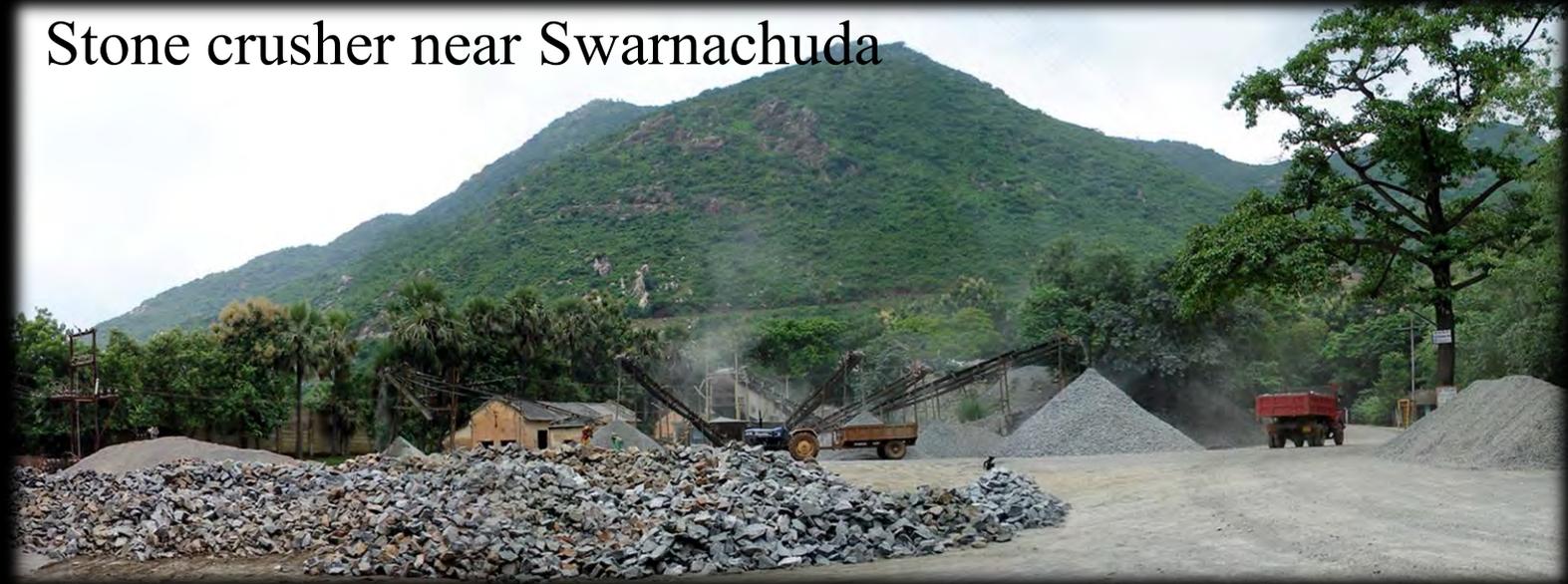
## Human bear conflict

The Sloth bear habitat in and around Nilgiri wildlife range is severely destroying by human interferences.

- Stone quarries
- Stone crushers
- Uncontrolled cattle grazing
- Lopping & cutting of trees
- Illegal encroachment and converting forest
- Collection of NTFP of bear interest



Stone quarry adjoining Swarnachuda



Stone crusher near Swarnachuda

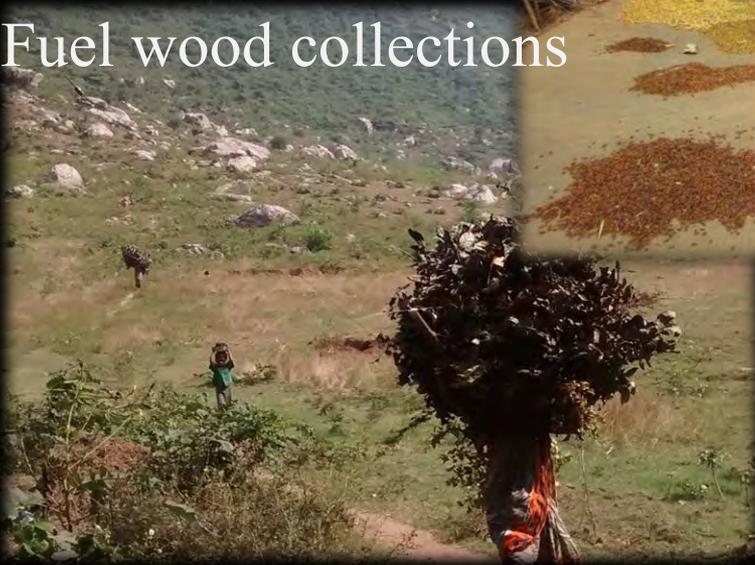
Fringe forest area cleared for depot



MFP collections



Fuel wood collections



Cattle grazing



# Consequences

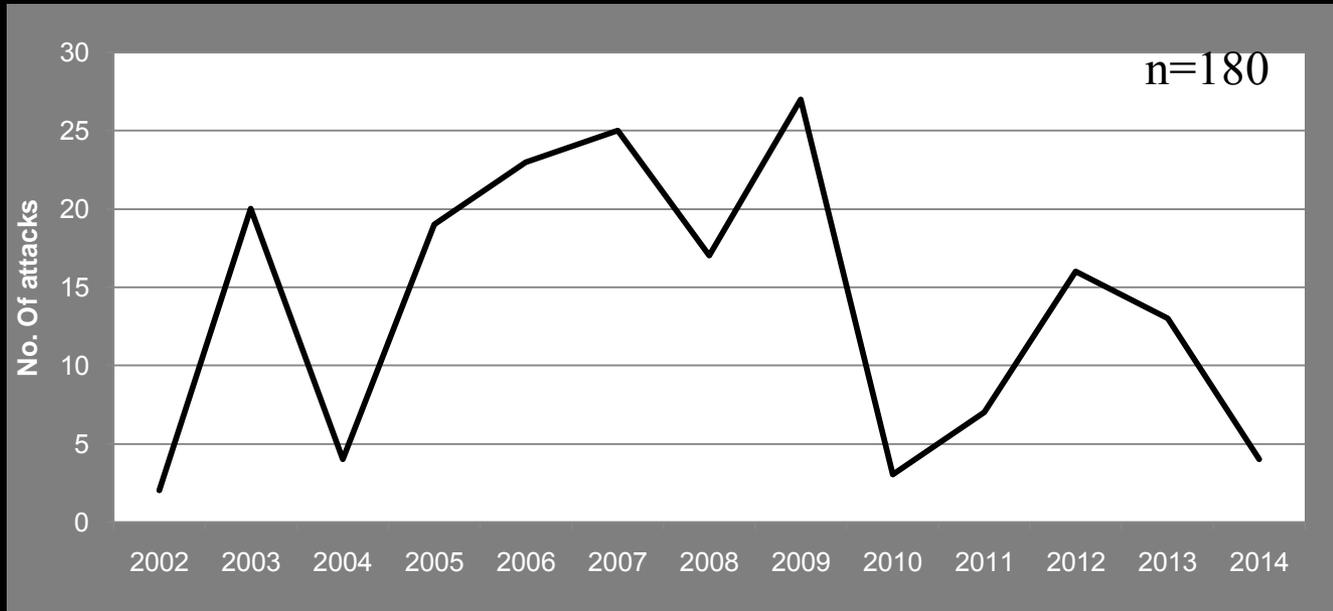


In search of food, bears frequently invaded human habitation, consequently arising of conflicts

- Human mauling and killing by the Bear
  - Bear killed in retaliation by people
    - Livestock killing (unusual)

# Bear attacks victim

Between June 2002 to April 2015 there were 182 human attacks which includes 4 death cases.



# Bear in local media

ନାଳଗିରି, ୦୮/୧୧ - ଖୁଲ୍ଲିଆର ନାଳଗିରିର ଖୁଲ୍ଲି ପଞ୍ଚାୟତ ସ୍ତରୀୟ ଗଣ ସଭାରେ କୁଳ ମାଲୁସର ଇଡ଼େଇ କରି ଗୁରୁତର ଅବସ୍ଥାରେ ଚାକ୍ରଗଣାରେ ଭରି ହୋଇଛି । ମଧ୍ୟାହ୍ନରେ ପଞ୍ଚାୟତର ପୁରୀ ଗାଁର ଜଳଧର ପୋ(୬୧) ପୁରୁଷରୁ ଗୌରାରିବା ପାଇଁ ବିଲଆଡ଼େ ଯାଇଥିବାବେଳେ ଏକ ଭାଲୁ ହାବୁଡ଼ରେ ପଡ଼ିଥିଲେ । ଭାଲୁଟି ପାତ୍ର ଆଜି ହୁଇଗୋଡ଼ ବେଳି ଜଳଧରଙ୍କୁ ଆକ୍ରମଣ କରିବାକୁ ଉଦ୍ୟତ ହେବାରୁ ଚାକ୍ରଗଣାରେ ଜଳଧର ହୁଇ ହାତରେ ଭାଲୁର ହୁଇଗୋଡ଼କୁ ଧରି ନେବା ପରେ ଖାସ୍ତି ଆରମ୍ଭ ହୋଇଥିଲା । କିଛି ସମୟ ଭିତରେ ଭାଲୁଟି ତାଙ୍କୁ ଛାଡ଼ି ପଳାଇଥିଲେ ମଧ୍ୟ ସେତେବେଳକୁ ଜଳଧରଙ୍କ ମୁଣ୍ଡ ଓ ବାହାଣ ଗୋଡ଼ ଶରୀର ହୋଇଯାଇଥିଲା ।

## ଭାଲୁ ସହ ଲଢ଼ ବୁଢ଼ ଗୁରୁତର



## ଭାଲୁ ଆକ୍ରମଣରେ ୨ ଗୁରୁତର



ନାଳଗିରି, ୧୬/୯ (ଜମିସ): ରକ୍ତମୁଖ ହୋଇ ଉଠିଛନ୍ତି ଭାଲୁ ଆକ୍ରମଣରେ ଗଲର ଭାଲୁ ଆକ୍ରମଣରେ ଶି ଲୋକଙ୍କୁ ଗୁରୁତର ଜିଲ୍ଲା ଅଞ୍ଚଳରେ ଶା ଏବେ ଚି ହୁଇଛି

## ଜଙ୍ଗଲି ଭାଲୁ ଏବେ ଜନବସତିରେ ଆକ୍ରମଣରେ ମିତ୍ରପୁର ଅଞ୍ଚଳର ୩ଆହତ; ୨ ଗୁରୁତର



ଦୁପାରେ ମହିଳାଙ୍କ ସମେତ ୨ ଗୁରୁତର  
ନାଳଗିରି, ୧୦/୧୧ (୨୫) - ଏକ ଶୁଣିତର ପୁଅଙ୍କୁ ଆକ୍ରମଣ କରି ସମସ୍ତଙ୍କୁ ଚେତା ହରାଇ ଦେଇଥିଲେ ଏକ ଭାଲୁ । ଏହା ପରେ ଗାଁର ଲୋକମାନେ ସତର୍କତା ସହ ଗାଁରୁ ଦୂରରେ ରହିବା ପାଇଁ ପରାମର୍ଶ ଦେଇଛନ୍ତି ।



ଏକ ଶୁଣିତର ପୁଅଙ୍କୁ ଆକ୍ରମଣ କରି ସମସ୍ତଙ୍କୁ ଚେତା ହରାଇ ଦେଇଥିଲେ ଏକ ଭାଲୁ । ଏହା ପରେ ଗାଁର ଲୋକମାନେ ସତର୍କତା ସହ ଗାଁରୁ ଦୂରରେ ରହିବା ପାଇଁ ପରାମର୍ଶ ଦେଇଛନ୍ତି ।

## ଭାଲୁ ଆକ୍ରମଣରେ ଯୁବକ ଗୁରୁତର

ନାଳଗିରି, ୨୯/୯ (ଜମିସ): ଔପତା ବୁକ ଅଧିକ ଶ୍ୟାମସୁନ୍ଦରପୁର ପଞ୍ଚାୟତର ଗୁଡ଼ିଖୋଲା ଗାଁର ବୈରାଗା ବି(୩୫) ଚରିସାହିକୁ ନିଜ ସରକୁ ବାଲି ବାଲି ଆସୁଥିବା ବେଳେ ହଠାତ ଭାଲୁ ଆକ୍ରମଣରେ ଯୁବକ ଗୁରୁତର ହୋଇଛନ୍ତି ।

## ଭାଲୁ ଆକ୍ରମଣରେ ମହିଳା ଗୁରୁତର

ନାଳଗିରି, ୨/୮ (ଜମିସ): ନାଳଗିରି ଥାନାର ମହୁଦପୁର ଗାଁରେ ଭାଲୁ ଆକ୍ରମଣ ଯୋଗୁଁ ଜଣେ ଅଭିବାସୀ ମହିଳା ଗୁରୁତର ଅବସ୍ଥାରେ ଯୋର ଚାକ୍ରଗଣାରେ ଚିକିତ୍ସିତ ହେଉଛନ୍ତି । ଔପତା ବୁକ ଅଧିକ ଶ୍ୟାମସୁନ୍ଦରପୁର ପଞ୍ଚାୟତର ଗୁଡ଼ିଖୋଲା ଗାଁର ବୈରାଗା ବି(୩୫) ଚରିସାହିକୁ ନିଜ ସରକୁ ବାଲି ବାଲି ଆସୁଥିବା ବେଳେ ହଠାତ ଭାଲୁ ଆକ୍ରମଣରେ ମହିଳା ଗୁରୁତର ହୋଇଛନ୍ତି ।



## ଭାଲୁ ଆକ୍ରମଣରେ ବୁଢ଼ ଗୁରୁତର



ନାଳଗିରି, ୧୦/୧୧ (ଜମିସ): ଶୁଣିତର ପୁଅଙ୍କୁ ଆକ୍ରମଣ କରି ସମସ୍ତଙ୍କୁ ଚେତା ହରାଇ ଦେଇଥିଲେ ଏକ ଭାଲୁ । ଏହା ପରେ ଗାଁର ଲୋକମାନେ ସତର୍କତା ସହ ଗାଁରୁ ଦୂରରେ ରହିବା ପାଇଁ ପରାମର୍ଶ ଦେଇଛନ୍ତି ।

## ୮ ଆହତ, ୨ ଗୁରୁତର ପୁଲିସ ଓ ବନକର୍ମଚାରୀ ନାକେପ

ପରମ୍ପରାକୁ ବନ୍ଦ କରିବା ଓ ପୁଲିସ ଓ ବନକର୍ମଚାରୀ ନାକେପ ଯୋଗୁଁ ଗାଁର ଲୋକମାନେ ସତର୍କତା ସହ ଗାଁରୁ ଦୂରରେ ରହିବା ପାଇଁ ପରାମର୍ଶ ଦେଇଛନ୍ତି ।

# Retaliation

- Four sloth bears were killed by the villagers in retaliation during 2002 till date
- These incidences can not only adversely affect the conservation efforts with respect to species but also its very nature, it is capable of negating the overall conservation aspect



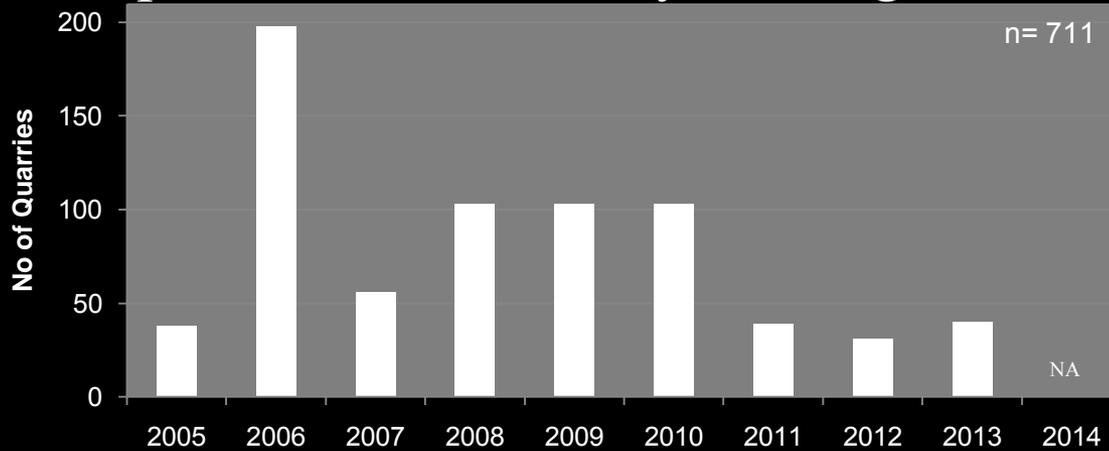
# Livestock killing

- During 2009-10 some sloth bears were showing an unusual feeding behavior in Nilgiri Range.
- Bears were destroying chicken pens and coops and were also hunting goats and feeding on it
- 31 such cases were reported from the fringe villages of Swarnachuda reserve forest.
- The increase in predatory behavior of sloth bear is really a clue of increasing in human sloth bear conflict in the Range.



# Quarries

Between the year 2008 to 2010 more than 100 quarries were actively running



# Results

- Since 2002 the attacks were in an increasing trend 182 human attacks and 4 bear death in Nilgiri range.
- More than 25 lakhs of rupees have been sanctioned towards in Sloth bear mauling compensation scheme. Human so as wildlife is being compromised
- Between the year 2008 to 2010 more than 100 quarries were running in an average in the Range this was the period when maximum human mauling cases (60%, n=111) were reported.
- 31 cases of livestock killing reveals that the feeding ecology of sloth bear is changing and is really a clue of increasing in human sloth bear conflict in the Range.

# Conclusion

- Such a large number of stone and murrom quarries have the potential to destroy this natural delicate bear habitat.
- The stone quarries are closely situated to reserve forests which swell the intensity of human interference in bear territory
- This compel the bears to strayed out of the forests at night and invaded human settlements around the reserve forest in search of food which raised the mauling activities.
- Seeds, fruits, flowers, mushroom, tubers (MFP) of bear interest were also collected by the villagers commence a competition of food resources between sloth bear and human.
- In addition to these extensive cattle grazing leads to disappearance of palatable species and spreading of contaminated diseases

## Continues...

- Illegal encroachment and clearing forest land are also the major reasons for conflict.
- Sloth bear use fringe forest areas for foraging, but the areas are highly used by the villagers as lavatory, agriculture etc, thus resulting into conflicts.

## Mitigation strategy

- Restricting the legal or illegal mining in and around the Bear habitat of Swarnachuda reserve forest
- Bear habitat use should be identified and human interference in this habitat should be limited
- A detail study on its peculiar dietary habitat of this sloth bear population need to be studied
- Protection and restoration of the deforested land by aforestation of trees of bear interest around the reserve forest should be done
- Education and awareness programmes related to conservation, bear ecology and factors for menacing behaviour by bears need to be conducted for villagers in the affected areas.

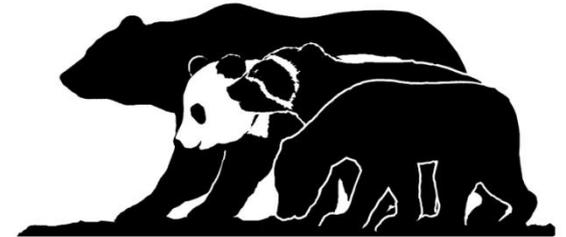
# Acknowledgments



- THE RUFFORD FOUNDATION, London W1T 7QZ, UK ;  
[www.ruffordsmallgrants.org](http://www.ruffordsmallgrants.org)
- Field Director, Similipal Tiger Reserve -cum- Regional Chief  
Conservator of Forests, Baripada Circle
- Shri Harsha Bradhan Udgata, Divisional forest officer  
Balasore Wildlife Division.
- Range Officer and forest staff of Nilgiri Wildlife Range
- local villagers of the villages around swarnachud RF
- Surendra Mallik, and Goyadhara Behera the field assistants.



**With motivation saved from retaliation killing**



**Bear Specialist Group**

*Thanking you*

Prakash Chandra Mardaraj

Contact no- +91-9437347749

E-mail- [pmardaraj@gmail.com](mailto:pmardaraj@gmail.com)