IN THE HIGH COURT OF ORISSA: CUTTACK

W.P.(C) NO.14706 OF 2022

GITA ROUT ... Petitioner

-VERSUS-

STATE OF ODISHA & OTHERS
... Opp. Parties

AFFIDAVIT FILED BY CHAIRMAN-CUM-CONVENOR, JOINT TASK FORCE IN COMPLIANCE OF ORDER DATED 18.01.2023

I, Dr. Manoj V. Nair, aged about 48 years, S/o N. Vasudevan Nair working as Chief Conservator of Forests O/o Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Odisha, Bhubaneswar do hereby solemnly affirm and state as under:

1. That, I am working as Chief Conservator of Forests O/o Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden , Odisha, Bhubaneswar and I am competent to swear this affidavit.

2. That, the aforementioned Writ Petition was listed for hearing before this Hon'ble Court on 18.01.2023. In Paragraph–6 of the order, the Court has been pleased to direct as follows:

PRADIPTA KUMAR MOHANTY
Notary, Cuttack Town
Regd. No- ON-04/1095

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"The Court is informed that the Comprehensive Action Plan would require to be approved by the High Power Committee of the Government of Odisha. Considering that the action plan has been drawn up after consulting a wide range of actors as well as experts and the inputs of others as suggested by this Court in its previous orders, and considering that the problem requires urgent attention, the Court requests the High Power Committee through the Chief Secretary to immediately take up this issue of approval of the Comprehensive Action Plan without any delay and preferably within a period of two weeks from today. This is to ensure that it is immediately rolled out and action points are worked out on the basis of such action plan. Dr. Nair informs the Court that the action points will be finalized within a month thereafter."

That, with regards to the direction at Para-6 of the aforementioned order, it is humbly submitted that the Comprehensive Action Plan (CAP) for conservation of elephants and mitigation of human-elephant conflicts has been approved *in toto* by the High Power Committee under the Chairmanship of Chief Secretary, Govt. of Odisha with the stipulation that in zone-IV, in case of straying elephants, all efforts will be taken to drive back the elephant herd/individual into the forested landscape. Tranquilization and removal will be the last resort. However, in the eventuality of elephants straying into areas of high human density such as towns and cities, they will be captured and kept in the Rescue Centre. Decision regarding the area of release/ retention in captivity will be decided on a case-to-case basis by the Chief Wildlife

Warden; the said approval has been communicated vide letter No. FE-WL-CASE-0009-2022/3220/FE & CC, Dated 21.02.2023 of Forest, Environment & Climate Change Department, Govt. of Odisha which is annexed herewith as Annexure-....X/1

Further, based on the aforesaid approval, CAP is done and annexed herewith as Annexure.....Y/1..

During the intervening period, all Divisional Forest Officers (T/WL), Dy. Director Similipal (North/South) Divisions have been requested vide letter No.1318 dtd.04.02.2023 of PCCF (WL) & CWLW, Odisha to go through the plan and be in readiness to implement the said CAP. The said letter is annexed herewith as Annexure.....Z/1.....

And, on approval of the CAP by the High Power Committee, an inception workshop on implementation of Comprehensive Action Plan for conservation of elephants & mitigation of human-elephant conflict in Odisha was held on 09.03.2023 under the Chairmanship of PCCF (WL) & CWLW, Odisha on virtual mode, wherein, all RCCFs & DFOs of all Territorial & Wildlife Divisions participated. After threadbare discussion therein, it was decided that the CAP will be rolled out with immediate effect for conservation of elephants & mitigation of Human-Elephant conflict in the state. Since a vast majority of the short term

Mang V Rani

PRADIPTA KUMAR MOHANTY
Notary, Cuttack Town
Regd. No- CM-04/1995

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action points are already on going, the DFOs have been impressed upon for a renewed focus and attention for ensuring effective conservation of elephants. The proceeding of the said workshop is annexed here with as Annexure.....ZA/1...

Further, a meeting under the Chairmanship of Chief Secretary, Odisha was held on 02.03.2023 at 4.00 P.M. in the conference hall of the Chief Secretary regarding the progress of electrical systems strengthening works in elephant movement area and the proposed action plan of DISCOMs to prevent electrocution of elephants. Addl. Chief Secretary, FE & CC Department, EIC (Elecy.)-cum-PCEI & SDA, Odisha, MD, GRIDCO, Bhubaneswar, CEO (TPCODL), Bhubaneswar, CEO (TPSODL), Berhampur, CEO (TPWODL), Burla, Sambalpur, CEO (TPNODL), Balasore were present in the meeting. In this meeting the progress of work taken up by DISCOMs in elephant movement area were reviewed and they were requested to complete the work on time.

It is further humbly reiterated that one of the action points viz. Notification of **Similipal-Hadgarh-Kuldiha Conservation Reserve** has since been done vide Notification No. FE-WL-WLF-0011-2022/1166/FE&CC, dated 20.01.2023 which is annexed here with as Annexure....ZB/1.

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Notary, Cuttack Town
Regd. No- ON-04/1995

3. That, in Paragraph-7 of the aforementioned Order the Court has been pleased to direct as follows:

"Mr. Ashis Kumar Mishra, learned counsel appearing for the Petitioner in W.P.(C) No.14706 of 2022, places before the Court the report of his personal visit to village Bakua located inside the Similipal Wildlife Sanctuary and expresses concern that no steps have been taken to further investigate FIR No.320 dated 21st December 2022, registered at PS-Jashipur in Mayurbhanj District concerning the death of Turam Purty who purportedly was an eyewitness to the death of an elephant by burning at Garandia (Jenabil Range) in the Similipal Forest. Mr. Panda, the Additional Superintendent of Police, Member of JTF, present online, has undertaken to contact the Inspector-In-Charge (IIC) of PS-Jashipur to ascertain the progress of the investigation in the said case. The Court will be informed of the progress on the next date."

Mang V Vani

That, with regards to the direction at Para-7 of the aforementioned order, it is humbly submitted that the status report pertaining to investigation of Jashipur PS case No.320/2022 has been obtained from the IIC of Jashipur PS. The status report reveals that all the 3 FIR named accused persons namely 1. Chandrabhanu Behera, 2. Sibasankar Samal & 3. Binod Ku. Das have been arrested and forwarded to the Court of Hon'ble JMFC, Jashipur on 16.02.2023 for their liability under Sec-306 IPC and now they are in jail custody. The status report submitted by the IIC, Jashipur PS vide his letter No.512/PS dt.20.02.2023 is enclosed as Annexure-....ZC/1....

PRADIPTA KUMAR MOHANTY
Notary, Cuttack Town
Regd. No- ON-04/1995

4. That, in Paragraph-8 of the aforementioned Order the Court has been pleased to direct as follows:

"The Court notes with some concern Mr. Panda's submission that three of the forest officials who had been arrested in the case of the burning of an elephant carcass in Simlipal forest were subsequently granted bail and have thereafter not been able to be traced despite issuance of non-bailable warrants. The Court would like to emphasize the need for the Police to follow up on these issues with urgency and complete the investigation by taking it to the logical conclusion without unnecessary delay. In the previous order dated 22nd December 2022, the Court noted the assurance that a charge sheet would be filed at an early date and now notes with some concern that charge sheet is yet to be filed. It is expected that by the next date the charge sheet in the said case would have been filed. The Court also notes in this context that the specific action points regarding "crime detection, inquiry and prosecution" in terms of the Comprehensive Action Plan are to be fixed and implemented without any delay."

That, with regard to the direction at the same Para-8, it is humbly submitted that the Dy. Director-cum-Wildlife Warden, Similipal (S), WL Division, Baripada has submitted the final prosecution report in OR CASE No.03JN of 2022-23 corresponding to 2 (b) CC No.14/2022 on 14th February, 2023 in the Court of Hon'ble SDJM, Udala. The forwarding report of the sanctioned P.R submitted by the Dy. Director-cum-Wildlife Warden, Similipal (S), WL Division, Baripada is enclosed as Annexure-...ZD/1...

PRADIPTA KUMAR MOHANTY
Notary, Cuttack Town
Regd. No- OR-04/1995

That, with regard to direction of the Hon'ble Court on the subject crime detection, inquiry and prosecution all the Divisional Forest Officers both Territorial & Wildlife including the Dy. Director, Nandankanan Zoological Para & Dy. Directors of Similipal (N/S) Wildlife Divisions have been circulated with set of instructions to be followed during enquiry/ investigation and prosecution in terms of the comprehensive action plan for immediate implementation. The said letters addressed to the above officials vide Memo No.1246/10WL-CC-517-A/2022 dt.03.02.2023 is enclosed as Annexure-...ZE/1.....

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5. That, in Paragraph-9 of the aforementioned Order the Court has been pleased to direct as follows:

"The JTF will file a further affidavit before the next date enclosing the action points drawn up on the basis of the Comprehensive Action Plan."

That, with regard to the direction at Para-9 of the aforementioned order, the action points drawn up on the basis of CAP is annexed herewith as Annexure-...ZF/1...for kind perusal of the Hon'ble Court.

6. That, the humble Opposite Parties craves leave of this Hon'ble Court to make further submissions and file further affidavits, in the interest of justice and effective adjudication by this Hon'ble Court.

PRADIPTA KUMAR MOHANTY
Notary, Cuttack Town
Regd. No. [illegible]

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7. That the facts stated above are true to the best of my knowledge, belief and based on available records.

~~Identified by:~~

Mary V Nair

DEPONENT
Dy. Conservator of Forests (WL)
O/o the PCCF(WL) & CWLW
Odisha, Bhubaneswar
10.03.2023

~~Asst. A.G's Office~~

Place: Cuttack

Date: 10.03.2023

Certified that Cartridge papers are not available.

ADDL STANDING COUNSEL

Solemnly sworn before me by M. V. Nair being identified by me (known to me) at Cuttack Town Dated. 10/03/2023

10/03/2023

P.K. Mohanty, Notary, Cuttack Town
Regd No-ON-04/1996

9 593 ANNEXURE-X/1

GOVERNMENT OF ODISHA
FOREST, ENVIRONMENT & CLIMATE CHANGE DEPARTMENT
*****

No. FE-WL-CASE-0009-2022/ 3220 / FE & CC, Dated 21.02.23

From

Shri Deben Kumar Pradhan, IAS,
Additional Secretary to Government.

To

The DC-cum-ACS, Planning and Convergence Department,
The Additional Chief Secretary to Government, R &DM Department,
The Additional Chief Secretary to Government, Home Department,
The Additional Chief Secretary to Government, Energy Department,
The Principal Secretary to Government, Finance Department,
The Principal Secretary to Government, Agriculture & FE Department,
The Principal Secretary to Government, Commerce & Transport Department,
The Principal Secretary to Government, F & ARD Department,
The Secretary to Government, Law Department,
The Director General of Police, Odisha,
The PCCF & HoFF, Odisha,
The PCCF (Wildlife) & Chief Wildlife Warden, Odisha.

Sub: Minutes of the High-Power Committee meeting held on **10.02.2023** under the Chairmanship of Chief Secretary, Odisha on approval of Comprehensive Action Plan for conservation of elephants and mitigation of Human-Elephant Conflict in Odisha.

Sir,

I am directed to send herewith the minutes of the High-Power Committee meeting held on **10.02.2023** under the Chairmanship of Chief Secretary, Odisha on approval of Comprehensive Action Plan for conservation of elephants and mitigation of Human-Elephant Conflict in Odisha in compliance to Order dated 18.01.2023 of the Hon'ble High Court, Odisha in compliance of WP (C) PIL No.14706 of 2022. (Gita Rout vrs State of Odisha & others) for kind information and necessary follow up action.

Your Faithfully
21.2.2023
Additional Secretary to Government.

Memo No. 3221 / FE & CC, Dated 21.02.23

Copy forwarded to the OSD to Chief Secretary for kind information of Chief Secretary, Odisha.

21.2.2023
Additional Secretary to Government.

Memo No. 3222 / FE & CC, Dated 21.02.23

Copy forwarded to PS to Additional Chief Secretary to Government, FE & CC Department for kind information of Additional Chief Secretary.

21.2.2023
Additional Secretary to Government.

Chief Conservator of Forests (WL)
O/o the PCCF(WL) & CWLW
Odisha, Bhubaneswar

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Minutes of the High-Power Committee meeting held on 10.02.2023 regarding approval of Comprehensive Action Plan for conservation of elephants and mitigation of Human-Elephant Conflict in Odisha.

A High-Power committee meeting was held on 10.02.2023 at 12.30 PM at 2nd Floor Conference Hall of Lokseva Bhavan under the chairmanship of Chief Secretary, Odisha regarding approval of Comprehensive Action Plan for conservation of elephants and mitigation of Human- Elephant Conflict in Odisha.

The list of members present during the meeting is placed in Annexure-I.

The copy of the Comprehensive Action Plan was circulated in advance to all the members and the same was presented before the members. This was followed by a detailed discussion on the Plan, especially the zonation approach and major action points under the 10-pillar strategy.

After due deliberations, the Comprehensive Action Plan was approved *in toto*, with the stipulation that in zone-IV, in case of straying elephants, all efforts will be taken to drive back the elephant herd/individual into the forested landscape. Tranquilization and removal will be the last resort. However, in the eventuality of elephants straying into areas of high human density such as towns and cities, they will be captured and kept in the Rescue Centre. Decision regarding the area of release / retention in captivity will be decided on a case-to-case basis by the Chief Wildlife Warden.

Further, the following decisions were also taken in the meeting to strengthen conservation of elephants in the State:

1. The report of the Electrical Inspector on death of wildlife due to electrocution should be shared invariably with the PCCF WL for information and follow up.
2. Exercise to be taken up to identify the villages/ persons which are particularly vulnerable to crop raiding and whose crop are damaged every year. A scheme to be worked out for yearly payment of a certain fixed amount as compassionate payment for crop damage to be provided to such villagers. This can be in line with the scheme by Fisheries Department wherein a fixed amount is being disbursed during no-fishing time for conservation of Olive Ridley turtles.
3. In order to prevent deaths of wildlife and elephants by electrocution, a scheme to be prepared for engagement of one person per village for verification of electrical lines daily / reporting in most susceptible areas to check hooking/ live traps. This is to be funded/ engaged jointly by DISCOMs and the Wildlife Wing. To start with, forty volunteers each by the two organisations to be engaged. These volunteers to be chosen from members of EDC/VSS wherever possible.
4. For collection of CDR/TDR, the process followed by police be adopted and their technical support and help taken for obtaining the data and for subsequent analysis.
5. Fix the issues in the mechanism followed in Anukampa portal/app to reduce the turn-around time in processing compassionate claims for human deaths and crop damage so that payment of compassionate amount to claimants is made expeditiously and with minimum delay.
6. Tata Power is requested to share the proposal for human-elephant conflict mitigation

and awareness generation with the Office of the CWLW so as to facilitate detailed discussions in a meeting to be chaired by the Chief Secretary.

The meeting ended with a vote of thanks to the Chair and participants.

Chief Secretary, Odisha

Chief Conservator of Forests (WL)
O/o the PCCF(WL) & CWLW
Odisha, Bhubaneswar

ANNEXURE - I

Meeting of the HPC to approve the Comprehensive Action Plan & Action points for conservation of elephants & mitigation of Human-Elephant conflict in Odisha

Date: 10.02.2023 Time: 12.30 PM

Sl.No.	Name and Designation	Signature
1	Chief Secretary, Odisha	
2	DC-cum-ACS, P & C Deptt.	
3	ACS, FE & CC Deptt.	
4	ACS, Home Deptt.	
5	ACS, Energy Deptt.	
6	Pr. Secy., A & F.E Deptt.	
7	Pr. Secy., Finance Deptt.	
8	Pr. Secy., C & T Deptt.	
9	Pr. Secy., F & A.R.D Deptt.	
10	Secy., Law Deptt.	
11	DGP, Odisha	
12	PCCF & HoFF, Odisha	

Chief Conservator of Forests (WL)
O/o the PCCF(WL) & CWLW
Odisha, Bhubaneswar

13	PCCF (WL) & CWLW, Odisha	[signature] 10/2
14	CEO - TPCODC	[signature]
15	J.S., Energy Deptt	[signature]
16	Joint Secy, Commerce & Transport Deptt.	[signature] 10/2/2023
17	Jt. Secy, J & PR	[signature] 10/2/23
18	~~[illegible]~~ Kumar Pradhan Jt. Secretary, FE & CC Deptt.	[signature] 10.2.2023
19	Satyabrata Rout Special Secretary, Finance Deptt	[signature] 10.2.2023
20	Srikanta Kumar Mishra Joint Secretary to Govt. Agril. & FE Deptt.	[signature] 10.02.2023
21	Ananya Kumar Nayak Spl Secretary R & DM Deptt	[signature] 10/2/23
22.	CCF (Wildlife)	[signature] 10.2.23
23.	CF (ET) O/o PCCF (WL) & CWLW, Odisha	[signature] 10/02/2023

[signature]

Chief Conservator of Forests (WL)
O/o the PCCF(WL) & CWLW
Odisha, Bhubaneswar

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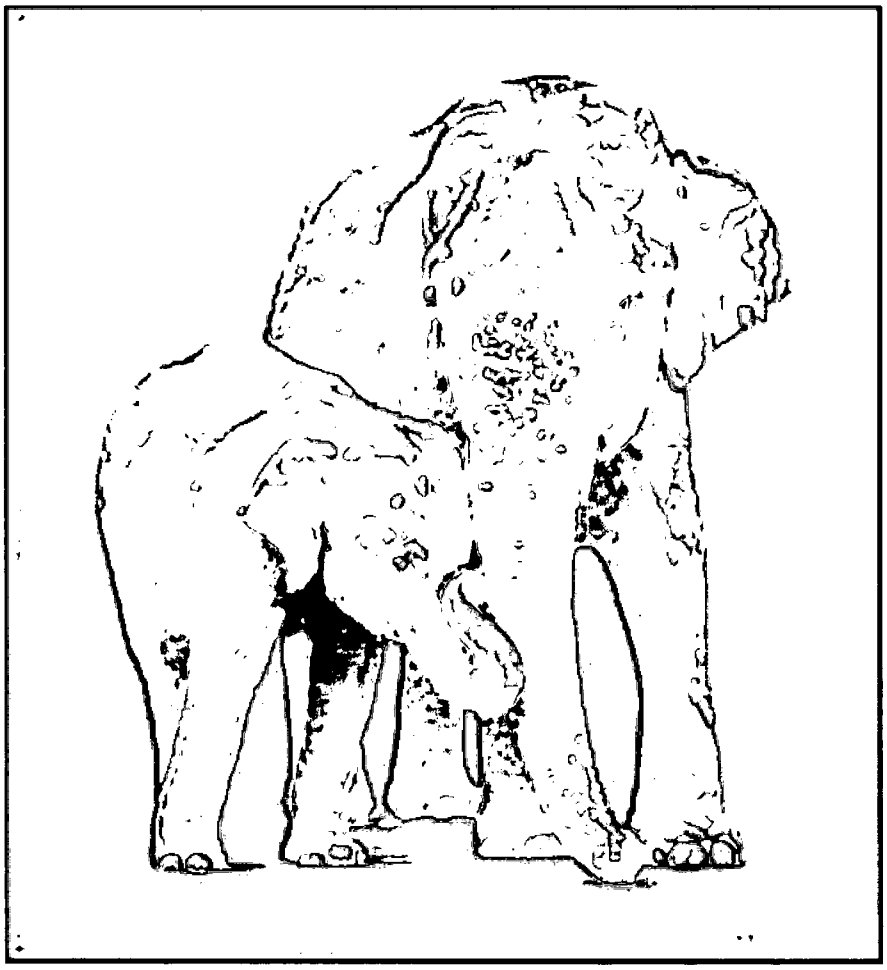
ANNEXURE-Y/1

COMPREHENSIVE ACTION PLAN FOR CONSERVATION OF ELEPHANTS & MITIGATION OF HUMAN-ELEPHANT CONFLICT IN ODISHA



Submitted by

THE JOINT TASK FORCE FOR THE PROTECTION OF WILDLIFE INCLUDING ELEPHANTS IN THE STATE.
GOVT. OF ODISHA

March 2023

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Comprehensive Action Plan for Conservation of Elephants and Mitigation of Human Elephant Conflict in Odisha

Submitted to the Hon'ble High Court, Orissa

Members

Dr. Manoj V. Nair, IFS, CCF-cum-Chairman, JTF
Sri Himanshu Sekhar Mohanty, DCF, JTF
Sri Jatin Kumar Panda, Addl. SP, JTF
Sri Ramapada Arabinda Mishra, ACF, JTF
Smt. Sadhana Behera, ACF, JTF
Dr. Subhashree Dash, RO, JTF
Sri Jayanta Kumar Dash, RO, JTF
Smt. Bhagyalaxmi Barik, RO, JTF
Smt. Renubala Sahoo, Inspector, JTF
Sri Sudhakar Singh, S.I of JTF
Sri Baladeva Prasad Das, S.I of JTF

Co-opted Members

Prof. Raman Sukumar, Asian Nature Conservation Foundation
Sri Jitasatru Mohanty, IFS (Retd.), Save Elephant Foundation Trust
Dr. Prajna Panda, National Coordinator, Elephant Cell, Project Elephant, MoEF& CC
Sri Aditya Chandra Panda, Honorary Wildlife Warden, Angul District
Sri Lalit Mohan Sahu, Honorary Wildlife Warden, Deogarh District

STATE WILDLIFE HEADQUARTERS
OFFICE OF THE PCCF(WILDLIFE) & CHIEF WILDLIFE WARDEN, ODISHA
PRAKRUTI BHAWAN, BHUBANESWAR

March 2023

ACKNOWLEDGEMENTS

On behalf of the Joint Task Force (JTF), I take this opportunity to extend my heartfelt gratitude to the Hon'ble Chief Justice of Odisha for his Lordship's firm commitment to the cause of conservation of elephants and wildlife in Odisha and his sagacious orders that lead to birth of this Comprehensive Action Plan. Our collective thanks to Shri Sushil Kumar Popli, IFS, PCCF (Wildlife) & CWLW, Odisha, Bhubaneswar for his constant guidance while preparing this document and Shri Debidutta Biswal IFS, PCCF & HoFF for his kind encouragement and support. We are extremely thankful to the Learned State Counsels as well as learned Advocates for their valuable inputs and suggestions during the hearings. As the Chairman, I am extremely thankful to Prof. Raman Sukumar of Asian Nature Conservation Foundation for always sparing the time from his busy schedule for attending the hearings and unstingingly offering technical guidance. Heartfelt thanks are also due to the other members of the JTF - Dr. Prajna Panda, National Coordinator, Elephant Cell, Project Elephant, MoEF& CC, Sri Jitasatru Mohanty, IFS (Retd.) of Save Elephant Foundation Trust, Sri Aditya Chandra Panda, Honorary Wildlife Warden, Angul District and Sri Lalit Mohan Sahu, Honorary Wildlife Warden, Deogarh District for their valuable contributions in preparing the Plan. I am deeply thankful to Dr. Bivash Pandav, Director BNHS, Dr. Parag Nigam and Dr Lakshminarayanan of WII for their support in preparing the Plan. The valuable inputs given by Dr. Biswajit Mohanty is gratefully acknowledged. Numerous experts/stakeholders ranging from retired forest officers, honorary wildlife wardens, scientists, researchers, civil society activists, general citizens etc. have been consulted during the Circle-level consultation meetings organized during the preparation of this Plan. This is apart from the persons with whom the Chairman consulted for their inputs such as Dr Pratyush Mahapatra, Dr. Bibhuti Prasad Lahkar, Shri Shubendu Malik, Rudra Mahapatra. The complete list is too long to be mentioned here but our heartfelt thanks goes to each one of them.

I am also extremely thankful to my colleagues in the Wildlife Headquarters - Sri Kedar Kumar Swain, IFS, Sri Bikash Ranjan Dash, IFS, Sri Samyak Samantara, Sri Nityanand Nayak, Sri Gurudutta Pattanaik, Sri Binod Acharya and Dr. Subrat Kumar Mahapatra, ADVO for their help and cooperation they extended during the preparation of Comprehensive Action Plan.

The JTF is deeply thankful to the kind guidance provided by Sri S.K. Pattnaik, former Chief Wildlife Warden and Dr. Debabrata Swain Ex. PCCF & HoFF, Odisha in preparing the plan.

Chief Conservator of Forests (WL)
PCCF(WL) & CWLW

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Our thanks are also due to Sri Bhubaneswar Mondal, GIS Technician Sri Debi Prasad Dash (Data Manager), Sri Rasmiranjan Sahoo (IT Specialist), and all staff of the Wildlife Headquarters for their support in preparing this report.

Last but not the least, I extend my heart felt appreciation to our officers in the field – RCCFs, DFOs, Range Officers, Foresters and Forest Guards and members of Protection Squads who toil tirelessly to safeguard elephants and their habitats.

Bhubaneswar
14th January 2023

(Dr. Manoj V. Nair, IFS)
CCF(WL) and Chairman, JTF
State Wildlife Headquarters,
Odisha, Bhubaneswar

Chief Conservator of Forests (WL)
O/o the PCCF(WL) & CWLW
Odisha, Bhubaneswar

Preface

This document contains the Comprehensive Action Plan (CAP) for conservation of elephants & mitigation of human-elephant conflict in Odisha prepared by the Joint Task Force (JTF) constituted on 13.09.2022 vide No. FE-WL-CASE-0009-2022/16368/FE & CC pursuant to the Order dated 08.08.2022 and Order dated 25.08.2022 of the Hon'ble High Court of Orissa passed in W.P.(C) PIL No. 14706 of 2022 (Gita Rout vrs. State of Odisha and Others).

As per the directions of the Hon'ble Court vide its order dated 25.08.2022, and re-iterated vide Order dated 15.11.2022, this Comprehensive Action Plan (CAP) was prepared.

The drafting of the CAP was done by the following team of official and co-opted members:

a)	Chief Conservator of Forests (Wildlife) O/O PCCF (Wildlife)	Chairman
b)	One Deputy Conservator of Forests, two Asst. Conservator of Forests, three Forest Rangers from FE & CC Department	Members
c)	One SP/Addl. SP, two Inspectors of Police, three Sub-Inspectors of Police on deputation	Members
d)	Prof. Raman Sukumar, Asian Nature Conservation Foundation	Co-opted Member (Wildlife Expert)
e)	Sri Jitasatru Mohanty, IFS(Retd.), Save Elephant, Foundation Trust	Co-opted Member (Wildlife Expert)
f)	Dr. Prajna Panda, National Coordinator, Elephant Cell, Project Elephant, MoEF& CC	Co-opted Member (Wildlife Expert)
g)	Sri Aditya Chandra Panda, Honorary Wildlife Warden, Angul District	Member (engaged voluntarily on wildlife issues)
h)	Sri Lalit Mohan Sahu, Honorary Wildlife Warden. Deogarh District	Member (engaged voluntarily on wildlife issues)

Chief Conservator of Forests (WL)
O/o the PCCF(WL) & CWLW
Odisha, Bhubaneswar

Executive Summary

The Asian Elephant is a keystone species whose presence is essential for the proper structure and functioning of the forest ecosystem. It is our national heritage animal having deep ties to our mythology, traditions and cultural heritage. Wild elephants are presently distributed over an area of about 125,000 km^2 across 22 states of the country. Presently, elephants are distributed across four major elephant-bearing regions of India, of which the East Central region encompasses Odisha and its neighbouring States. This region supports the third largest elephant population of about 3200 elephants, which constitutes one-tenth of the country's wild elephant population. As per the figures of the 2017 All-India synchronized elephant census, around 1976 elephants occur in the state of Odisha. This comprises 63% of the elephant population in the East Central region and about 6.6% of the country's wild elephant population. Elephant presence which was recorded in 37 out of 50 divisions in the All-India Synchronized Elephant Census, 2017 has now spread to 39divisions. Odisha has 19 Protected Areas (PAs) of which, elephant presence has been recorded in 13 PAs. In addition, it has and three Elephant Reserves (ERs) *viz.*Mayurbhanj ER, Sambalpur ER and Mahanadi ER, together encompassing 8508.95 sq.km.

The elephant landscape in the East Central region has been witnessing increasing levels of human-elephant conflict (HEC) during the past three decades and Odisha is no exception. The two prime factors for the escalating conflict between humans and elephants are habitat loss and fragmentation driven by anthropogenic activities such as infrastructure projects, mining, expansion of roads, railway linesand electric lines and also biotic pressure from forest-dependent communities. These have risen multi-fold in the recent times with inevitable pressure of development which also is a felt need of local people. On an average, 83 elephants are killed annually due to various reasons such as disease, electrocution, train hits, poisoning. and hunting. The HEC in the State claims around 112 human lives annually. The increasing levels of HEC have resulted in considerable public resentment and concern which has led to the filing of the PILs, the consequent formation of the Joint Task Force. As per the directions of the Hon'ble Court vide its order dated 25.08.2022, and re-iterated vide Order dated 15.11.2022, this Comprehensive Action Plan (CAP) was prepared.

During the process of preparation of the said plan, three key documents were referred to viz. a. '*Elephant Carrying Capacity of Odisha's Forests*' (Final Report submitted to Odisha Forest Department by Asian Nature Conservation Foundation in 2018), b. '*The Strategic Action Plan for Conservation of Elephants in the East Central Region with Special Emphasis on Mitigation*

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of Human–Elephant Conflict (draft submitted by Drafting Committee to Project Elephant Division Ministry of Environment, Forest & Climate Change in 2021*)*, and c. '*Report of the Karnataka Elephant Task Force*' (draft submitted by Task Force Members to High Court of Karnataka in Sept. 2012). Further, the presentation made by Dr R. Sukumar, Hon.Professor, Indian Institute of Science, Bangalore, Member of National Board of Wildlife and Member, Joint Task Force, Govt. of Odisha taken into record by the Hon'ble Court was also a crucial document in terms of overall guiding principles considered while drafting the CAP. Major approaches have been taken from these three documents, and at times, *in toto*. The overarching guiding principles adopted were to address immediately the burning issue of human-elephant conflict, aim to minimize accidental death of both elephant and humans by restricting the spatial spread of conflict and have a vision of maintaining a viable population of elephants in the State with acceptable levels of conflict in the long run.

According to the Carrying Capacity Report of 2018 cited above, the elephant population of Odisha, as determined since 1979 using the crude direct count methods, has remain practically constant at 1800-2000 individuals. At the same time, the numbers of elephants in neighbouring states such as Chhattisgarh and southern West Bengal have increased by about 400 individuals, pointing to a growth rate of 1.5-2.0% per annum in Odisha and Jharkhand with the growing numbers migrating to the other two states. This is indicative of the carrying capacity of Odisha's forests to sustain elephants being reached. ***The trends indicate that perhaps about 1700-1800 elephants can at most be sustained and managed within the larger forested landscapes of Odisha with tolerable levels of elephant-human conflicts*** (Sukumar *et.al,* 2018). Therefore, it becomes important to have a pragmatic vision for long-term conservation of elephants in the State taking into account this fact. The following vision has been framed accordingly.

Vision

To maintain a viable population of about 1700-1800 elephants in Odisha in the long run within the ecological and social carrying capacity with minimum incidence of human-elephant conflict and consequent death of humans and elephants.

Towards achieving this vision, a Zonation approach as detailed below has been adopted.

Zonation

Rationale

To achieve this vision in the long run, say 25 years, a targeted approach with clear delineation of zones with specific management interventions would be required with a target of an approximate number of elephants aimed to be supported in a given habitat in each zone within its carrying capacity. The zonation approach of the state should be based on habitat quality and viability, elephant use and movement, spatial configuration of forest fragments and corridors, human population, developmental imperatives, pattern and degree of human-elephant conflict. Some of this data is not available and will take time to collect and analyse. However, based on available data and information gathered from the field a preliminary approach to zonation has been attempted. This preliminary zonation can be fine-tuned/modified in periodic intervals when fine-grained data is available after due ground-truthing and commissioning of research studies.

Classifying Elephant Habitats:

[The approach is to use the classification adopted by the Karnataka Elephant Task Force]

A zone-based approach adopted from the Report of the Karnataka Elephant Task Force set up in 2012 by the Hon'ble High Court of Karnataka has been used to arrive at various zones and make recommendations for the management of elephants in the state through conservation of habitat, protection of elephants, mitigation of conflict, strengthening of administrative structures and institutions, participation of local communities, and scientific research and monitoring.

The criteria for the zone-based approach is briefly outlined below:

Zone I: Elephant Conservation Zone

This zone is constituted by the existing three Elephant Reserves. This region encompasses the larger and more-intact forested habitats. The emphasis within this zone would be affording maximum protection to elephants against illegal killing, maintaining long-term habitat integrity at the landscape scale through protecting and strengthening corridors, preventing elephants from moving into agricultural land and settlements both along the periphery and within enclavesand increasing the carrying capacity by sustained eco-restoration and habitat management.

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Zone II: Elephant-human Co-existence Zone

This zone constitutes the ranges immediately adjoining these Elephant Reserves, in ranges connecting these elephant reserves and those adjacent with good elephant habitat. These areas have RFs with good forest cover, sparse human presence and has long-term potential for elephant survival. Here the elephant populations would number in the hundreds, connected to the major conservation zone, and ranging between them, over a largely intact habitat in which conflicts are manageable and would qualify for experimenting with a model of coexistence with people.

Zone III: Conflict Mitigation Zone

This Zone contains areas which witness moderate to high HEC, good to patchy forest cover and scattered elephant populations spread spatially over a large area throughout the state. Here the elephant populations would number in the several tens or rarely reaching hundreds, either isolated or connected to the major conservation zone, but ranging over a restricted or a fragmented habitat in which conflicts are high which require regular mitigatory interventions.

Zone IV: Elephant Removal (or Exclusion) Zone

This Zone consists of areas with very high human density, urban and peri-urban areas with very less forest cover and no historical presence of elephants. The elephant-removal zone would include areas where small or isolated groups of elephants, with questionable viability, or solitary male elephants or all-male groups range over a predominantly human-settled landscape, where the social and economic costs to maintaining the elephants are unacceptably high and where no co-existence is possible.

Potential number of elephants that can be sustained in the Zones

As per the distribution of elephants recorded during the 2017 elephant census, and the available data from iWLMS and information from divisions, it is estimated that the number of elephants that can be maintained as per the zonation approach would be about 1700-1800 as follows:

<u>Zone I:</u> Elephant Conservation Zone

This zone is constituted by the existing three Elephant Reserves. Mayurbhanj Elephant Reserve can accommodate about 550-600 elephants once sustained habitat improvement measures result in increasing its carrying capacity. Mahanadi and Sambalpur Elephant Reserves together can support about 250-300 elephants with habitat improvement and village relocations in Satkosia Tiger Reserve.

Zone II: Elephant-human Co-existence Zone

This zone constitutes the ranges immediately adjoining these Elephant Reserves, in ranges connecting these elephant reserves and those adjacent with good elephant habitat, about 550-600 elephants can reside. Further, about 60-80 elephants can be accommodated in the only elephant habitat south of Mahanadi encompassing Kalahandi North and South, Raygada and Baliguda Forest divisions. This region also has two PAs viz. Karlapat and Kotgarh Wildlife Sanctuaries.

Zone III: Conflict mitigation Zone

This Zone contains areas which witness moderate to high HEC, good to patchy forest cover and scattered elephant populations. This zone has currently about 200-250 elephants.

It is expected that with the long-term improvement of elephant habitats in Zone I and II, many of the adjoining elephants in Zone III would move into them. However, it is important to understand that Zone I and Zone II (ERs and the connecting landscapes) would have the best prospects for long-term survival and conservation of the elephant population of Odisha state.

A draft list of divisions/ranges in each zone have been listed below and has to be fine-tuned after due ground truthing and finalisation of corridor study. Meanwhile indicative management action points can be initiated forthwith as suggested.

ZONE: I			
MAYURBHANJ ELEPHANT RESERVE			
SL.NO	**CIRCLE**	**DIVISION**	**RANGE**
1	BARIPADA	BALASORE_WL	SORO
2			KULDIHA
3		BARIPADA	BANGIRIPOSI
4			DEULI
5			BARIPADA
6			KAPTIPADA
7		KARANJIA	KARANJIA
8			SATKOSIA WL
9			THAKURMUNDA
10			DUDHIANI
11		KEONJHAR_WL	ANANDAPUR
12			HADAGARH
13		RAIRANGPUR	MANADA
14			RAIRANGPUR
15			BADAMPAHARH
16			BAHALDA
17			BISOI WL

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18		SIMILIPAL NORTH_WL	TALABANDHA WL
19			KENDUMUNDI WL
20			CHAHALA WL
21			GURGURIA WL
22			BAREHIPANI WL
23			NAWANA NORTH WL
24			THAKURMUNDA WL
25		SIMILIPAL SOUTH_WL	NAWANA SOUTH WL
26			UBK WL
27			PITHABATA NORTH WL
28			PODADIHA WL
29			BHANJABASA WL
30			NATIONAL PARK WL
31			JENABIL WL
32			PITHABATA SOUTH WL
33			DUKURA WL
SAMBALPUR ELEPHANT RESERVE			
SL. NO.	**CIRCLE**	**DIVISION**	**RANGE**
1	SAMBALPUR	BAMRA WL	KHALASUNI
2			BADRAMA
3			JAMANKIRA
MAHANADI ELEPHANT RESERVE			
SL. NO.	**CIRCLE**	**DIVISION**	**RANGE**
1	ANGUL	ATHAGARH	NARSINGHPUR WEST
2		ATHAMALIK	ATHAMALLIK
3		MAHANADI WL	CHHAMUNDIA
4			BANIGOCHHA(WEST)
5			KUSANG
6		SATKOSIA WL	PAMPASAR
7			PURUNAKOTE
8			TIKARPADA
9			RAIGODA WL
10			JILLINDA
11	BHUBANESWAR	NAYAGARH	GANIA
12	BERHAMPUR	BOUDH	MADHAPURA

ZONE: II (A)			
Ranges Immediately adjoining Sambalpur Elephant Reserve			
SL. NO.	**CIRCLE**	**DIVISION**	**RANGE**
1	ANGUL	ATHAMALIK	BAMUR
2			HANDAPA
3	SAMBALPUR	RAIRAKHOL	GIRISCHANDRAPUR
4			NAKTIDEUL
5			CHARMAL
6			RAMPUR

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7			MOCHIBAHAL
8		SAMBALPUR	SADAR
9			PADIABAHAL
10	ROURKELA	DEOGARH	REAMAL
Ranges Immediately adjoining Mahanadi Elephant Reserve			
SL. NO.	**CIRCLE**	**DIVISION**	**RANGE**
1	ANGUL	ANGUL	ANGUL
2			BANTALA
3		ATHAGARH	NARSINGHPUR EAST
4			BADAMBA
5		ATHAMALIK	DHANDATOPA
6			MADHAPUR
7	BERHAMPUR	BOUDH	PURUNAKATAK

Zone: II (B) Range connecting the 3 Elephant Reserves and those with good elephant habitats			
SL. No	**CIRCLE**	**DIVISION**	**RANGE**
1	ANGUL	ANGUL	JARAPADA
2		DHENKANAL	HINDOL
3	BERHAMPUR	BALIGUDA	BELGHAR
4			KOTAGARH
5		GHUMSUR NORTH	TARASING
6	BHUBANESWAR	NAYAGARH	DASPALLA
7	BARIPADA	KEONJHAR_WL	DEOGAON WL
8			BRAHMANIPAL
9	BHAWANIPATNA	KALAHANDI NORTH	MADANPUR RAMPUR
10			NARLA
11			BHAWANIPATNA
12		KALAHANDI SOUTH	BISWANATHPUR
13			KARLAPAT SANCTUARY
14		SUBARNAPUR	ULLUNDA
15	ROURKELA	BONAI	TAMRA
16			JARDA
17			SOLE
18		DEOGARH	BARKOTE
19			PALLAHARA
20		ROURKELA	PANPOSH
21			BANKI
22		KEONJHAR	TELKOI
23	SAMBALPUR	BAMRA WL	KUCHINDA
24			BAMARA
25		SAMBALPUR	DHAMA
26		RAIRAKHOL	RAIRAKHOL

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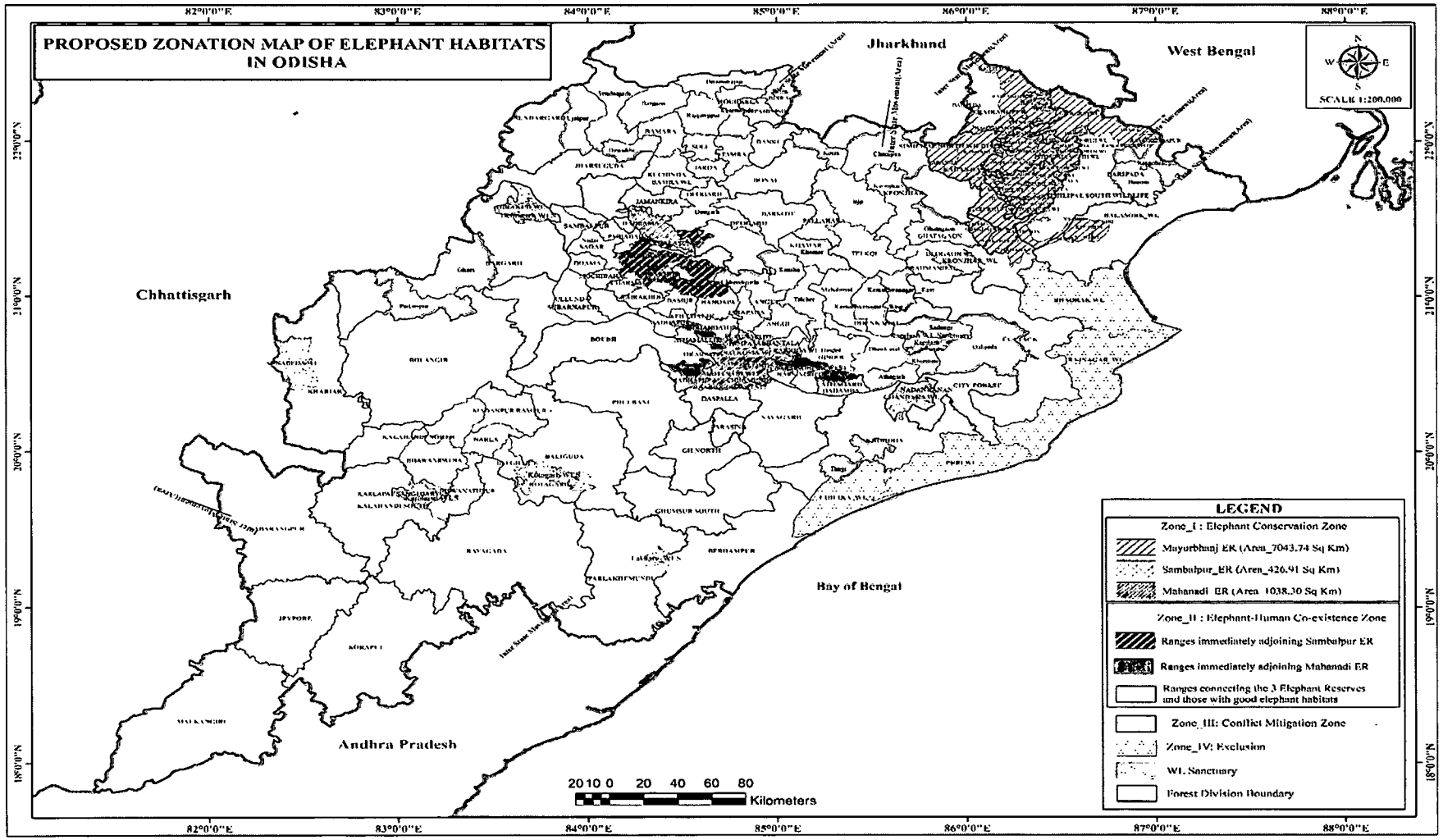
Zone: III (Conflict-prone Ranges)			
SL NO.	**CIRCLE**	**DIVISION**	**RANGE**
A. Most Vulnerable Ranges			
1	ANGUL	DHENKANAL	HINDOL
2			K. NAGAR (WEST)
3			DHENKANAL
4			MAHABIROD
B. Moderate Vulnerable Ranges			
5	ANGUL	DHENKANAL	SADANGI
6		ANGUL	CHHENDIPADA
7			TALCHER
8		BARIPADA	RASGOBINDPUR
9	ROURKELE	KEONJHAR	CHAMPUA
10		ROURKELA	BIRAMITRAPUR
11			KUARMUNDA
12	SAMBALPUR	BARGARH	PADAMPUR
C. Vulnerable Ranges			
13	ANGUL	DHENKANAL	K. NAGAR (EAST)
14			KAPILASH
15		ATHAGARH	KHUNTUNI
16			ATHGARH
17		ANGUL	KANIHA
18		CUTTACK	DALIJORA
19		BARIPADA	BETNATI
20	BHUBANESWAR	KHURDHA	TANGI
21	ROURKELE	DEOGARH	DEOGARH
22			KHAMAR
23		KEONJHAR	GHATGAON
24			BHUYAN & JUANGPIRH
25			KEONJHAR
26		ROURKELA	BISRA
27			RAJGANGPUR
28		SUNDARGARH	SUNDARGARH
29			UJALPUR
30			BARGAON
31		BONAI	KOIRA
32	SAMBALPUR	JHARSUGUDA	BAGDIHI
33		BARGARH	GHEES

Map 6: Zonation of elephant habitats in Odisha



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The above is a draft list of divisions/ranges to be included in each zone based on available information and data from iWLMS. Hindol Range is good habitat of elephant and having significant no of human elephant conflict case, for that the said Range fall under both Zone II and Zone III; These have to be fine-tuned by appropriately including the relevant sections under each zone after due ground truthing and also after incorporating findings of the proposed corridor study. However, this applies to only a relatively small area and will not have any impact on the larger set of management action points suggested for implementation. Therefore, the indicative action points listed below under the 10-pillar strategy can be initiated forthwith.

10-pillar strategy

To achieve the vision and the management objectives envisaged under each Zone, a ten-pillar strategy with short-term, medium-term and long-term action points under each has been envisaged.

The abstract of the same is as follows:

Sl. No	Name of the Thematic Pillar	No of LT Action points	No of MT Action points	No of ST Action Points
1	Human-elephant conflict mitigation	0	2	17
2	Inter-departmental co-ordination	2	1	22
3	Protection, enforcement and prosecution	2	4	36
4	Elephant habitat, corridors and connectivity	4	2	14
5	People's participation, education & awareness	1	0	16
6	Habitat management for increased productivity	8	4	6
7	Human resource management & capacity building	0	1	20
8	Wildlife health management and disease control	0	0	8
9	Research & application of technology	0	4	15
10	Monitoring	0	1	4
	Total	17	19	158

NB: Some of the action points will have short-term and medium-term implications as also long-term in some cases.

The summary of the Action Points is given in Chapter IV, giving specific granular details, indicative timelines and agency responsible for implementing them. It may be noted that many of the action points are already ongoing but requires renewed focus, enhancement, expansion and more critically, regular monitoring.

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CHAPTER- I

INTRODUCTION

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Introduction

The State of Odisha is located between the parallels of 17.49'N & 22.34'N latitudes and meridians of 81.27'E & 87.29'E longitudes. It is surrounded by the Indian states of West Bengal to the north-east, Jharkhand to the north, Chhattisgarh to the west and north-west, Telangana to the south-west and Andhra Pradesh to the south. It has a geographical area of 1,55,707 sq km. The Recorded Forest Area is61,204 sq. km. which is 39.31% of its Geographical Area as per the India State of Forest Report (ISFR), 2021. The State has enhanced its Forest Cover by 537 sq. km w.r.t, 2021.

The state has 19 Wildlife Sanctuaries, one National Park (Bhitarkanika), two Tiger Reserves (Similipal and Satkosia), three Elephant Reserves (Mayurbhanj, Mahanadi and Sambalpur), one Biosphere Reserve (Similipal) and 14 Identified Elephant Corridors with one proposed National Park (Similipal), two proposed Tiger Reserves (Sunabeda and Debrigarh) for addressing In-Situ conservation of wildlife. The State has 11 Zoos, out of which one Large Zoo (Nandankanan), three Small Zoos and seven Mini Zoos have been established to take care of Ex-Situ conservation of animals. Rowell (2014) studied the importance of zoos that provides animals with enclosure space and enrichment to replicate in their natural existence. The aim of this study was to examine and calculate the total distance travelled and utilization of enclosure space by the Asian elephants at captivity.

Table 1: List of National Parks of Odisha

Sl. No.	Name of National Park	Administrative control.	Situated in the District	Notification No. & date.	Area in Sq kms.
1	Bhitarkanika National Park	DFO Mangrove Forest Division (WL), Rajnagar/ RCCF, Bhubaneswar	Kendrapara	19686 dt.16.09.98 (Final)	145.00
2	Similipal (Proposed National Park)	Field Director, Similipal Tiger Reserve -Cum- RCCF, Baripada	Mayurbhanj	18703 dt.06.08.80	845.70

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Table 2: List of Wildlife Sanctuaries of Odisha

Sl. No.	Name of Sanctuary	Administrative control	Situated in the District	Notification No. & date.	Area in Sq kms.
1	Bhitarkanika	DFO, Mangrove Forest Division (WL),Rajnagar/ RCCF, Bhubaneswar.	Kendrapara	2289 Dt.01.02.2020	673
2	Balukhand-Konark	DFO, Puri (WL) Division/ RCCF, Bhubaneswar.	Puri	15216 Dt.01.09. 1987	70.40
3	Baisipalli	DFO,Mahanadi (WL)Division/ RCCF,Angul	Nayagarh	25335 Dt.06.05. 1981	168.35
4	Badrama	DFO,Bamra (WL) Division/ RCCF Sambalpur	Sambalpur	23393 Dt.17.12. 1987	304.03
5	Chilika (Nalban)	DFO,Chilika WL. Division, Balugaon/RCCF, Bhubaneswar	Puri	23403 Dt.17.12. 1987	15.53
6	Chandaka-Damapara	DFO,Chandaka(WL) Division / RCCF,Bhubaneswar	Khurda, Cuttack	13482 Dt.10.06. 1988	193.39
7	Debrigarh	DFO, Hirakd WL. Division / RCCF,Sambalpur	Sambalpur	2409 Dt.08.02. 1985	346.90
8	Gahirmatha (Marine)	DFO,Mangrove Forest Division (WL),Rajnagar/ RCCF, Bhubaneswar	Kendrapara & Bhadrak	18805 Dt.27.09. 1997	1435.00
9	Hadgarh	DFO, Keonjhar (WL) Division / RCCF,Baripada	Keonjhar	34113 Dt.06.12. 1978	191.06
10	Khalasuni	DFO, Bamara (WL) Division / RCCF, Sambalpur	Sambalpur	584 Dt.07.01. 1982	116.00
11	Kuldiha	DFO, Balesore (WL) Division /RCCF, Baripada	Balasore	243 Dt.04.01. 1984	272.75

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12	Nandankanan	Dy. Director,Nandankanan/ Director,Nandankanan, Bhubaneswar	Khurda	20682 Dt.03.08. 1979	4.37
13	Similipal	Dy. Director, Similipal (North & South) /RCCF,Baripada	Mayurbhanj	30467 Dt.03.12.1979	2306.61
14	Satkosia Gorge	DFO,Satkosia (WL) Division & Mahanadi (WL) Division / RCCF,Angul	Angul, Boudh	26865 Dt.14.12.2018	968.35
15	Sunabeda	DFO,Sunabeda (WL) Division/ RCCF,Bhwanipatna	Nuapada	10772 Dt.10.05. 1988	600.00
16	Karlapat	DFO, Kalahandi (South) Division /RCCF, Bhwanipatna	Kalahandi	24498 Dt.15.10. 1992	147.66
17	Lakheri-valley	DFO,Parlakhemundi Division / RCCF, Berhampur	Ganjam, Gajapati	2333 Dt.08.02. 1985	185.87
18	Kotgarh	DFO, Baliguda Division / RCCF,Berhampur	Kandamal	30253 Dt.03.12.1981	399.05
19	Kapilash	DFO, Dhenkanal Division / RCCF, Angul	Dhenkanal	5937 Dt.02.04.2011	125.50

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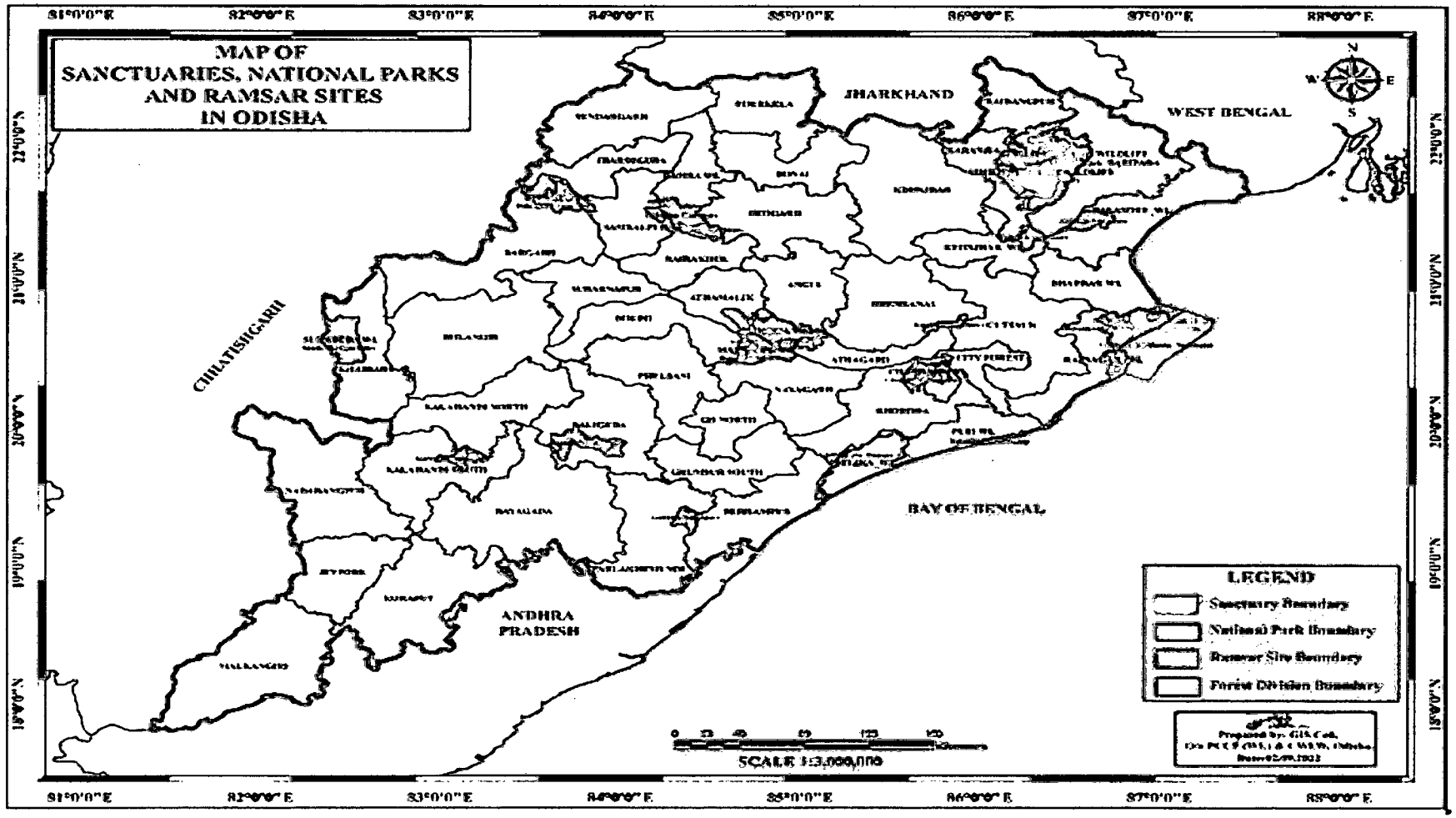
Map 1: Sanctuaries and National Parks in Odisha



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The state also shelters an estimated 1976 Asian elephants accounting for 7% of the Indian elephant population (MoEF&CC 2017). This genetically viable population is distributed over an area of 15000 sq. km comprised forested lands under control of Forest and Revenue departments as well as forested or cultivation lands that are privately owned.

For administrative organization Odisha is divided into 30 civil districts with Forest administrative divisions compressing 37 territorial Forests divisions and 13 Wildlife divisions. Out of these 50 administrative Forests Divisions, Elephants were reported in 37 and spreads over 28 civil districts of Odisha (MoEF&CC 2017).

List of Elephant Reserves

Elephant being a long-range foraging animal requires large landscape for its sustenance therefore vast track of land with adequate vegetation is necessary for its habitat. Accordingly, elephant reserves are notified to set aside certain area for special management focousing on protection and conservation of elephant. Bisht (2002) stated that efforts for the conservation of the Elephant *(Elephas maximus)* in India were initiated in 1873 with the promulgation of the Madras Wild Elephant Preservation Act, 1873. But the earlier laws were quite liberal as regards capturing of elephants and permitted their killing under the pretext of protecting crop and public property. Srinivasaiah and his co-worker (2012) stated that evaluation of differences in behavior and decision-making among individual elephants across groups in response to changing local ecological settings is essential to fill this gap in knowledge and to improve our approaches towards the management and conservation of elephants. Fritz (2017) stated that the elephants might live for > 60 years, so it wasobvious that long-term studies were necessary if we are to understand theirlife histories. Apart from it 2 aspectsof elephant biology that are illuminated by long-term field studies i.e., knowledge of spatial dynamics of populations that occur in response to environmental change and effects these ecosystem engineers have onhabitats, landscapes, other species, and ultimately on ecosystems. Synchronized elephant population estimation India, 2017 studied population estimation resulted only from direct count method. Gosling (2018) stated that Asian elephants live across a vast range of 13 countries, from India to Indonesia, yet their global population of 30,000-50,000 is barely 10% of their African cousins. Odisha has declared 3 elephant reserves the details of which along with location map is furnished in Table 3.

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Table 3: List of three Elephant Reserves of Odisha

Sl. No.	Name of the Elephant Reserves	Area Sq. Km.	Notification No. and Date	District	Division	Protected Area Network
1	Mayurbhanj Elephant Reserve	7043.74 sq.km	Notification No.8F(W) 42/2001/15806 Dated 29.09.2001	Portion of Mayurbhanj, Balasore & Keonjhar	Similipal North, Simlipal South, Karanjia, Baripada, Rairangpur, Balasore WL, Keonjhar WL	Hadgarh, Kuldiha and Similipal WL Sanctuary, Similipal NP and Similipal TR
2	Mahanadi Elephant Reserve	1038.30 sq.km	Notification No.8F(W) 17/2002/10162 Dated 19.06.2002	Portion of Angul, Boudh, Cuttack, Nayagarh,	SatkosiaWL, Mahanadi WL, Boudh, Athagarh, Nayagarh,	Satkosia and Baisipalli WL sanctuary
3	Sambalpur Elephant Reserve	426.91 sq.km	Notification No.8F(WL) 10/2002/5840 Dated 27.03.2002	Sambalpur	Bamra WL	Badrama and Khalasuni WL sanctuary

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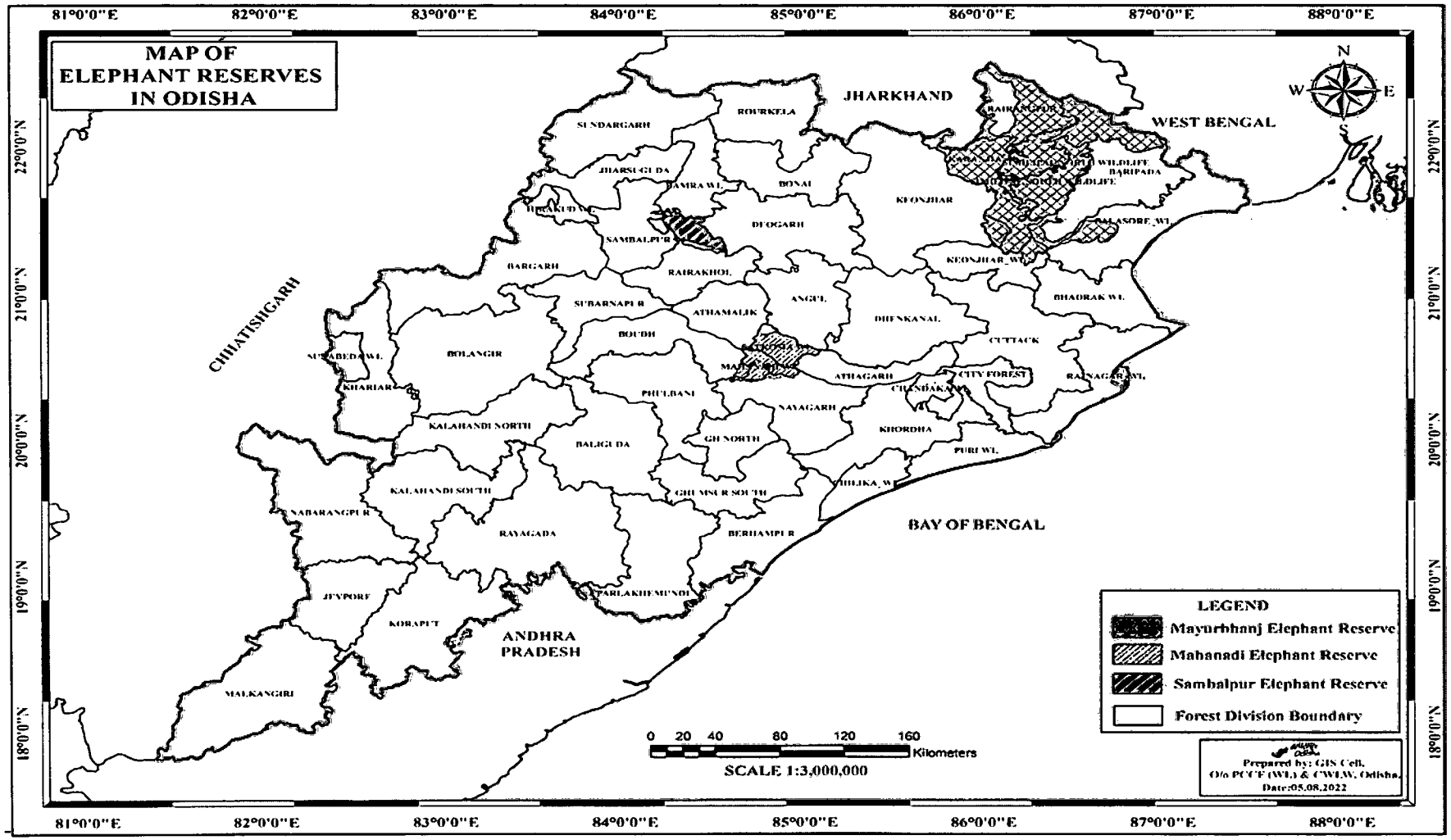
Map 2: Elephant reserves in Odisha



1.1: Background of Joint Task Force

A PIL W.P (C) PIL No 14706 of 2022 Gita Rout vrs State of Odisha was filed in the Hon'ble High Court in the matter of protection of elephants and other wildlife in the state of Odisha. Accordingly in pursuance of Order passed by Hon'ble High Court on 08.08.2022, in the matter of said W.P(C), a high-level meeting under the chairmanship of Chief Secretary to Govt. of Odisha was convened on 17.08.2022 along with senior officers of Police and Forest Department. It was decided in the said meeting to constitute a dedicated Joint Task Force to undertake investigations pertaining to different cases of unnatural deaths of elephants in the State in order to tackle the minance of the State

Further in pursuance to the Order dt. 08.08.2022 and Order dated 25.08.2022 of the Hon'ble High Court, Government have been pleased to constitute a Joint Task Force for the protection of wildlife including elephants in the state vide Order no FE-WL-CASE 0009/2022/16368 dt. 13.09.2022 (Annexure 1).

The 1st meeting of Joint Task Force (JTF) was held on 20.09.2022 at 04.00 PM through Hybrid mode under the Chairmanship of Dr. Manoj V. Nair IFS, Chief Conservator of Forests (Wildlife), O/o the Principal Chief Conservator of Forests (Wildlife) & CWLW, Odisha. After threadbare discussion, the following broad road map was been drawn up:

1. To compile and maintain an updated database of wildlife crime-related information with the JTF. This shall inter alia include a Dossier of known criminals and details of wildlife offence cases. The analysis of this data repository will reveal spatial and temporal patterns in wildlife crime and shall help formulate strategies action in field.
2. Development of a state-wide intelligence network to pro-actively collect actionable information from the field to both pre-empt wildlife crimes and also apprehend the habitual offenders.
3. To formulate a Comprehensive Action Plan with preventive and remedial measures for checking wildlife crime and reduction in man-animal conflict in the State.
4. To take up field investigation of few important wildlife cases relating to elephant, tiger, leopard and pangolin.
5. Scrutiny of case records of some important cases and provide handholding for improving the same.
6. Review and monitor progress of important cases and offer advice for effective prosecution of the same so as to improve conviction rates.

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7. To conduct capacity building workshops and training programmes to enhance skills of field staff in prevention, investigation and prosecution of wildlife crime and also awareness on mitigating human-wildlife conflict situation.

As per the direction of the Hon'ble High Court vide its Order dt. 25.08.2022 re-iterated vide Order dt. 15.11.2022, the Hon'ble Court directed for the preparation of a Comprehensive Action Plan for conservation of elephants and mitigation of Human-Elephant Conflict in Odisha by the Joint Task Force. This led to the prepration of this report.

1.2: The Asian Elephant

Asiatic Elephant is the largest surviving land mammal in Asia and is distributed throughout the Indian subcontinent and Southeast Asia, from India in the west, Nepal in the north, Sumatra in the south, and to Borneo in the east. Asian elephants are highly intelligent characterized by strong family bonds, sophisticated communication and complex behavior, including tool use and the ability to feel grief and compassion. These elephants live in herds, consisting of more than 20 females. The oldest female leads the group in its movement routes, searching for food and water source. Their versatile trunks are equally capable of brute force (pushing over a tree in order to reach leaves on the inaccessible upper branches, for example) or performing a delicate task such as picking up a peanut. Elephants can use low frequency sound waves for communication between members of the herd and individuals outside the herd. These sounds may carry for distances of up to 10 miles. These Elephants drink up to 200 liters of water per day.

Asian elephants are listed in Schedule 1 of the Wild Life (Protection) Act, 1972. The species is listed at Appendix I in the Convention on International Trade in Endangered Species (CITES).

1.2.1. History of Elephants in Odisha

In historical times, the region of Odisha was very important for the abundance of its wild elephants that was also a source for the armies of rulers. In the Kautilya Artha-shastra it is mentioned that the elephants of Kalinga were the best type in the Country for use in war. As mentioned by Das (1986), the king of Kalinga and its standing army consisted of sixty thousand infantry, one thousand cavalry and seven hundred war elephants. The records of elephant capture from Odisha both by lassoing and by Kheda (Patnaik, 2004). So far, the oldest elephant stone sculpture available in Odisha, circa 272 to 36 BCE, is carved head of a tusker at the top

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of the boulder containing Ashoka's Rock edicts at Dhauli, Bhubaneswar (Mitra, 1966). In the caves of Khandagiri and Udaygiri (1st century BCE) the rock cut depicts the use of elephants and their uses. Odisha was the main source of war elephants to the sultanates of Delhi (Digby, 1971). The king's title of one of the native states was GajapatiMaharaj (Lord of elephants). Chodaganga Deva, the founder father of the imperial Ganga dynasty of Kalinga (presently Odisha) had a considerable number of elephants as did Kapilendra Deva the founder of Gajapati dynasty at the time of his accession to the throne (Das, 1986).

1.2.2. Population of Elephants in Odisha

Systematic census of elephant populations in the state of Odisha, using block count methods began during the year 1979. Since then, seven elephant censuses (in the years of 1979,1999, 2002, 2007, 2010, 2012, 2015 and 2017), based on direct count method, have been conducted. During the 2017 all-India synchronized elephant census, both direct and indirect methods were used for elephant population estimation. The details of all the censuses have been summarized in Table-4.

Table 4: Age: sex wise breakup of elephant population of Odisha from 1979 to 2017

Year	Male (Tusker: Makhna)		Female	Ratio of M:F	Unclassified	Young	Total
1979	439	5	1124	2.53	476 (+calf)	-	2044
1999	400	-	1044	2.61	383 (+calf)	-	1827
2002	370	-	940	2.54	531(+calf)		1841
2007	387	16	973	2.41	71	415	1862
2010	332		1064	3.20	42	448	1886
2012	334	-	1087	3.25	46	463	1930
2015	341	-	1096	3.21	27	490	1954
2017	329	15	1092	3.17	38	502	1976

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Table 5: Division wise elephant population in Odisha from 1979 to 2017

Sl No.	Name of Divisions	May-79	May-99	May-02	May-07	Apr-10	Jun-12	May-15	May-17
1	Angul	173	162	24	76	40	56	40	45
2	Athamallik	0	29	37	23	15	28	56	59
3	Athgarh	75	154	156	139	133	131	114	115
4	Balasore WL	0	41	56	67	81	93	89	97
5	Balliguda	54	17	32	35	41	36	46	30
6	Bamra WL	179	183	201	194	152	176	102	94
7	Bargarh	0	0	0	0	0	15	0	0
8	Baripada	0	0	0	48	48	52	68	70
9	Berhampur	0	0	0	9	37	35	20	11
10	Bhadrak WL	0	0	0	2	0	0	0	0
11	Bolangir	0	0	0	0	10	22	28	32
12	Bonai	25	53	82	69	45	42	65	59
13	Boudh	0	15	0	16	8	4	08	15
14	Chandaka WL	0	83	62	67	23	24	08	1
15	Chilika WL	0	0	0	0	0	0	0	0
16	City Forest	0	0	0	0	0	0	0	0
17	Cuttack	0	0	0	8	14	22	35	37
18	Deogarh	7	21	9	27	58	49	42	27
19	Dhenkanal	92	94	81	132	157	162	164	169
20	Ghumsur (N)	5	24	9	17	13	17	21	17
21	Ghumsur (S)	8	5	6	0	0	32	42	25
22	Hirakud WL	0	0	0	0	0	16	20	19
23	Jeypore	0	0	0	0	0	0	0	0
24	Kalahandi (N)	0	0	0	26	34	34	19	17
25	Kalahandi (S)	60	24	61	27	30	0	7	2
26	Karanjia	0	28	44	40	32	23	56	43
27	Keonjhar	90	75	112	33	41	73	47	40

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SI No.	Name of Divisions	May-79	May-99	May-02	May-07	Apr-10	Jun-12	May-15	May-17
28	Keonjhar WL	0	0	0	27	35	40	51	49
29	Khariar	0	0	0	0	0	0	0	0
30	Khurdha	57	0	0	8	6	14	31	33
31	Koraput	0	0	0	0	14	8	0	0
32	Mahanadi WL	0	0	25	1	7	5	88	93
33	Malkangiri	0	0	0	0	0	0	0	0
34	Mangrove WL	0	0	0	0	0	0	0	0
35	Nabarangpur	0	0	0	0	0	0	0	0
36	Nayagarh	51	0	0	6	12	5	17	14
37	Parlakhemundi	217	86	42	44	21	19	21	27
38	Phulbani	121	3	6	14	1	6	8	23
39	Puri WL	0	0	0	0	0	0	0	0
40	Rairakhol	51	170	165	11	16	6	9	16
41	Rairangapur	0	0	0	48	48	47	48	46
42	Rayagada	102	10	0	24	12	4	9	16
43	Rourkela	0	0	0	0	11	11	39	35
44	Jharsuguda	0	0	0	1	4	0	1	0
45	Sambalpur	7	54	64	91	77	16	5	53
46	Satkosia WL	0	0	155	194	224	229	146	147
47	STR Core	670	496	412	298	331	334	337	330
48	Subarnapur-	0	0	0	23	30	31	37	44
49	Sunabeda WL	0	0	0	0	0	0	0	0
50	Sundargarh	0	0	0	17	25	13	10	26
	GRAND TOTAL	**2044**	**1827**	**1841**	**1862**	**1886**	**1930**	**1954**	**1976**

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Table 6: Division Wise Elephant Census Result-2017

Name of the Division	Male	Female	Unknown Sex	Young	Total
Angul	13	22	0	10	45
Athmalik	10	30	2	17	59
Dhenkanal	30	94	15	30	169
Athagarh	17	57	0	41	115
Cuttack	7	17	0	13	37
Satkosia WL	22	88	0	37	147
Mahanadi WL	14	50	0	29	93
Total Angul Circle	**113**	**358**	**17**	**177**	**665**
Balasore WL	19	51	0	27	97
Rairangpur	12	25	0	9	46
Karanjia	8	21	0	14	43
Baripada	17	34	0	19	70
Similipal TR Core	38	203	2	87	330
Keonjhar WL	11	26	0	12	49
Total Baripada Circle	**105**	**360**	**2**	**168**	**635**
Berhampur	2	6	2	1	11
Ghumsur North	4	5	0	8	17
Ghumsur South	5	13	2	5	25
Parlakhemundi	4	18	5	0	27
Balliguda	4	17	0	9	30
Boudh	3	7	0	5	15
Phulbani	6	13	0	4	23
Total Berhampur Circle	**28**	**79**	**9**	**32**	**148**
Kalahandi North	4	9	0	4	17
Kalahandi South	1	0	1	0	2
Subarnapur	4	30	0	10	44
Bolangir	9	20	0	3	32

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Name of the Division	Male	Female	Unknown Sex	Young	Total
Khariar	0	0	0	0	0
Total Bhawanipatna Circle	**18**	**59**	**1**	**17**	**95**
Chandaka WL	1	0	0	0	1
Chilika WL	0	0	0	0	0
City Forest	0	0	0	0	0
Khurda	5	10	1	17	33
Nayagarh	2	6	0	6	14
Total Bhubaneswar Circle	**8**	**16**	**1**	**23**	**48**
Rayagada	3	8	1	4	16
Koraput	0	0	0	0	0
Total Koraput Circle	**3**	**8**	**1**	**4**	**16**
Bonai	14	38	0	7	59
Deogarh	5	14	1	7	27
Keonjhar	9	24	0	7	40
Rourkela	2	21	2	10	35
Sundargarh	9	12	0	5	26
Total Rourkela Circle	**39**	**109**	**3**	**36**	**187**
Sambalpur	9	31	4	9	53
Jharsuguda	0	0	0	0	0
Rairakhol	5	8	0	3	16
Bamra WL	12	52	0	30	94
Hirakud WL	4	12	0	3	19
Bargarh	0	0	0	0	0
Total Sambalpur Circle	**30**	**103**	**4**	**45**	**182**
ODISHA GRAND TOTAL	**344**	**1092**	**38**	**502**	**1976**

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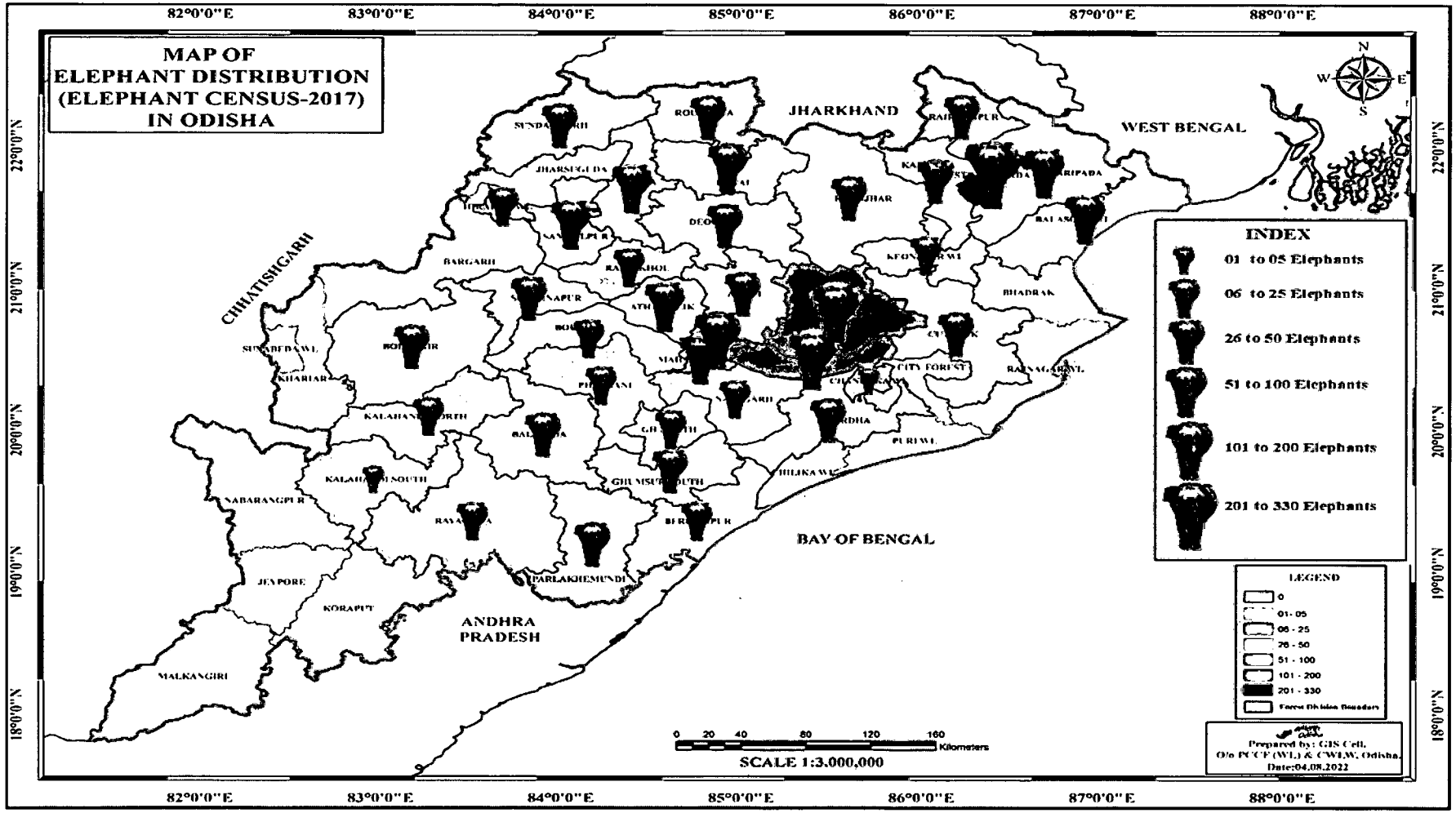
1.2.3. Distribution of Elephants in Odisha

Odisha's geographical area (1,55,707 km^2) represents only about 4.6% of India's geographical area but the State's forests (which cover 37% of the state's geographical area) comprise 7.6% of the country's forest area. These forests are home to only about 7% of the total wild elephant population of India. Further, our state accounts for about 70% of elephant population of central east region landscape comprising Chhattisgarh, Jharkhand, south-west Bengal and Odisha. The population of elephant is almost stable around 2000 with little variation as observed from the census data starting from 1999-2017. The Odisha elephant population is thus important for the survival of the species in this region. The elephants of Odisha are spread practically throughout the state but can be considered under five major regions – Mayurbhanj in the northeast, Keonjhar in north central, Satkosia-Angul in central Odisha along the Mahanadi, Sambalpur in the west and South Odisha. For conservation of these elephants of Odisha, the state government has already declared three Elephant Reserves (Sambalpur ER, Mahanadi ER and Mayurbhanj ER).

Map 3: Elephant distribution according to elephant census 2017 in Odisha



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The elephant habitat of East-Central India extends over 17000 sq km in the states of Odisha, Jharkhand and southern West Bengal. The region holds a population of about 2400-2700 elephants. Later, the states of Chhattisgarh have been added to the central region, and the total elephant population is about 3182. Biogeographically this region falls in the Chhota Nagpur plateau in the north of Eastern Ghats (Rodgers and Panwar, 1988). A major portion of the forests of Jharkhand, Southern West Bengal, and North western portion of Odisha is deciduous. The elephant habitat in Chhota-Nagpur is in the forests of Palamau, Singhbhum and Dalbhum. To the north of the Mahanadi river, elephants are distributed in Baripada, Karanjia, Keonjhar, Bamra, Rairakhol, Angul, Dhenkanal, Athmalik and Athagarh forest divisions in Odisha. Elephants of Eastern Ghats range from south of Mahanadi River up to Mahendragiri, Boudh, Nayagarh, Phulbani, Balliguda, Kalahandi, Rayagada, Parlakhemundi and Ghumsur North Forest Divisions (Singh, 1995, Nigam 2002 & Sar and Choudhury 2002). Nearly 50% of Odisha's elephant habitat falls within twelve protected areas that extend over 5456 sq.km, and form parts of Elephant Reserves (ER), *viz.* Mayurbhanj ER, Mahanadi ER and Sambalpur ER. As many forest habitats are shared by the tiger and elephant, the establishments of elephant reserves have raised the hope to unify fragmented tiger habitats as well. The larger elephant habitats in Odisha are distributed over 150 forest ranges coming under 36 forest / wildlife divisions. The landscapes covering the habitats, migration paths and areas occasionally used by elephants comprise almost 30% of the State's geographical area. Within the gross landscape used or occupied by elephants, the forest area is about 18000 sq.kms. Protected areas where elephant conservation activities are being taken up include Simlipal National Park (845.70sq.km), Simlipal Wildlife Sanctuary (2200 sq.km), Hadgarh Wildlife Sanctuary (191.06sq.km), Kuldiha Wildlife Sanctuary (272.75 sq.km), Satkosia Wildlife Sanctuary (795.52 sq.km), Baisipalli Wildlife Sanctuary (168.35sq.km), Chandaka-Dampara Wildlife Sanctuary (175.79 sq.km),Kotagarh Wildlife Sanctuary (399.05 sq.km), Lakhari Valley Wildlife Sanctuary (185.87 sq.km), Khalasuni Wildlife Sanctuary (116.00sq.km), Badrama Wildlife Sanctuary (304.03 sq.km) and Kapilash Wildlife Sanctuary (304.03 sq.km).

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1.3. Human-Elephant Conflict

Historically, people have coexisted with wild animals. Forest dwelling men have developed appropriate methods for protecting their life and resources from being damaged by wild animals. In modern times similar interface between man and wildlife has been increasingly termed 'conflict'. It is conflict because the governance has to handle two types of tasks at the same time. On one side it has to manage the safety and livelihood issues of the public, and on the other side it has to ensure conservation and survival of certain ecologically high-profile flagship species in their natural habitat. The effectiveness and legitimacy of state institutions entrusted with two types of such responsibility rests upon meaningful understanding and coordination of the both for making room for all.

To understand the scale of human-wildlife conflict, in the State, the details of human fatalities, injuries, crop depredation, cattle kills and house damage caused by wild animals are provided in Table-7 (2012-13 to 2021-22). Similarly, the details of elephant deaths in the state have been provided in Table-8 (2012-13 to 2021-22).

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Table 7: Loss of human life and property due to wild animal depredation from 2012-13 to 2020-21

SL No.	Year	Human Kill			Human Injury			Cattle Kill					House Damage			Crop Damage (in Acres)					
		Due to Elephant	Due to Others	Total	Due to Elephant	Due to Others	Total	Due to Elephant	Due to Others	Sheep by wolf Dead / Injured		Total	Part	Full	Total	Due to Elephant Victim / Area		Due to Others Victim / Area		Total Victim / Area	
1	2012-13	80	12	**92**	28	147	**175**	**0**	**34**			**34**	732	313	**1045**	-	13265.729	-	768.351	-	**14034.0803**
2	2013-14	67	26	**93**	38	170	**208**	**9**	**29**	-	-	**38**	863	176	**1039**	24378	11769.225	967	466.406	**25345**	**12235.6307**
3	2014-15	65	9	**74**	34	106	**140**	**8**	**22**	-	-	**30**	570	209	**779**	25819	9638.269	828	1126.622	**26647**	**10764.891**
4	2015-16	89	18	**107**	65	244	**309**	**6**	**50**	-	-	**56**	521	144	**665**	34260	11643.745	2459	977.3995	**36719**	**12621.14480**
5	2016-17	66	30	**96**	29	219	**248**	**20**	**35**	-	-	**55**	536	185	**721**	35342	9619.0476	2031	555.3226	**37373**	**10174.3702**
6	2017-18	105	27	**132**	51	232	**283**	30	**82**	178	10	**300**	814	464	**1278**	40585	10390.545	3527	856.30813	**44112**	**11246.85268**
7	2018-19	85	27	**112**	63	174	**237**	50	**77**	30	0	**157**	847	683	**1530**	37782	10513.278	3528	937.1433	**41310**	**11450.42135**
8	2019-20	117	23	**140**	67	277	**344**	16	**69**	38		**123**	1337	1269	**2606**	49605	15264.13	7048	1600.6626	**56653**	**16864.79285**
9	2020-21	139	19	**158**	86	241	**327**	9	**60**	14	0	**83**	1127	1047	**2174**	46831	14375.163	8742	1812.1145	**55573**	**16187.27763**
10	2021-22	112	15	**127**	125	217	**342**	26	**52**	-	-	**78**	938	633	**1571**	32367	19487.239	3885	1129.2104	**36252**	**20616.4492**
	Total	**925**	**206**	**1131**	**586**	**2027**	**2613**	**174**	**510**	**260**	**10**	**954**	**8285**	**5123**	**13408**	**3E+05**	**125966**	**33015**	**10229.5**	**359984**	**136195.9107**

Table 8: Death of Elephants for various Reasons in Odisha from 2012-13 to 2021-22

Sl. No	Year	Poaching	Poisoning	Electrocution		Accident			Disease			Natural	Reason un known	Total
				Accidental	Deliberate	Train	Road	Other Accident (Infighting, falling from hill, etc.)	Anthrax	Herpes	Other			
1	2012-13	5	3	6	7	11	0	4	0		24	8	14	**82**
2	2013-14	11	1	1	5	1	0	5	0		14	15	17	**70**
3	2014-15	4	1	2	2	0	1	11	4		12	9	8	**54**
4	2015-16	2	0	5	9	1	1	12	12		17	11	16	**86**
5	2016-17	2	0	3	3	0	0	15	14		25	7	7	**76**
6	2017-18	2	1	5	4	2	0	24	2		24	6	8	**78**
7	2018-19	2	0	15	9	7	0	20	4		27	4	5	**93**
8	2019-20	2	0	0	7	1	4	21	9	2	22	13	1	**82**
9	2020-21	3	0	1	7	4	0	10	5	4	21	13	9	**77**
10	2021-22	1	0	5	8	3	0	10	4	3	32	8	12	**86**
	Total	**34**	**6**	**43**	**61**	**30**	**6**	**132**	**54**	**9**	**218**	**94**	**97**	**784**

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1.3.1. Reasons of Conflict

Elephant-related instances of conflict with humans are widely linked to modification of prime elephant habitats, including their routes once used for seasonal migration. The most drastic modification appear to have been for the purpose of mining, the practice of shifting cultivation called Podu cultivation, expansion of canal network, and conversion to human habitations along with ancillary developments.

a) **Changes in Habitat:** -Twelve tribal districts in Odisha harbour nearly 62communities, constituting nearly 22.16% of the total population of the state, as per 1991 Census. As usual, the tribal people in their traditional way of life greatly depend upon the forest ecosystem. They are also undergoing sociocultural changes due to modernization and other developmental activities. Although Podu cultivation or shifting cultivation is a diminishing practice that leaves its foot prints, there are many other threats to vegetation cover. Swiddens or shifting cultivation was a part of the practices inthe pre-British period and early British period. Herbert Francis Mooney was a member of the Indian Forest Service during1921-47 and worked as Conservator of Forests in Odisha (Odisha).Money is mentioned to have recorded 32,681 sq.km area in 1951 that was affected by shifting cultivation in Odisha. In thedistricts of Kandhamal, Gajapati, Keonjhar and Sundargarh, all fromelephant areas, and the districts of Koraput, Rayagada, Malkangiri and Kalahandi were under shifting cultivation practices at the time of independence, and continued thereafter. Keonjhar caused additional threat to elephant with the coming up and proliferation of mining activities. The extent of overall vegetation cover, the forests and thenexisting connectivity within and between landscapes are changing also because of urbanization. Studies have shown that during the decade around the beginning of the 21st century there has been a considerable increase in the number of new towns or urbanized areas in India (Bhagat and Mohanty, 2008). It is predicted that by the next century much of the world will be urbanized (Grimm *et al.,* 2008). Extension of agricultural land, diversion of forest land for use in making roads, railways, irrigation projects, mines, factories, etc. are some of the reasons that have fragmented the main elephant-bearing habitats and have disrupted the connecting corridors. As a survival strategy, elephants do not remain in one place for long, with exceptions like that in Similipal where the resources for elephants appear adequate with little impact on damage of own habitat. Therefore, in normal conditions the elephants are long ranging animal and cannot remain confined to a particular forest for long. In small fragmented forests they come in contact with human beings more

frequently than in large compact forests. In 1990s, at a time when the forests were regenerating or reviving as a result of Social Forestry and Participatory Forest Management (PFM), elephants were getting attracted to these new green areas and moving away from their impoverished or fragmenting natural habitats. One difficult area was Kamakshyanagar in Dhenkanal district. The elephants seemed to have had lost their way due to canalsystem of Rengali reservoir on river Brahmani. There is a need for built-in educational programmes to live with elephant neighbours.

b) Forestry practices in the past: Some of the forestry practices involving clear felling of large forest tracts, conversion of natural forests into monocultures like plantations of teak, eucalyptus and other non-fodder species, large scale extraction of bamboo and canes and the expanding establishment of forest villages are also considered to have contributed towards degradation of many forest areas.

c) Grazing: Cattle grazing in forests is also considered as aproblem that deprives elephants and other wild herbivores of the illegitimate fodder. Elephant lovers believe, fodder scarcity may have forced the elephants to spend less time in a forest and get more inclined towards raiding agricultural lands.

d) Over-exposure to human beings: Movement by people in the forests for grazing their cattle, collecting fodder and firewood or for non-timber forest produces has been on increase. Thus, people are coming in contact with elephants more frequently than in the past.

e) Lure of agricultural crops: An elephant is a huge animal requiring 250-300 kg of fodder every day. In forests, it may spend 16-20 hours daily to gather its food. In agricultural land, however, it gets substantial quantity of nutritious food over a smaller area with minimal effort. Once an elephant has had a taste of agricultural crops, it will prefer to raid agricultural fields, more so if there is a scarcity of fodder rich the forests. The paddy, which is the principal agricultural crop in the eastern region, is quite a favourite with the elephants. In areas where farmers are able to grow more than one crops of paddy in a year, elephants are also spending more time around such areas.

f) Country liquor: It attracts wild elephants, although records do not suggest this to be a major reason. Nevertheless, a substantial number of people who got killed or injured by elephants were those who were intoxicated and could not take care of themselves when they accidentally came face to face before an elephant.

g) Storage of harvested grains also attracts elephants.

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h) It is an undisputed fact that sustainable utilisation of mineral resources is extremely important for development of the State and the country and provides much-needed revenue for increasing the GDP. However, mining activities in and around elephant habitats have emerged as one of the major causes that have disrupted or diverted the traditional movement paths of elephants. Odisha is rich in natural resources, having nearly 32.9% of country's reserve of Iron ore deposits, Bauxite about 59.95%, Chromites 98.4%, Coal 24.8% and Manganese 67.6%. Most of these areas fall in tribal and forest rich areas of the state. These activities have put the elephants in constant stress due to horizontal expansion of dug out areas, fragmentation of habitat, and expanding human and machinery activities along with pollution of water and air. Effective reclamation of mining areas have to be taken up in this regard. It is high time to reconcile development imperatives and conservation requirements.

i) Mooney, the celebrated forest officer observed the movement of elephants between Bihar Forests (Saranda Division) and the adjoining Odisha forests of Bonai and Keonjhar estates. Elephant's home range then covered a much larger area cutting across state boundaries but largely confined to forest areas. Later, mining activities may have caused increased movement into non-traditional areas.

j) The Subarnarekha Multipurpose Project in Jharkhand and Subarnarekha Irrigation Project in Odisha is also thought to have disrupted the migratory routes of elephant and have created new situations where elephants are moving in a haphazard manner. The Subarnarekha river is an interstate river originating in Chhotanagpur plateau of Jharkhand State that formed a good elephant movement area. Subarnarekha is total 395 km long and originates in Jharkhand. It flows southeast for 83 km through Medinipur district West Bengal and finally 79 km through Balasore district in Odisha before joining Bay of Bengal at Talasari. As a follow up of a tripartite agreement of 1978 among the stake holding states a system of storage barrages and canals have developed for utilization of water from Subarnarekha. The system of canals, dry or wet with water has broken the ecological connectivity of the landscape, particularly in Medinipur district in West Bengal and Mayurbhanj district of Odisha.

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Figure 1: Elephant death in Odisha from period 2012-13 to 2022-23 (as on 04.03.2023)

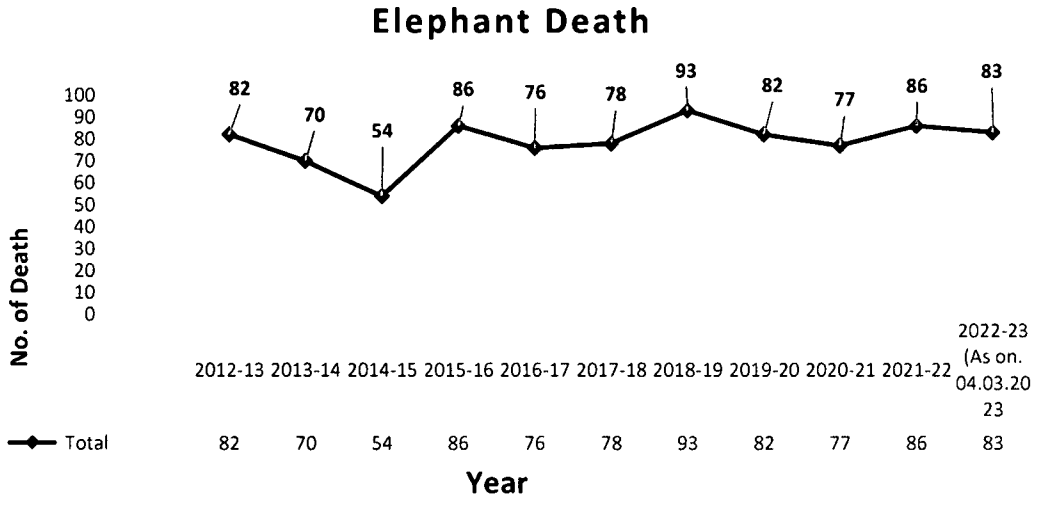

Figure 2: Elephant death during the period from 2012-13 to 2021-22 in Odisha

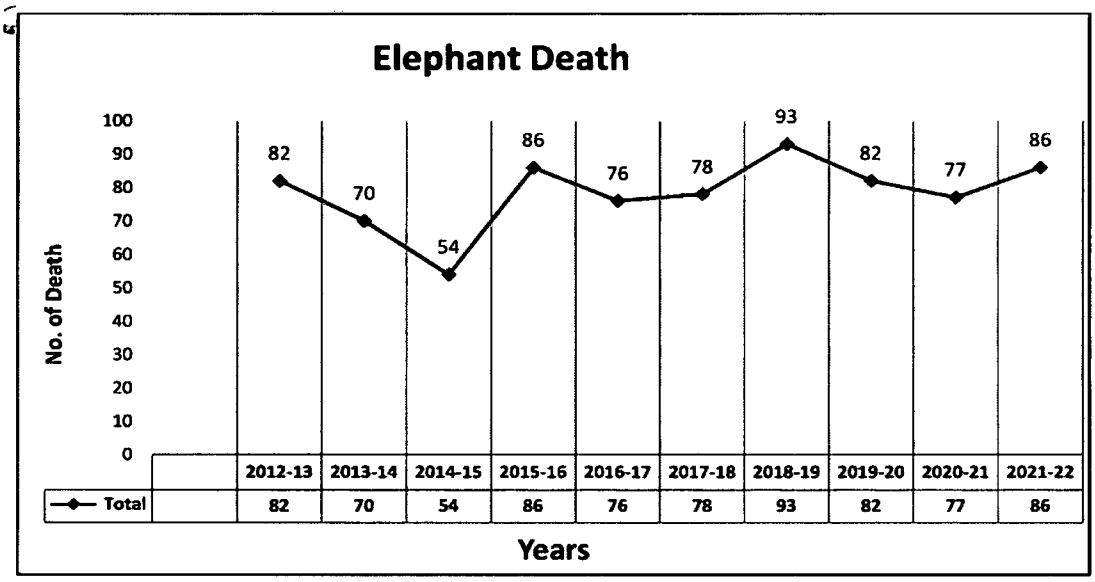

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Figure 3: Human kill by wild animals from 2012-13 to 2021-22 in Odisha

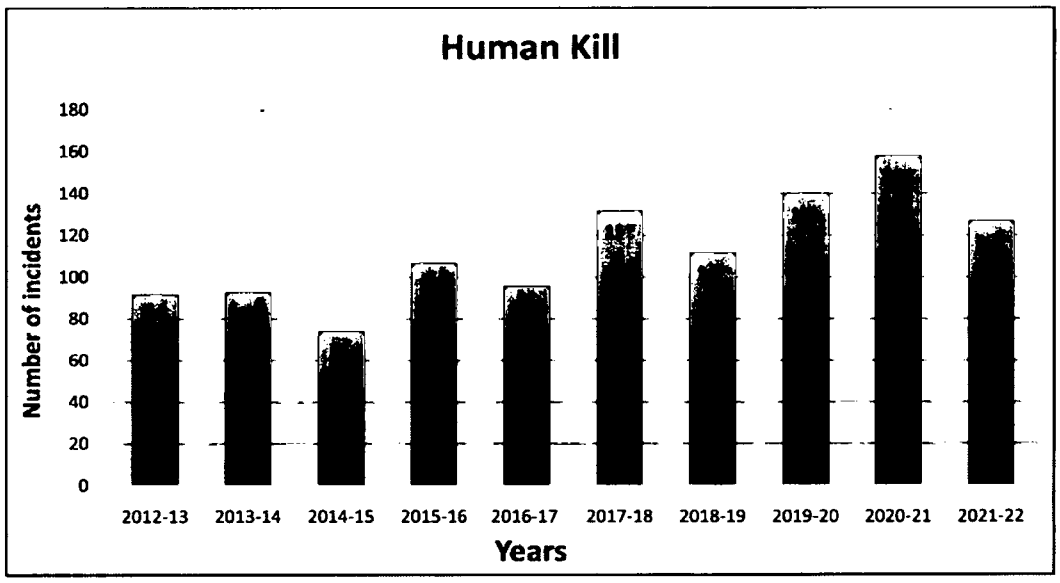

Table 9: Vulnerable Forest Ranges prone to Elephant death from 2017-18 to 2022-23 (as on 04.03.2023)

SL No.	Name of forest division	Name of Range	No. of elephant death						
			2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Total
1	Dhenkanal	Hindol	1	4	6	4	3	6	24
2	Dhenkanal	K.Nagar (West)	4	2	1	1		1	9
3	Dhenkanal	Sadangi	2				3		5
4	Dhenkanal	Kapilash	2			1	4	4	11
5	Dhenkanal	Dhenkanal	4	9	4		2		19
6	Dhenkanal	Mahabirod	3	2	5			1	11
7	Athagarh	Badamba	4	1		1		2	8
8	Athagarh	Khuntuni	3	1	1	2		1	8
9	Athagarh	Athgarh	1	4			2		7
10	Athagarh	Narasinghpur (W)	3	1	1		2	3	10
11	Satkosia WL	Purunakote WL	1	1	2		2		6
12	Satkosia WL	Pampasar WL	2		4	1		3	10
13	Deogarh	Khamar		3		1	2		6
14	Keonjhar	Champua		2		4	2	4	12
15	Keonjhar	Ghatagaon			4		1		5
16	Keonjhar	BJP			2	1	4		7

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17	Rourkela	Bisra		2	1	2			5
18	Rourkela	Banki	3		1		1	1	6
19	Balasore (WL)	Kuldiha WL	1	1	2	2	4	3	13
20	Similipal South	Jenabil	1	2	2		1	1	7
21	Bonai	Jarda		4			2	1	7
22	Angul	Angul	1	3	1		2	1	8
23	Angul	Bantala	1	1			3		5
24	Baripada	Kaptipada	1	2	3	1	1	1	9
25	Keonjhar WL	Hadgarh WL	3	2		1		1	7
26	Jharsuguda	Bagdihi	3	4					7
27	Kalahandi (S)	Karlapat				7	1		8
28	Khurdha	Tangi	1		4	2	2	2	11
29	Sambalpur	Sadar			2	4	1	1	8
30	Bamara WL	Badrama WL	2	1	1		1	3	8
31	Kalahandi(N)	Narla		1	2		4		7
32	Bargarh	Bhatli		2	2		1		5
		Total	**47**	**55**	**51**	**35**	**51**	**40**	**279**

Figure 4: Human injury by wild animals from 2012-13 to 2021-22 in Odisha

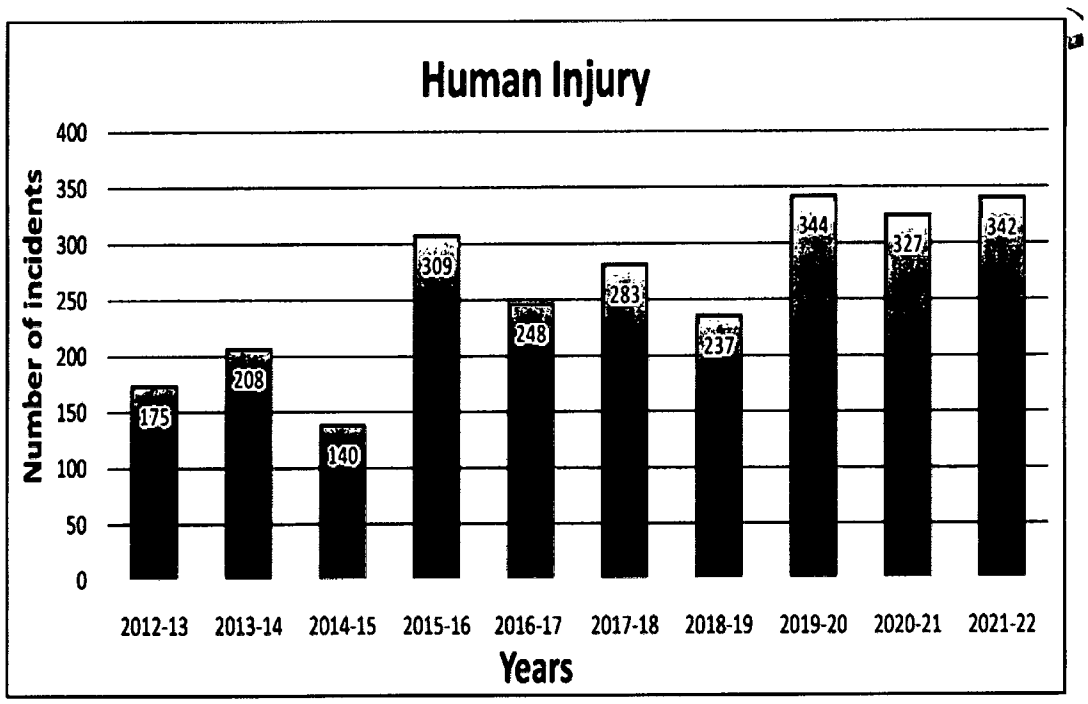

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Figure 5: Cattle kill by wild animals from 2012-13 to 2021-22 in Odisha

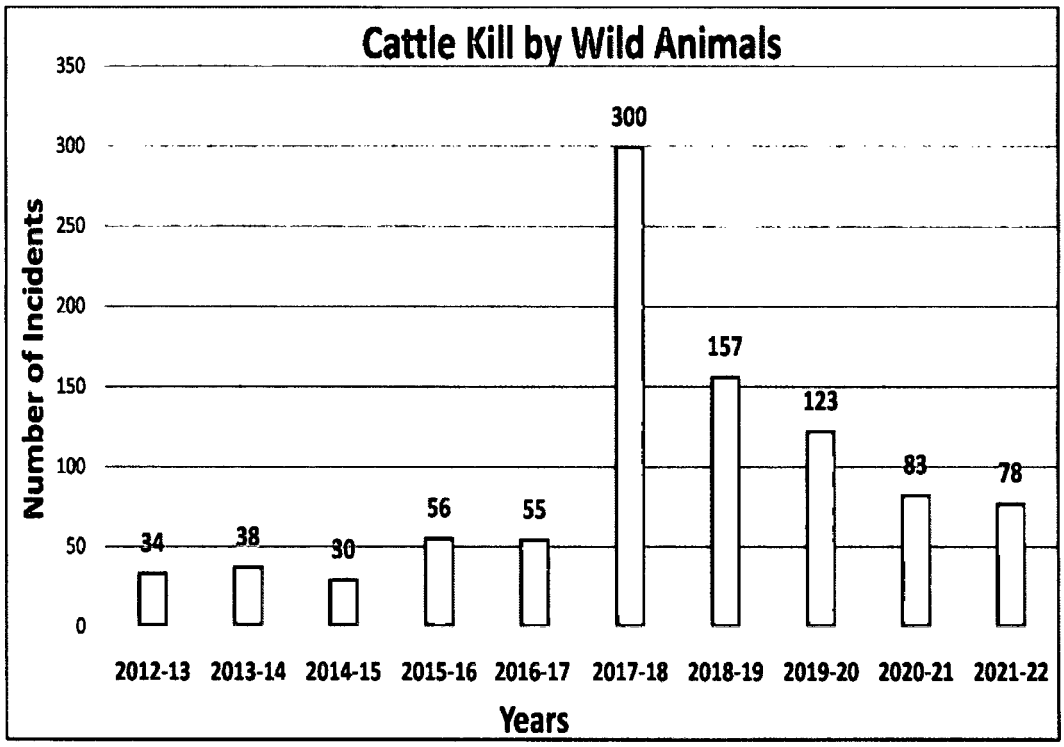
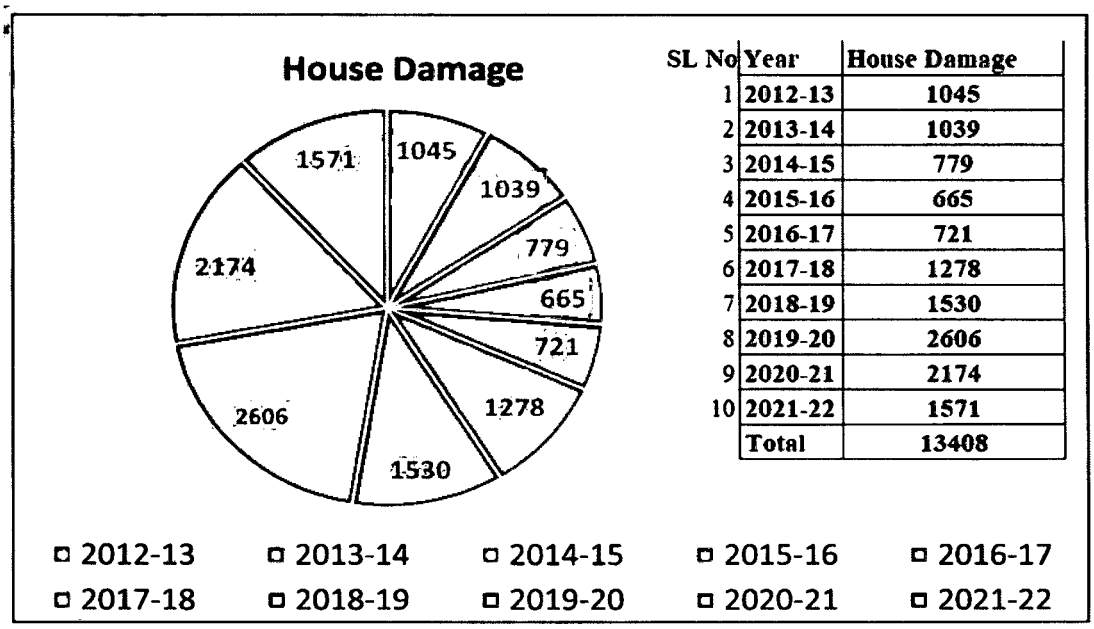


Figure 6: House damage by wild animals from 2012-13 to 2021-22 in Odisha



SL No	Year	House Damage
1	2012-13	1045
2	2013-14	1039
3	2014-15	779
4	2015-16	665
5	2016-17	721
6	2017-18	1278
7	2018-19	1530
8	2019-20	2606
9	2020-21	2174
10	2021-22	1571
	Total	13408

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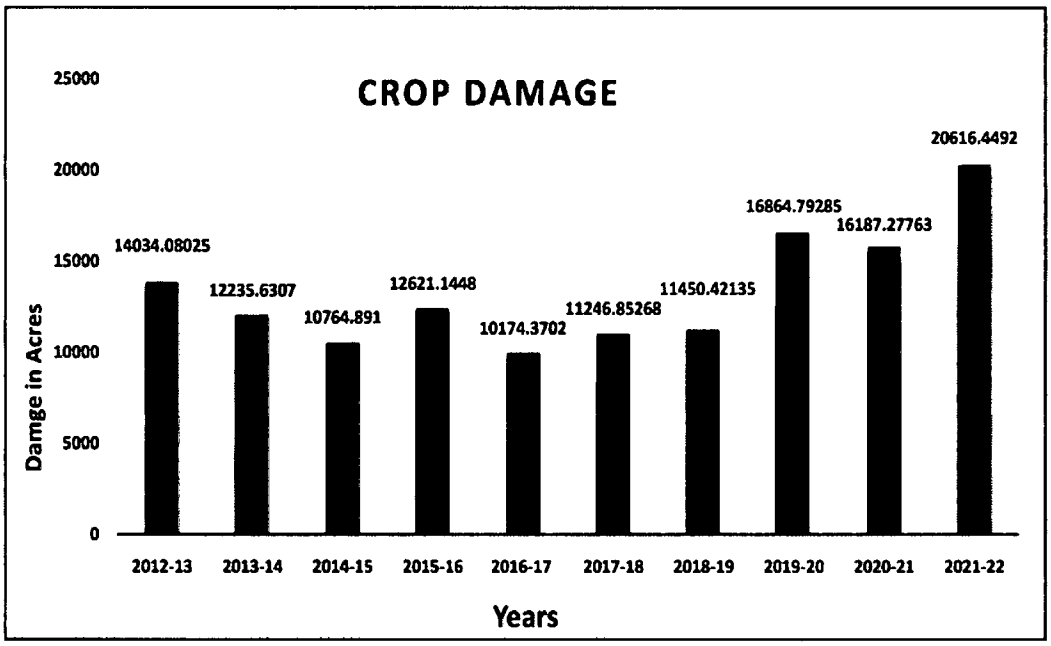
Figure 7: Crop damage by wild animals from 2012-13 to 2021-22 in Odisha



Cattle death/ crop and house damage

Not only human beings are victims of wild animals' depredation but also cattle, crop, and houses have been severely affected as evident from data 2012-13 to 2021-22 furnished in figure 4, 5, 6 & 7.

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1.4 Elephant Mortality: Causes

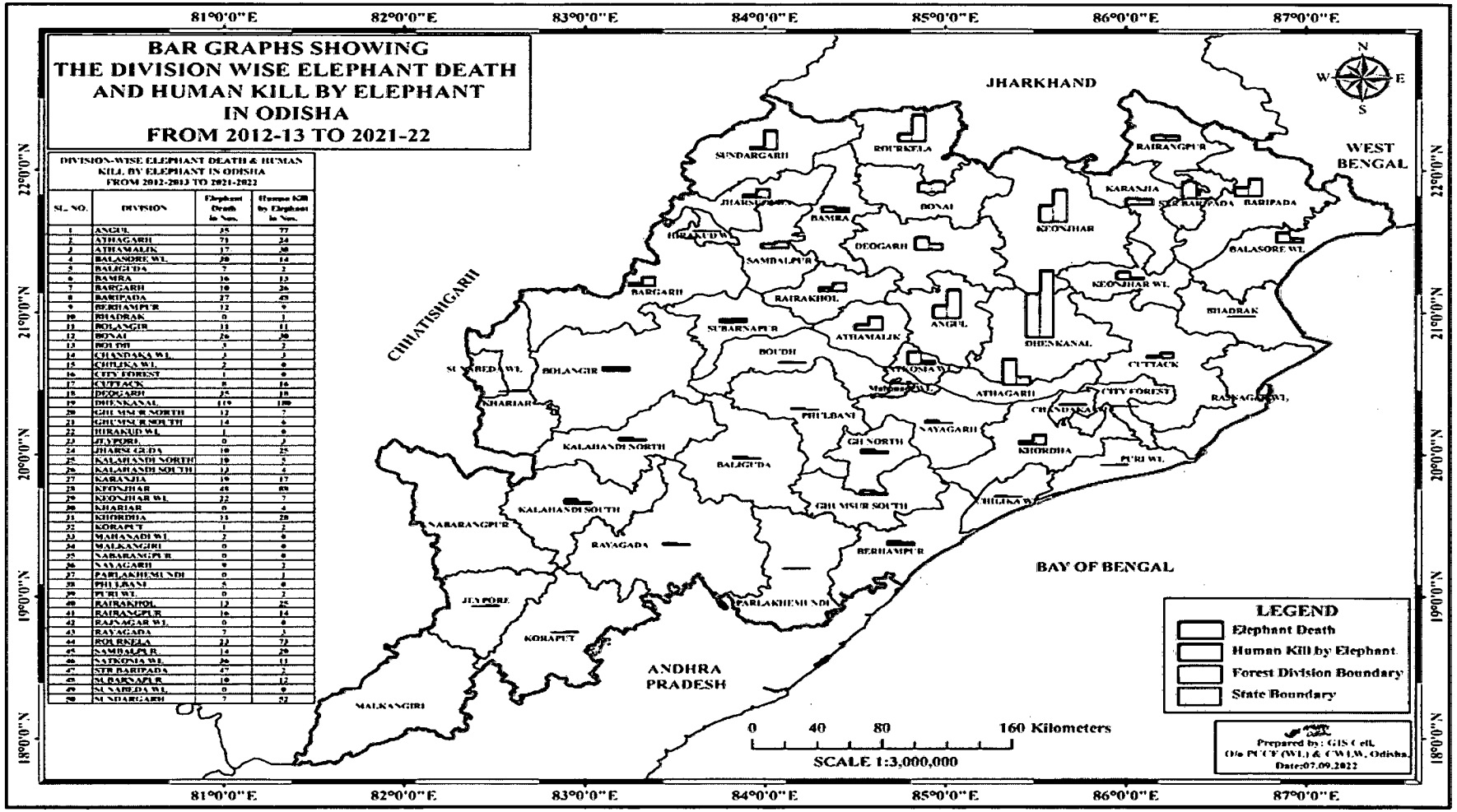
Various causes of elephant mortality such as natural death, poaching, and retaliatory killings (poisoning / electrocution) have been identified. There are about 867 nos of elephant died due to various reasons from 2012-13 to 2022-23 (as on 04.03.2023) which has been furnished in Table-11. It is seen that un-natural deaths of elephants are much more than natural deaths.

Causes

a) **Natural deaths:** The death of elephants due to various diseases and old age together constitute natural death.

b) **Unnatural Death: -** The death of elephants due to various reasons such as poaching, poisoning, electrocution, train hit & road accident is termed as unnatural death. In Odisha, during period from 2011-12 to 2015-16, approximately 55.4% elephants died of natural causes and 19.5% of unknown causes. Additionally, 12.87% died from electrocution, 3.9% were killed by poisoning. Analysis of the population must consider the death of calves and adults separately, along with their gender to understand the trajectory of the population. The present trend of recorded data on elephant deaths in Odisha based on causes of death from 2012-13 to 2021-22 is furnished below: -

Map 4: Division wise elephant death and human kill by elephant in Odisha from 2012-13 to 2021-22



DIVISION-WISE ELEPHANT DEATH & HUMAN KILL BY ELEPHANT IN ODISHA FROM 2012-2013 TO 2021-2022

SL. NO.	DIVISION	Elephant Death in Nos.	Human Kill by Elephant in Nos.
1	ANGUL	35	77
2	ATHAGARH	73	24
3	ATHAMALIK	17	30
4	BALASORE WL	20	14
5	BALIGUDA	7	2
6	BAMRA	16	12
7	BARGARH	10	26
8	BARIPADA	27	45
9	BERHAMPUR	12	9
10	BHADRAK	0	1
11	BOLANGIR	11	11
12	BONAI	26	30
13	BOUDH	3	2
14	CHANDAKA WL	3	3
15	CHILIKA WL	2	0
16	CITY FOREST	1	0
17	CUTTACK	8	16
18	DEOGARH	25	18
19	DHENKANAL	119	180
20	GH MUSUR NORTH	12	7
21	GH MUSUR SOUTH	14	6
22	HIRAKUD WL	1	0
23	JEYPORE	0	2
24	JHARSUGUDA	10	25
25	KALAHANDI NORTH	10	5
26	KALAHANDI SOUTH	12	4
27	KARANJIA	10	17
28	KEONJHAR	45	89
29	KEONJHAR WL	22	7
30	KHARIAR	0	4
31	KHORDHA	11	28
32	KORAPUT	1	2
33	MAHANADI WL	2	0
34	MALKANGIRI	0	0
35	NABARANGPUR	0	0
36	NAYAGARH	9	3
37	PARLAKHEMUNDI	0	1
38	PHULBANI	5	0
39	PURI WL	0	2
40	RAIRAKHOL	12	25
41	RAIRANGPUR	16	14
42	RAJNAGAR WL	0	0
43	RAYAGADA	7	3
44	ROURKELA	22	72
45	SAMBALPUR	14	20
46	SATKOSIA WL	26	11
47	STR BARIPADA	47	2
48	SUBARNAPUR	10	12
49	SUNABEDA WL	0	0
50	SUNDARGARH	7	52

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Figure 8: Classifying elephant death in Odisha from 2012-13 to 2022-23 (as on 04.03.2023)

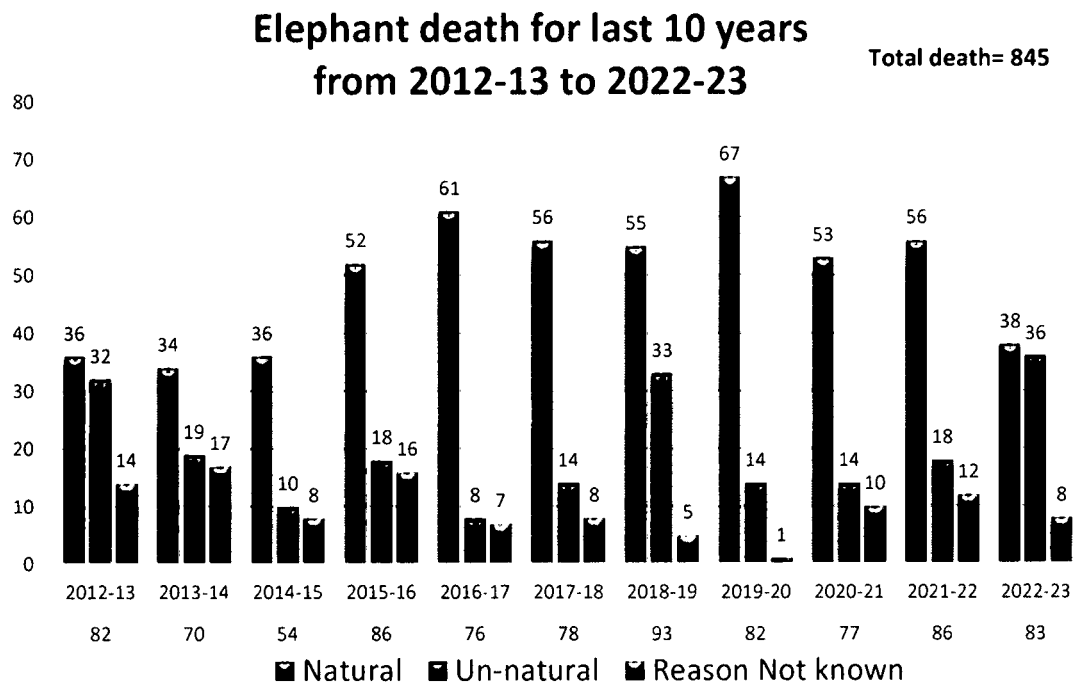

Table 10: Summary of elephant deaths in Odisha 2012-13 to 2021-22

Cause of death	Number of deaths	% of total deaths
Disease	293	34.67
Other accident	141	16.69
Reason not known	107	12.66
Natural	102	12.07
Deliberate Electrocution	71	8.40
Accidental Electrocution	47	5.56
Poaching	39	4.62
Train Accident	33	3.91
Road Accident	6	0.71
Poisoning	6	0.71

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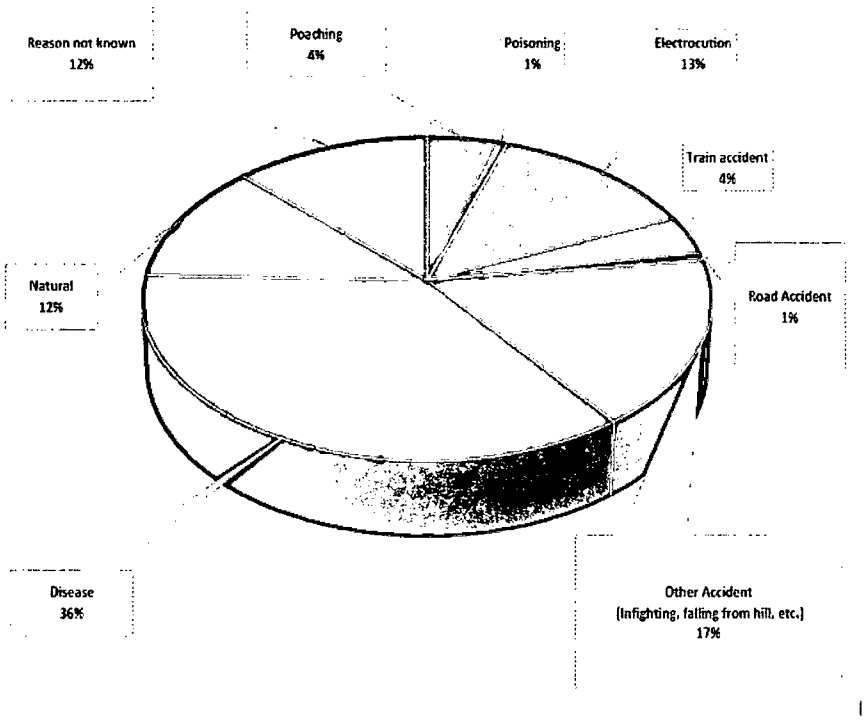
Figure 9: Death of Elephants for various reasons in Odisha from 2012-13 to 2022-23



Dhenkanal, Keonjhar and Rourkela are top affected forest division as reveled from the Map 4 w.r.t. death of elephants and casuality of human beings.

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Table 11: Death of elephants for various reasons in Odisha from 2012-13 to 2022-23 (as on 04.03.2023)

Sl. No	Year	Poaching	Poisoning	Electrocution		Accident			Disease			Natural	Reason not known	Retaliatory killing	Total
				Accidental	Deliberate	Train	Road	Other Accident	Anthrax	Herpes	Other				
1	2012-13	5	3	6	7	11	0	4	0		24	8	14		**82**
2	2013-14	11	1	1	5	1	0	5	0		14	15	17		**70**
3	2014-15	4	1	2	2	0	1	11	4		12	9	8		**54**
4	2015-16	2	0	5	9	1	1	12	12		17	11	16		**86**
5	2016-17	2	0	3	3	0	0	15	14		25	7	7		**76**
6	2017-18	2	1	5	4	2	0	24	2		24	6	8		**78**
7	2018-19	2	0	15	9	7	0	20	4		27	4	5		**93**
8	2019-20	2	0	0	7	1	4	21	9	2	22	13	1		**82**
9	2020-21	2	0	1	7	4	0	10	5	4	21	13	10		**77**
10	2021-22	2	0	5	8	3	0	10	4	4	30	8	12		**86**
11	2022-23 (as on 04.03.2023)	11	0	7	15	3	0	8	1	1	20	8	8	1	**83**
	Total	**45**	**6**	**50**	**76**	**33**	**6**	**140**	**55**	**11**	**236**	**102**	**106**	**1**	**867**

*** Other accident (Infighting, stampade, falling from hill top, falling in well, muddy tank & nala, lightening, heart stroke etc.)**

CHAPTER- II

VISION PLAN

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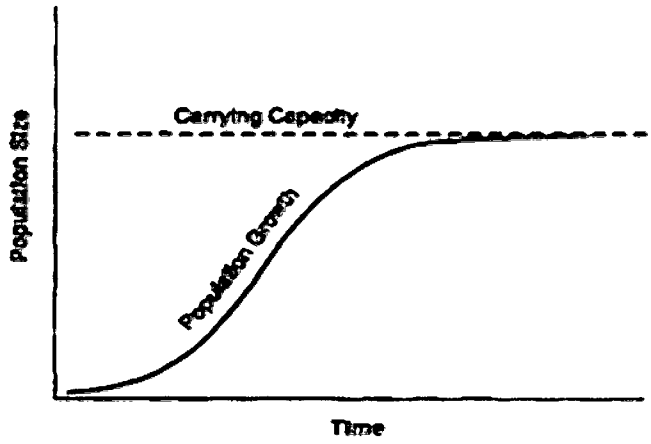
2.1 Carrying Capacity

In ecology, the term "carrying capacity" for a species is generally defined as "the maximum number of individuals that can be supported in a given environment" (Ehrlich *et al.*, 1977). The term involves two important variables, namely, the population size of a species and a clearly defined area. Carrying capacity in ecology had been mostly applied to rangeland management for livestock populations (in simple grazing systems). Eugene Odum, in his influential book Fundamentals of Ecology 1953, equated the term K in the logistic equation of population growth as equal to carrying capacity. This is essentially a mathematical concept that became popular in discussions of wildlife management.

Figure 10. Carrying capacity as an asymptote to a logistic curve.



However, several ecologists have since then questioned the utility of the concept of carrying capacity in the management of animal populations for several reasons. Real-life populations do not follow smooth population growth trajectories but may fluctuate around the "carrying capacity". There is real-world evidence that large mammal populations experience their maximum growth rates not at half the value of K (carrying capacity) as derived from the logistic mathematical equation, but at close to the value of K (Fowler, 1981); such populations are prone to overshooting the carrying capacity. The capacity of the habitat to maintain a relatively healthy population of the species during the dry season is more pertinent, rather than some theoretical maximum number of animals that may be supported during favorable seasons. Finally, stochastic environmental factors are increasingly recognized as a major influence on the regulation of animal (and plant) populations; the case of African elephants the population crash (by over 20%) during the great drought in Tsavo National Park is one such example. On the other hand, the consistently high population growth rate of elephants in the fenced Addo National Park (South Africa) is a matter of puzzle.

In largely grazing ecosystems, it may be possible to approximate the forage needs of large herbivorous mammals that are primarily grazers. However, in the case of a complex mixed feeder such as the elephant, which can feed on everything from grass to bamboo shoots, dry twigs, fruits, bark and roots, the measurement of vegetation "productivity" to estimate carrying capacity is impossible and not meaningful. Other approaches have to take to arrive at numbers of elephants that can be supported in a given region for effective management.

One approach would be to focus on viable habitats (and populations) for ensuring the long-term survival of elephants. This is the approach taken by the first task force that designed Project Elephant during 1989-92. It recommended the management of elephants in the larger, more intact landscapes on a regional basis, and identified such landscapes as Elephant Reserves comprising both forests and a limited extent of human-production areas. The key aspects taken into consideration are (a) does the population of elephants in this landscape constitute a viable population (Sukumar *et al.*, 1998), and (b) can we maintain the integrity of the overall habitat for this elephant population across the landscape through ensuring corridors for their movement and gene flow. The emphasis is on numbers only to the extent of maintaining a demographically and genetically viable population, and not worry about "carrying capacity".

A second approach would be to observe the behavior of elephants during adverse environmental conditions. For our purposes we can operationally state that "carrying capacity" has been exceeded when "significant dispersal (such as an entire clan) takes place following a period of drought." Thus, the 1983 dispersal of elephants from Tamil Nadu into Andhra Pradesh, following the severe drought of 1982, is clearly an example of the carrying capacity of the forests (Hosur Forest Division) in the former being exceeded. In Odisha itself, the dispersal of a large number of elephants from Chandaka during 2006 indicates that it could not possibly support the population prior to the dispersal. In these cases, the pre-dispersal population or density could not be supported but presumably the post-dispersal population density can be supported. The post-dispersal population can then be safely be taken as below the carrying capacity.

A third approach would be to take into consideration the "social carrying capacity" or the tolerance levels of the people and the government to elephant-human conflicts. With elephants spreading over large areas of cultivated habitat and adapting to a diet of agricultural crops, the "carrying capacity" of the state for the species is obviously very large if the elephants are allowed unhindered access to these human-production habitats. The ensuing severe levels of conflicts between elephants and people, both in terms of loss of cultivated crops as well as

human deaths, cannot be sustained and, hence, the need to determine a social carrying capacity. Apart from the cultural inclinations of society to tolerate the national heritage icon, the levels of tolerance would also be influenced by the ability of the government to invest financially in mitigation through compensation to affected people.

The elephant population of Odisha, as determined since 1979 using the crude direct count methods, has remain practically constant at 1800-2000 individuals. At the same time, the numbers of elephants in neighboring states such as Chhattisgarh and southern West Bengal have increased by about 400 individuals, pointing to a growth rate of 1.5-2.0% per annum in Odisha and Jharkhand with the growing numbers migrating to the other two states. This is indicative of the carrying capacity of Odisha's forests to sustain elephants being reached. The trends indicate that perhaps about 1700-1800 elephants can at most be sustained and managed within the larger forested landscapes of Odisha with tolerable levels of elephant-human conflicts. An exception could be the Mayurbhanj Elephant Reserve that could possibly hold more elephants but this cannot be ascertained without experiments in translocating elephants from elsewhere to this area and detailed studies of elephant demography.

2.2 Classifying elephant habitats

The first Task Force set up in 1989 to prepare the framework for Project Elephant in the country clearly spelt out the basic criteria for classifying elephant habitats and populations, with the goals of maintaining viable populations of elephants within viable landscapes at tolerable levels of elephant-human conflicts. The viability of an elephant population follows the criteria of genetic viability and demographic viability as enunciated by the IUCN/SSC Conservation Planning Specialist Group for ensuring a high probability (95% to 99%) of survival of the population over a specified time period (typically, 100 years for short term and 1000 years for long term). IUCN refers to the World Conservation Union (a quasi-UN scientific body) and SSC refers to the Species Survival Commission of the IUCN.

On the basis of the above considerations, the Karnataka Elephant Task Force set up in 2012 by the Hon'ble High Court of Karnataka recommended the classification of elephant habitats in the state into three types, namely, elephant conservation zone, elephant-human interface or co-existence zone, and elephant removal zone (KETF, 2012). This recommendation was accepted by the Hon'ble High Court of Karnataka in its final judgement in October 2012.

A zone-based approach adopted from the Report of the Karnataka Elephant Task Force set up in 2012 by the Hon'ble High Court of Karnataka has been used to arrive at various zones and make recommendations for the management of elephants in the state through conservation of habitat, protection of elephants, mitigation of conflict, strengthening of administrative structures and institutions, participation of local communities, and scientific research and monitoring.

The criteria for the zone-based approach is briefly outlined below:

Zone I: Elephant Conservation Zone

This zone is constituted by the existing three Elephant Reserves. This region encompasses the larger and more-intact forested habitats. The emphasis within this zone would be affording maximum protection to elephants against illegal killing, maintaining long-term habitat integrity at the landscape scale through protecting and strengthening corridors, preventing elephants from moving into agricultural land and settlements both along the periphery and within enclavesand increasing the carrying capacity by sustained eco-restoration and habitat management.

Zone II: Elephant-human Co-existence Zone

This zone constitutes the ranges immediately adjoining these Elephant Reserves, in ranges connecting these elephant reserves and those adjacent with good elephant habitat. These areas have RFs with good forest cover, sparse human presence and has long-term potential for elephant survival. Here the elephant populations would number in the hundreds, connected to the major conservation zone, and ranging between them, over a largely intact habitat in which conflicts are manageable and would qualify for experimenting with a model of coexistence with people.

Zone III: Conflict Mitigation Zone

This Zone contains areas which witness moderate to high HEC, good to patchy forest cover and scattered elephant populations spread spatially over a large area throughout the state. Here the elephant populations would number in the several tens or rarely reaching hundreds, either isolated or connected to the major conservation zone, but ranging over a restricted or a fragmented habitat in which conflicts are high which require regular mitigatory interventions.

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Zone IV: Elephant Removal (or Exclusion) Zone

This Zone consists of areas with very high human density, urban and peri-urban areas with very less forest cover and no historical presence of elephants. The elephant-removal zone would include areas where small or isolated groups of elephants, with questionable viability, or solitary male elephants or all-male groups range over a predominantly human-settled landscape, where the social and economic costs to maintaining the elephants are unacceptably high and where no co-existence is possible.

As per the distribution of elephants recorded during the 2017 elephant census, and the available data from iWLMS and information from divisions, it is estimated that the number of elephants that can be maintained as per the zonation approach would be about 1700-1800 as follows:

Zone I: Elephant Conservation Zone

This zone is constituted by the existing three Elephant Reserves. Mayurbhanj Elephant Reserve can accommodate about 550-600 elephants once sustained habitat improvement measures result in increasing its carrying capacity. Mahanadi and Sambalpur Elephant Reserves together can support about 250-300 elephants with habitat improvement and village relocations in Satkosia Tiger Reserve.

Zone II: Elephant-human Co-existence Zone

This zone constitutes the ranges immediately adjoining these Elephant Reserves, in ranges connecting these elephant reserves and those adjacent with good elephant habitat, about 550-600 elephants can reside. Further, about 60-80 elephants can be accommodated in the only elephant habitat south of Mahanadi encompassing Kalahandi North and South, Raygada and Baliguda Forest divisions. This region also has two PAs viz. Karlapat and Kotgarh Wildlife Sanctuaries.

Zone III: Conflict mitigation Zone

This Zone contains areas which witness moderate to high HEC, good to patchy forest cover and scattered elephant populations. This zone has currently about 200-250 elephants.

It is expected that with the long-term improvement of elephant habitats in Zone I and II, many of the adjoining elephants in Zone III would move into them. However, it is important to understand that Zone I and Zone II (ERs and the connecting landscapes) would have the best prospects for long-term survival and conservation of the elephant population of Odisha state.

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A draft list of divisions/ranges in each zone have been listed below and has to be fine-tuned after due ground truthing and finalisation of corridor study. Mean while indicative management action points can be initiated forthwith as suggested.

ZONE: I			
MAYURBHANJ ELEPHANT RESERVE			
SL.NO	**CIRCLE**	**DIVISION**	**RANGE**
1	BARIPADA	BALASORE_WL	SORO
2			KULDIHA
3		BARIPADA	BANGIRIPOSI
4			DEULI
5			BARIPADA
6			KAPTIPADA
7		KARANJIA	KARANJIA
8			SATKOSIA WL
9			THAKURMUNDA
10			DUDHIANI
11		KEONJHAR_WL	ANANDAPUR
12			HADAGARH
13		RAIRANGPUR	MANADA
14			RAIRANGPUR
15			BADAMPAHARH
16			BAHALDA
17			BISOI WL
18		SIMILIPAL NORTH_WL	TALABANDHA WL
19			KENDUMUNDI WL
20			CHAHALA WL
21			GURGURIA WL
22			BAREHIPANI WL
23			NAWANA NORTH WL
24			THAKURMUNDA WL
25		SIMILIPAL SOUTH_WL	NAWANA SOUTH WL
26			UBK WL
27			PITHABATA NORTH WL
28			PODADIHA WL
29			BHANJABASA WL
30			NATIONAL PARK WL
31			JENABIL WL
32			PITHABATA SOUTH WL
33			DUKURA WL
SAMBALPUR ELEPHANT RESERVE			
SL. NO.	**CIRCLE**	**DIVISION**	**RANGE**
1	SAMBALPUR	BAMRA WL	KHALASUNI
2			BADRAMA
3			JAMANKIRA

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MAHANADI ELEPHANT RESERVE			
SL. NO.	**CIRCLE**	**DIVISION**	**RANGE**
1	ANGUL	ATHAGARH	NARSINGHPUR WEST
2		ATHAMALIK	ATHAMALLIK
3		MAHANADI WL	CHHAMUNDIA
4			BANIGOCHHA(WEST)
5			KUSANG
6		SATKOSIA WL	PAMPASAR
7			PURUNAKOTE
8			TIKARPADA
9			RAIGODA WL
10			JILLINDA
11	BHUBANESWAR	NAYAGARH	GANIA
12	BERHAMPUR	BOUDH	MADHAPURA

ZONE: II (A)			
Ranges Immediately adjoining Sambalpur Elephant Reserve			
SL. NO.	**CIRCLE**	**DIVISION**	**RANGE**
1	ANGUL	ATHAMALIK	BAMUR
2			HANDAPA
3	SAMBALPUR	RAIRAKHOL	GIRISCHANDRAPUR
4			NAKTIDEUL
5			CHARMAL
6			RAMPUR
7			MOCHIBAHAL
8		SAMBALPUR	SADAR
9			PADIABAHAL
10	ROURKELA	DEOGARH	REAMAL
11			DEOGARH
Ranges Immediately adjoining Mahanadi Elephant Reserve			
SL. NO.	**CIRCLE**	**DIVISION**	**RANGE**
1	ANGUL	ANGUL	ANGUL
2			BANTALA
3		ATHAGARH	NARSINGHPUR EAST
4			BADAMBA
5		ATHAMALIK	DHANDATOPA
6			MADHAPUR
7	BERHAMPUR	BOUDH	PURUNAKATAK

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Zone: II (B) Range connecting the 3 Elephant Reserves and those with good elephant habitats			
SL. No	**CIRCLE**	**DIVISION**	**RANGE**
1	ANGUL	ANGUL	JARAPADA
2		DHENKANAL	HINDOL
3	BERHAMPUR	BALIGUDA	BELGHAR
4			KOTAGARH
5		GHUMSUR NORTH	TARASING
6	BHUBANESWAR	NAYAGARH	DASPALLA
7	BARIPADA	KEONJHAR_WL	DEOGAON WL
8			BRAHMANIPAL
9	BHAWANIPATNA	KALAHANDI NORTH	MADANPUR RAMPUR
10			NARLA
11			BHAWANIPATNA
12		KALAHANDI SOUTH	BISWANATHPUR
13			KARLAPAT SANCTUARY
14		SUBARNAPUR	ULLUNDA
15	ROURKELA	BONAI	TAMRA
16			JARDA
17			SOLE
18		DEOGARH	BARKOTE
19			PALLAHARA
20		ROURKELA	PANPOSH
21			BANKI
22		KEONJHAR	TELKOI
23	SAMBALPUR	BAMRA WL	KUCHINDA
24			BAMARA
25		SAMBALPUR	DHAMA
26		RAIRAKHOL	RAIRAKHOL

Zone: III (Conflict-prone Ranges)			
SL NO.	**CIRCLE**	**DIVISION**	**RANGE**
A. Most Vulnerable Ranges			
1	ANGUL	DHENKANAL	HINDOL
2			K. NAGAR (WEST)
3			DHENKANAL
4			MAHABIROD
B. Moderate Vulnerable Ranges			
5	ANGUL	DHENKANAL	SADANGI
6		ANGUL	CHHENDIPADA
7			TALCHER
8		BARIPADA	RASGOBINDPUR

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9	ROURKELE	KEONJHAR	CHAMPUA
10		ROURKELA	BIRAMITRAPUR
11			KUARMUNDA
12	SAMBALPUR	BARGARH	PADAMPUR
C. Vulnerable Ranges			
13	ANGUL	DHENKANAL	K. NAGAR (EAST)
14			KAPILASH
15		ATHAGARH	KHUNTUNI
16			ATHGARH
17		ANGUL	KANIHA
18		CUTTACK	DALIJORA
19		BARIPADA	BETNATI
20	BHUBANESWAR	KHURDHA	TANGI
21	ROURKELE	DEOGARH	DEOGARH
22			KHAMAR
23		KEONJHAR	GHATGAON
24			BHUYAN & JUANGPIRH
25			KEONJHAR
26		ROURKELA	BISRA
27			RAJGANGPUR
28		SUNDARGARH	SUNDARGARH
29			UJALPUR
30			BARGAON
31		BONAI	KOIRA
32	SAMBALPUR	JHARSUGUDA	BAGDIHI
33		BARGARH	GHEES

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CHAPTER- III

STRATEGIES

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3.1 Protection

3.1.1 Control room and response mechanism

Control Rooms exist at State Wildlife H.Q., Circle H.Q. and Divisional H.Q. which will function as dedicated as help line numbers. These telephones will remain functional 24X7 under the charge of one officer / staff in a specific room to be designated as control room. Concerned RCCF/ DFO will ensure strengthening of the same. Information sharing through effective WhatsApp group is to be formed at circle level & division level for prompt response and mitigation of HEC.

Besides, a Toll-Free landline connection is to be installed at State Wildlife H.Q. to receive all information's / complains pertaining to wildlife crime and safety from general public. This has to be actively publicized in print and electronic media.

The control room in charge shall pass on important information to all senior officers including the Chairman JTF & PCCF (WL) & CWLW, Odisha by quickest possible means soon after any such information is received.

a. Guide lines for coordinated action at field level.

i. The field officers especially, the Range Officer and DFOs should have meetings at regular intervals preferably once in a month with the stakeholders like Railway, NHAI, DISCOM & Animal Husbandry Department etc. and sort out the issues relating to wild animal safety and protection.

ii. Similarly, there should be regular interaction, Joint enforcement (Combined patrolling) with electricity Distribution Company to prevent and detect illegal hooking. These activities will be carried out at least once in a week.

iii. The officers of STF (C.B) and WCCB should remain in constant touch to deal with intrastate ramifications and also to cater information / intelligence relating to wildlife crime.

iv. The DFO should look after crime control one of the agendas in the senior officers meeting of the district.

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3.1.2 Crime Prevention.

(i) Collection of intelligence and crime database

A mechanism will be developed to collect and communicate intelligence pertaining to wild animal crime so that, prior steps can be taken to avert and prevent commission of such crime and save the precious lives of wild animals. Sources will be developed by way of providing rewards/ awards including provision of secret source money for obtaining all required information before commission of any crime. Different NGOs and noted wildlife activists / nature loving personalities of the localities will remain in constant touch for obtaining prior information's relating to wildlife crime and suspected persons of their localities.

Besides, there shall be regular interaction with local police who can share information's on wildlife crime and design there on by any poacher or suspected persons.

A state level database on wildlife crime will be prepared within six months to assist investigating agencies to develop and implement various standard operating protocols relating to wildlife crime. It is proposed to create a cadre of well-trained officials of the department to improve investigation quality for better appreciation of evidence and contribution for better investigation and control of illegal wildlife trade and build informant network among local communities living in close proximity of wild life habitats.

(ii) Preparation of crime database, crime dossier surveillance of habitual offenders

Separate registers with required information of the offenders of wildlife crime will be prepared range wise, division wise, circle wise and maintained at State Wildlife H.Q. which will also be available on an integrated database state wide. Besides, crime dossier of all persons arrested / forwarded during last 10 years will be individually prepared by all Range officers and the same will be inspected by the DFO concerned at every quarter. A surveillance register will also be maintained at every range in which the names of wildlife criminals arrested / forwarded earlier will be entered with date, place and time of their checking by forest officials with remarks about their present activities will be reflected.

(iii) Establishment of wildlife crime control cell at division level

A wildlife crime control cell should be established at division level under the charge of one officer in the rank of ACF in order to prepare a database on wildlife mortality and trade of wildlife articles under the direct supervision of concerned DFO. The ACF in-charge crime cell shall collect and share all important information's with the field functionaries & for better investigation of wildlife crime and to keep vigil on habitual poachers and poaching prone

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areas. The cell will monitor daily movement of adult tuskers, inter-divisional movement of elephant and predictive early warning for crop depredation. Besides monitor wildlife crime, investigation especially organized crime and interstate ramification. The ACF in–charge crime cell may also pursue the investigation of pending cases, arrest of all accused persons and expedite trial of wildlife cases in consultation with the DFO and PP / APP in the respective courts of law to achieve significant proportion of conviction.

(iv) Preparation of wildlife crime risk map

The DFO and Range officer should identify different vulnerable pockets of poaching in different forest areas. It shall contain details of entry routes of poachers and vulnerable areas prone to poaching (hotspots) by various techniques such as snaring, foothold traps, illegal hooking, illicit liquor brewing, poisoning, illegal machan over water bodies, artificial salt licks prepared by poachers etc. similarly un protected dugwells, unprotected transformers, lift irrigation points, defunct solar fences, other vulnerable points for illegal hooking should also be mapped. This Map should be properly followed by the patrolling party during patrolling.

(v) Coordination meeting within the department and with other departments

There shall be monthly meeting at Range Level/ Division Level to review and discuss on cases pending investigations and trial of wildlife cases. Efforts should be made to arrest the absconders and monitor activity of habitual offenders. This meeting shall also be taken up quarterly by RCCF Level.

Similarly, a meeting with local police and DISCOM shall be taken up at every month at Range Level to discuss about wildlife criminals, illegal hooking and for management of Man-Animal Conflict in HEC area.

Besides, JTF shall attend a monthly meeting with STF to discuss on wildlife crimes at State Wildlife Headquarters/ STF Headquarters. Steps will be taken to include wildlife and forest offences in the agenda of senior officers meeting at District Level to be attended by District Judge, Collector, S.P. and DFO.

(vi) Protection mechanism and preventive steps

A comprehensive protection mechanism will be developed with the help of crime database, information's received from sources / out siders and the topography of the area for protection of wild animals. State wide intelligence network will be utilized for the purpose. Site specific action plans for reduction of man -animal conflict, & loss of crops of farmers will also be prepared by the end of March every year by each DFOs. All DFOs may prepare the

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plan and programme for this purpose and conduct workshops and programme under intimation to Chairman, JTF.

Preventive steps such as regular patrolling in HEC areas, establishment of watch tower and involvement of local inhabitants will be taken care of regularly for prevention of wildlife crime. The forest officers will be trained to know the modes of poaching, trading of wildlife articles of the animals. Further, regular vigil shall be maintained on the roads connecting to forest area and at local railway stations, bus stops and busy market places.

(vii) Intensive patrolling mechanism

Patrolling will be intensified by introducing foot patrolling, Bike patrolling and four wheeler patrolling during day and night hours in suspected places / areas by utilizing GPS , staff and GajaSathi. Supervising Officers / DFOs shall make random/ surprise visits to ensure effective patrolling. The DFOs/ ACFs/ROs shall make extensive tours and make night halts covering all vulnerable areas of poaching. The forest staff shall also maintain vigil by remaining on watch towers to be constructed at strategic points. Taking technological support drone cameras may be deployed at probable HEC areas. Besides, there shall be joint enforcement and patrolling with DISCOM staff to prevent and detect illegal hooking prone areas once in every week. RCCFs to ensure inter-divisional and joint-divisional patrolling in vulnerable areas and also have joint protection camps in bordering areas of divisions.

(viii) Engagement of anti-poaching squads and elephant trackers

Anti-poaching squad will be properly trained in collecting evidences of poaching and wildlife crime to strengthen the case in the court for better conviction. Young and dynamic staff be engaged in high profile and poaching prone area to curb poaching incidents. Anti-poaching squad to be well equipped with modern equipment's such as walkie-talkies, pistol, rifle etc. and trained in their use and application for patrolling and communications for combating human animal conflict smoothly. Their movement and output should be carefully monitored and findings should be noted.

Awareness amongst the residents of high elephant conflict areas will be created with a view to assist them to prevent HEC and retaliatory killing of elephants. As a motivation measure all the members of anti-poaching squad should be properly insured so that, in cases of any eventualities financial assistance reaches their families at the earliest.

At range level and division level elephant tracking teams (ETT) to be formed and trained in conflict and poaching prone divisions to closely follow, track, monitor and photographs of elephants. They should be ideally drawn from the local tribal villagers who have an innate

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sense of jungle craft. These ETTs should be separate from routine protection squads. Training in elephant tracking may be sought from experienced trackers in southern states.

(ix) Infrastructure development

In order to ensure proper investigation, prosecution and prevention of wildlife crimes there is a need of proper infrastructural development. Adequate and required numbers of protection camps and watch towers need to be constructed at all vulnerable places especially at high elephant conflict areas, so that the forest staff deployed for patrolling can take their shelter safely and prevent retaliatory killing of wild animals. For effective patrolling, the staff deployed for the purpose need to be well equipped with modern equipment and trained with the application and use of technological support. A comprehensive plan should be prepared about saturation of infrastructure such as protection camp/ anti-poaching barrack/ staff quarters/ watch towers etc. at Division level to combat wildlife crime. As per site specific action plan elephant proof barrier (Elephant Proof Trench/ Stone wall Guard/ Solar Fencing) using recently launched *Jana Surakshya Gaja Rakshya* should be rolled out in all vulnerable areas to be created at Division Level. Solar Fencing, preferably removable solar fencing should be erected at conflict prone areas. The use of portable (removable) which has been found to be effective in Sri Lanka can be tried out on a pilot basic in selected areas. These activities should be carefully deployed after proper ground truthing and should not be counter-productive.

Further, well equipped GPS mounted vehicles need to be utilised by the patrolling parties with required logistic facilities. These vehicles should be effectively monitored by Division Level. Specialised customised RRT vehicles may be deployed.

For better communication in in-assessable areas all the VHF stations and VHF network should be strengthened. The VHF register should be maintained properly at all stations. DFO should emphasize effective use of VHF network with maintenance of VHF register in the Division. Further, deployment of new technology (Drone/ Camera trap) needs to be utilised in the suspected places and routes used by criminals and CCTV cameras should be installed in check gates and entry gates and specific IR enabled concealed Trap Camera at Anti-Poaching post and suspected route used by poachers.

DFO should monitor use of App like OFMS/M-Stripe and iWLMS for detection of wildlife offence cases at Division Level. Further. Well-equipped patrolling boats need to be utilised by the staff and crew members in the Divisions having movement of elephant along river and reservoirs.DFO should ensure use of Arms and Ammunitions (Except LWE areas) during patrolling. List of existing Department Buildings such as proctection camp/antipoaching barracks, staff quarter, watch tower etc. in different division is furnished in table:

Table 12: Number of existing department buildings and roads under State wildlife organisation

Division	Number of existing Non-Residential Buildings								Number of existing Residential Buildings				Length of existing Forest Roads in Km.		
	Division	Range Office	Section Office	Beat Office	Watch Tower	Anti-poaching Camp	Others	Total	Staff Quarters	Barracks	Others	Total	Inside Sanctuary	Outside Sanctuary	Total
Dy. Dir., Nandankanan	1	7	0	0	3	0	20	31	23	72	0	95	23	0	23
FD-STR, Baripada	1	0	0	0	0	0	0	1	1	0	0	1	0	0	0
Similipal South WL	1	9	16	45	8	36	6	121	49	8	1	58	667.1	13	680.1
Similipal North WL	1	7	24	61	5	6	0	104	22	6	11	39	343	0	343
Balasore WL	1	5	7	0	9	14	18	54	60	9	8	77	120.5	0	120.5
Bamra WL	1	5	22	75	9	29	17	158	15	7	0	22	115.322	161.83	277.152
Bhadrak WL	1	3	6	14		2	1	27	4	4		8			0
Chandaka WL	1	4	10	28	15	3	3	64	24	2	2	28	157.65	0	157.65
Chilika WL	1	5	14	13	9	4	5	51	21	2	3	26	0	7.4	7.4
Hirakud WL	1	3	5	0	9	18	19	55	55	3	1	59	114.6	0	114.6
Keonjhar WL	1	4	13	38	3	7	9	75	7	11	0	18	41	55	96

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Division	Number of existing Non-Residential Buildings								Number of existing Residential Buildings				Length of existing Forest Roads in Km.		
	Division	Range Office	Section Office	Beat Office	Watch Tower	Anti-poaching Camp	Others	Total	Staff Quarters	Barracks	Others	Total	Inside Sanctuary	Outside Sanctuary	Total
Mahanadi WL	1	4	8	18	9	35	10	85	26	6	2	34	57	30.5	87.5
Puri WL	1	5	5	11	4	3	16	45	28	6	1	35	11.455	5.2	16.655
Rajnagar WL	1	5	11	21	10	12	20	80	34	7	3	44	36.3	4.3	40.6
Satkosia WL	1	5	14	41	11	17	23	112	17	10	27	54	184.23	9	193.23
Sunabeda WL	1	2	1	0	4	4	8	20	40	6	6	52	161	0	161
Total	**16**	**73**	**156**	**365**	**108**	**190**	**175**	**1083**	**426**	**159**	**65**	**650**	**2032.157**	**286.23**	**2318.387**

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3.1.3 Crime detection, enquiry and prosecution

i. Vigilance over habitual offenders

Regular information gathering along with regular surveillance of known poachers & traders, who have been accused in previous wildlife poaching and wildlife articles seizure cases will be intensified in all vulnerable places. Local villagers/ scheduled tribes and other traditional forest dwellers are to be engaged confidentially and incentives given for successful information leading to detection and seizure of wild life articles / trophies etc. The movement and present means of livelihood of all habitual offenders will be kept under close watch. In cases of urgency, their cell numbers will be kept under surveillance to know their locations and communication. DFOs need to be empowered by the State Govt. to collect CDR of wildlife Criminals relevant to the wildlife offence case directly from service provider under Sec.65-B Indian Evidence Act (Odisha Police Manual Rules, 1940 and Indian Evidence Act, 1872).

ii. Action against illegal arms manufacturing units

Constant vigil over illegal manufacturing units will be maintained utilizing the information from sources and nature lovers. Regular interaction by forest staff with the local police authorities shall continue with regard to seizure of any Arms / ammunition and suspected persons of the locality. Raids over any such suspected units shall be conducted without any delay with the assistance and co-operation of local police. Any such information relating to manufacture of illegal arms/ ammunition will be shared with police authorities under proper information and approval of senior officer such as DCF and above (Indian Arms Act, 1959 and IPC, 1860).

iii. Action under Arms Act/Explosive Act in cases where arms / ammunition is involved

Cases of death of wildlife animals where the death is due to gun shot or use of any explosive material need to be investigated by police under Indian Arms Act. / Indian Explosive Act as Forest officers are not empowered under these Acts (Indian Arm Act, 1959 and IPC, 1860).

iv. Prosecution through Fast Track courts

For speedy trial of wildlife cases, designated Fast Track courts are required to be established either at most affected areas or at Revenue Divisional H.Q. so that offenders will be punished without much delay which creates a huge impact on the offenders Govt. in FE & CC Department will be moved for the purpose. Besides prosecution report will be submitted in the courts of law effectively within the stipulated period i.e within 60 days from the date of

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arrest of 1st accused. I.O should ensure preparation of fool-proof case records in all wildlife cases, especially schedule species. DFOs shall cross check the records and forward to court with supervision notes. DFOs should ensure perusal of judgement in acquittal cases and prefer appeal to the higher court and to object bail (Wildlife Crime Investigation, 2013, WPA, 1972 and CrPC, 1973).

Further, prosecution of all pending year-old wildlife cases in different courts may be expedited.

v. Provision of Legal Experts

For successful presentation and pleading of wildlife cases in the courts of law, interested, prudent and experienced lawyers are necessary to be appointed at circle level. They will present the cases in a befitting manner with a view to achieve convictions in wildlife cases. To improve the prosecution, they will be responsible to guide and advise the investigating officers in maintaining the records till submission of Final prosecution report. For creation of such posts of Govt. in FE & CC Department will be moved.

vi. Provision of incentive/ Secrete funds /Insurance

i. Govt. in FE&CC Department shall be moved for amendment of the act Provision of Financial incentive to informer/ Sources/ amendment of the Act (Odisha Reward for detection of) Forest Offence Rule, 2004 and inclusion of provision of incentive for good detection/ supply of good information with regard to wildlife crime (WPA, 1972).

ii. Govt. in FE&CC Department will move for insurance coverage of members of Anti-Poaching squads as financial assistance can be met in case of any eventuality.

iii. There is existing provision of secrete source money. Utilizing the same, the DFOs shall develop sources to get proper and advance information about wildlife crime.

vii. Establishment of Wildlife Crime Forensic Laboratory and co-ordination with the State Forensic Science Laboratory

i. The officers of JTF should remain established close co-ordination with the wildlife forensic laboratory of the Wildlife Institute Of India so as to decrease the turn-around time for receiving reports on samples sent as part of evidence in wildlife crimes.

ii. Facilities of State Forensic Science Laboratory to be used in helping collect scientific evidence in wildlife crime cases.

iii. Efforts should be taken for establishment of a Wildlife crime Forensic Laboratory at Nandankanan with technical aid from Wildlife Institute of India. Once certified, this will be a major asset to quickly obtaining test reports which will aid prosecution.

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3.2 Monitoring

Strengthen daily monitoring and regular analysis of iWLMS/OFMS/mSTRIPES data at Division and Circle levels for effective protection / patrolling strategy for preventing elephant deaths. This should be ensured by the Elephant Protection and Wildlife Crime Control Cell of the Division and Circles respectively.

Movement of elephant herds/solitary tuskers should be regularly mapped at division and circle level so that proactive steps can be taken for their protection.

Monthly report in prescribed format should be sentby all Divisions to the Circles and RCCFs should compile and send to WL HQs with their specific observations/comments.

3.2.1 Periodic census

The need for scientific monitoring of elephant populations through periodic census arises from two broad considerations.

First, information about elephant distribution and abundance and the trends in these parameters is needed to set appropriate management goals, to monitor the effectiveness of management interventions and policymakers' decisions, to assess the impact of threats such as habitat loss and degradation and to inform local people and other stakeholders. Clearly, gathering this type of information is the primary goal of wildlife managers and conservation agencies.

A second, broader goal of elephant monitoring is to develop a body of empirical and theoretical knowledge that can potentially improve our predictive capacity to deal with new situations and thus increase the effectiveness of our conservation strategies. Such basic science also contributes to the general advancement of human knowledge. This task falls largely in the domain of academic studies carried out chiefly by wildlife biologists.

The first step in monitoring any elephant population is to define the objectives of the exercise that you want to undertake. These specific objectives are linked to the two broad monitoring goals we identified at the beginning of this content. Any monitoring programme can have one or more of the following specific objectives:

i. Mapping the distribution of elephants (e.g., at a site, landscape or regional/national scale).

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ii. Estimating trends in the distribution of elephants in order to understand whether the area occupied is stable, increasing or decreasing.
iii. Assessing the threats to elephant populations and the trends in those threats.
iv. Estimating the size or density of elephant populations (e.g., number of elephants/100 km^2) in sites of particular importance (e.g., key protected areas).
v. Estimating elephant population trends in order to understand whether populations are increasing or decreasing in selected sites or landscapes.
vi. Estimating the vital rates of annual survival, recruitment and population change.

Systematic and consistent population monitoring has to be undertaken taking into consideration the following aspects.

i. Schedule of census, methods and techniques to be followed, interval between each census etc.
ii. Monitoring sex ratio, tusker / Makhna ratio, and other population demography related parameters.
iii. Monitoring movement of herds, family structure and presence of solitary animals.

The Census of elephants in Odisha was conducted in the years 1979, 1999, 2002, 2007, 2010, 2012 2015 and 2017. The technique for census of Elephant has been developed and refined with every successive census operation. The traditional method involves fixed point counts from salt-licks, water bodies; watch towers, etc. combined with perambulations during the day time.

3.2.2 Collaring

MOU has been signed between PCCF (WL) & CWLW, Odisha of Indian Institute of Science, Bangalore for radio- collaring. The MOU is signed for 3 nos of problematic elephant in Angul, Dhenkanal, Keonjhar, Rairakhol, Athagarh, Athamallik & ChandakaWL division for monitoring of their movement. This may be expedited further radio collaring of identified and candidate animal (adult tusker, matriarchs, solitary males) to be carried out.

Radio collars are GPS-enabled collars that can relay information about an elephants' whereabouts. They weigh roughly 8 kg and are fitted around the elephant's neck. According to a WWF blog, collaring includes identifying a suitable candidate (generally an adult elephant), darting it with a sedative, and fitting a collar around the elephant's neck, before the animal is revived. Additionally, the team also attaches an accelerometer to the collar to "understand what

exactly an elephant is doing at any given time (running, walking, eating, drinking, etc.).The objectives of collaring-

Information from the GPS would help us track and study the movement patterns of the herd, across regions and habitats,

a) Forest officers will know where they are moving, which corridors they frequent, if the habitat is sufficient, if it needs protection, etc.
b) This would help in understanding what is driving the conflict.
c) The collars would serve as an early warning system, and if people know which direction an elephant is moving, they can prepare accordingly.
d) Villagers and forest officials will know about approaching elephants very much how weather forecasting works.
e) And this would help mitigate conflict incidents.

Further, radio collaring of identified and candidate animal (adult tusker, matriarchs, solitary males, captured individuals to be released back) to be carried out in select localities of the State.

3.2.3 Tusker profiling

The following section has been taken from the Wildlife Institute of India Technical Manual published in 2021 titled 'Identification manual of select bull elephants of Haridwar Forest Division'. The same will be circulated to the DFOs for further guidance.

Individual recognition – that of identifying some members of the population on an individual basis is an important tool to study and manage wildlife populations. While population–level studies provide details on abundance, distribution and demography; following recognisable individuals can provide important insights on home range behaviour, reproduction, mortality and others (Clutton-Brock & Sheldon, 2010). Thus, a blend of both population- and individual-based will aid in better management of wildlife populations. Individual recognition is a time-tested method that wildlife biologists across the world have been using to understand a wide range of species like primates, large carnivores, marine mammals, mega herbivores, birds, fishes and other vertebrates. Some of the wildlife species like tigers, leopards, chital, striped hyenas and etc., have distinct, easily identifiable natural body markings like stripes, spots and rosettes. Thus, a good picture of the flanks can be used to recognise an individual animal. Some species that do not have natural body markings may be easier to capture and handle and thus, we can artificially mark them with paints, rings, and bands. However, individual recognition of wildlife species like lions and elephants that do not posses easily recognisable natural

markings and are difficult to capture and handle is far more difficult. For these animals, it isimportant to record a variety of individual characteristicsto tell them apart. Although superficially elephants look similar to each other, closer examination and prolonged observation will help recognise that no two elephants are alike.

Using a combination of variety of body characteristics such as shape and size of tusks, ear pinnae and others it is possible to reliably recognise an individual elephant. The more number of of characteristics we record for an individual elephant, the better it is. This technique of identifying elephants has been used in both Africa and Asia for the last many decades (Douglas-Hamilton *et al,* 1975; Moss, 1988; Vidya *et al*, 2014; De Silva *et al,* 2013). To identify individual elephants that have featured in this manual, following body characteristics may be relied upon:

1. Ear characteristics: The external, visible part of the ear is called ear pinnae. Elephant ear pinnae usually have nicks, holes, notches, cuts and serrationsin the margin. Further there may folds of varying degreesin the ear margins (ranging from no-folds to rolling folds), which make an individual elephant easy to recognise. Additionally, with good quality photographs one can compare the vein patterns, which are unique and thus, serve as a precise means of identification. There is also significant variation in the size, level of depigmentation (that usually increases with age),shape of the lobe and others.

2. Tusk characteristics: Tusks modified upper incisors that grow almost throughout an elephant's lifespan. Only male elephants carry tusks. Cow elephants and makhnas (=tuskless males) may carry tushes that are rudimentary. The basic featuresto note in the field are: i) Both tusksintact ii) Tusklessness (tuskless elephants could be cow elephants, makhnas or even tuskersthat once carried tusks but lost them overtime) iii) Broken tusks iv) Single-tusked.

In addition to the above, the variations in the tusks to observe and note include their arrangement, thickness, length and angle with respect to the ground (during stable head position). The tusk characteristics are recorded for both the left and the right tusk individually.

3. Tail characteristics: Variation in tail length, presence of prominent kinks (abrupt twists in the caudal bone), and patterns of tail brush (tassels in the tail) provide additional keys for reliable identification of individual elephants.

4. Other features: these include warts, lumps, abscesses, scar tissues, deformities, injuries and may be of help in identification of individuals.

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Identification of elephants involves both field and desk efforts. In the field, apart from the camera equipment to photograph elephants, carrying a field notebook is essential. Ideally, after taking each photograph, it is important to note the references in the field notebook so that the features are not confused between the individual elephants. Taking multiple pictures of elephants in the group without making references in the field notebook is a major source of confusion when we try assigning the pictures to an individual elephant. Well-kept notes will avert this confusion. Ideally, for each elephant we need to get at least four pictures: one of the left side profile, one of the right side profile, a head-on picture with ears cocked and a rear profile showing the rump. However, getting all the four pictures in a single occasion requires enormous efforts and fair amount of luck as well. Usually, it takes multiple discrete observations/photography sessions to get an elephant individually identified. While still photos are better, video shoots are helpful too. Video shoots help us to see the features of elephants in slow motion. If two or more personnel are observing/photographing elephants for identification, then it is better if one of them takes a photo and the other shoots a video. Of course, there should be someone else with the photographers watching the activities of elephants all around for safety purposes! Elephants can be found in three social groups – solitary males, all-male groups and mixed-sex family units. While photographing elephants in the mixed-sex family groups, it is better to focus initially on the adult females and sub-adult males (if they are there) instead of young elephants. Young elephants are very difficult to identify as individuals and unless we follow a group very frequently, it is pointless to identify young ones. Even within adult females, it is prudent to initially focus on the large females and then focus on younger adult females.

A good camera (with image stabiliser or vibration resistance) with decent zoom (with a minimum of 100–300mm or equivalent in case of point & shoot cameras) is essential. A 8 x 40 (or equivalent) binocularsis essential too. It is better to first carefully observe the animal with binoculars, note down unique features and then go for photographing them. When observing and following elephants on foot for photographing, it is better to carry a light equipment that do not hinder quiet movement.

3.2.4 Intensive monitoring

For effective protection / patrolling strategy of preventing elephant deaths the iWLMS/OFMS/M-strip data to be analyzed regularly. This should be ensured by the Elephant Protection and Wildlife Crime Control Cell of the Division and Circles respectively. Monthly

report in prescribed format should be send by all division to the circles and send it to Wildlife Headquarter through respective RCCFs.

i. A mobile application (iWLMS) is developed for recording incidents of elephant sighting and tracking of elephant herds. More than 3500 field officials across the State record elephant sighting on day-to-day basis, which gets transmitted to a centralized server for visualization, tracking and analysis of elephant movement across the State on a real time basis.

ii. To undertake geospatial survey of all Forest Blocks and land parcels recorded or deemed as forests using RS, GIS and DGPS survey.

iii. To develop, upgrade and maintain web-based Management Information System/GIS for Forestry Sector in the state of Odisha.

iv. The MSTrIPES program uses Global Positioning System (GPS), General Packet Radio Services (GPRS), and remote sensing, to collect information from the field, create a database using modern Information Technology (IT) based tools, analyses the information using GIS and statistical tools to provide inferences that allow tiger reserve managers to better manage their wildlife resources.

v. Integration of OFMS and iWLMS to be explored which depicts the accuracy and correlation of data.

Circle wise committee has been constituted in pursuance of Govt. letter no FE-WL-CASE -0020-2020/12462/ FE dated 20.07.2021 under the chairmanship of Chief Wildlife Warden to monitor the movement pass of smaller and scatter population of elephants in the identified areas to take required steps to safeguard the elephants (Annexure 2). Further, a series of SOPs, instructions and guidance docuemnts for effective monitoring of elehants have been issued from time to time from the State WLHQ and can be seen in the Annexures 11.

3.2.5 Capture & Translocation of Problematic Elephants

Capture and translocation involve the drugging, immobilization, and transportation of problematic elephants from human settlements or farms to PAs for release assumes a critical role in tackling HEC. The proper identification of 'problem animals' is essential for the success of the exercise. This has to be done after careful consideration of all aspects. Only if attempts at driving the elephant off into the forest area fails/impossible should be animal be chemically immobilized and taken back to the forested habitat. Every Circle having scattered elephant population should have an Action Plan for capture and translocation (or retention in captivity as may be decided by the CWLW) of problematic elephants from the conflict prone areas

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including development of necessary logistics, staff roles and clear prior identification of possible release sites.

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3.2.6 Rescue Centers

Proper monitoring should be suggested for set up rescue center for providing near natural environment for the elephants in captivity aided with other necessary living conditions. Provide adequate free ranging space to enable elephants to walk, bath and forage in wilderness and socialize as herds/groups, under the care of mahouts / managers. Provide state- of- the- art in-house Veterinary care and treatment to facilitate recovery of ailing elephants.

3.2.7 Management and training of captive elephants

Use of Kumki elephants works on the principle of dominance and is highly useful in driving the straying elephants. There should be concerted effort to procure and deploy kumki elephants in Odisha, with the help of other States such as Karnataka. Dominant bulls deployed as Kumki elephants can significantly contribute in driving elephants back to their natural habitat. Once the State has sufficient number of trained kumkis, the following aspects should be kept in mind:

i. The DFO should identify availability of nearest location of Kumki elephants, and request to assist in the operations as and when required.

ii. Kumkis may be temporarily stationed in high conflict zones, especially during peak conflict seasons, for quick deployment.

iii. Adequate effort is required in identifying the right Kumki elephants to lead operations; depending on the target wild elephants group size, age and sex-classes, and their sizes. Using smaller Kumkis can prove to be counter productive, especially in areas frequented by large bull elephants.

iv. While carrying out Kumki operations, the tracking team shall first spot the wild elephants and then communicate the locations to the Kumki team, who shall then proceed to those areas. When the Kumki team is on the move, no other person, other than mahouts and minimal number of accompanying staff familiar with Kumkis shall follow the team, to prevent any accident in case of unpredictable behaviour of the elephant.

v. The respective camp in charge may depute one additional mahout with each Kumki elephant, while being sent for operations, for assistance at times of contingencies.

vi. In case of frequent crop raiding areas/Divisions, the Division may establish satellite elephant camp with 3-5 Kumkis temporarily for immediate deployment to address human animal conflict issues very effectively.

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3.3 Management of human elephant conflict (HEC)

Background

Human elephant conflict has emerged as one of the most challenging problems for elephant management and conservation in recent times. It creates considerable economic hardship for the affected farmers. There are several regions that experience crop damage by elephant year after year. Human deaths due to encounters with elephants are also an issue of serious concern. The lack of information on the extent of and patterns in HEC throughout Asia is a serious problem that impedes development of region wide conservation strategies for Asian elephants. It also reduces the ability of the conservation community as well as national and international agencies to monitor Asian elephant declines effectively. Information gleaned from news media, *i.e.*, civil society, may be one tool to use to try and capture changes and increases in the patterns of HEC. The best strategy to monitor further elephant losses to HEC might be a strategy that involves civil society; *i.e.,* citizens in elephant range countries that take it upon themselves to collect information on the problem (Doyle *et. al.*, 2010). Mumby and Mumby and Plotnik (2018) suggested that studied should be done on elephant behavior, cognition and ecology at the level of the individual to prevent conflict from occurring in the first place. For development of new, comprehensive conservation strategies for mitigation of conflict thorough idea on elephant ecology, life history, behavior and personality along with both human and elephant behavior kept into account. Pokharel and his co-worker (2018) studied those overlapping habitats and sharing of resources between elephants and people has led to intense elephant-human conflicts. Shaffer and his co-worker (2019) proposed the model identifies shared resource use between humans and elephants at different spatial and temporal scales for development of long-term solutions. The model also highlights the importance of including anthropological and geographical knowledge to find sustainable solutions to managing human-elephant conflict.

Types: -

(i) Human injury or deaths in encounters with elephants.

(ii) Damage to standing agricultural and plantation crops.

(iii) Damage to harvested and stored agricultural crops, often accompanied by damage to the storage facilities.

(iv) Damage to property such as sheds, houses, pipelines and irrigation facilities.

(v) Death/inquiry to cattle and other domestic animals.

(vi) Inquiry and death of elephants mostly due to retaliatory attacks by humans due to electrocution by power lines or poisoning.

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(vii) Death of elephants due to train collision.

(viii) The development activities and houses in movement path of elephants (especially labor lines in tea garden) are also cause of encounter between human and elephants leading to HEC.

Inter Departmental Co-ordination

It is noticed that, Human-Elephant conflict has traditionally been seen as an issue falling in the realm of administration of FE & CC Department and its wildlife wing particular. It is important to note here that, Human-Elephant conflict is not just an issue that threatens scheduled species under the Wildlife (Protection) Act,1972 and India's National Heritage animal, but also that threatens human life, wellbeing and livelihoods.

For the above purpose formation of a high-level committee to be formed on Human-wildlife conflict to be chaired by the Chief Secretary, Odisha to render advice, monitor periodically and enhance inter-departmental Co-ordination in the state to address human –wildlife conflict issues is suggested; similarly, at the District Level, District level Human Wildlife Conflict Mitigation Committee under chairmanship of Collector has to be constituted. Superintendent of Police and heads of relevant line departments will be represented with concerned DFO being Member Secretary.

Every Division should have a Human Wildlife Conflict Management Action plan and strategy in place where the aim will be to ensure zero conflict-induced casualty of humans, elephants and minimize damage to crops and property. All vulnerable villages to be mapped therein.

3.3.1 Protection response tactics (PRT) and Anti-depredation units

a. Early warning alert systems/ WhatsApp Groups

Steps to be taken for strengthening of existing Early Warning Systems for early detection and warning of elephants' movements using mobile phones, Bulk SMS, Radio Programme, Tower Lights, ANIDERS and Public Announcement for quick communication.

Step to be taken for strengthening of existing preventive measures such as Highmast lights, solar lights in edges of villages, provision of LED/solar chargeable torch lights to villagers, community grain bins, underground grain bins, steel storage bins etc.

b. Rapid response team (RRTs)

In some areas elephants are prone to enter high population density areas in large numbers. In such situations quick response by the Forest Department is important for preventing loss of human life or damage to property. All Division and Circles need to develop

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Rapid Response Teams to reduce response time of forest department staff during emergency situations arising due to incursion of elephants into human habitations/cultivation.

c. Installation of barriers

Barriers are used for preventing elephant exit outside reserve forest areas or entry into cultivated fields or human inhabited areas. Barriers may be used to guide elephants through funneling to over bridges or under passes set up for them to negotiate railway lines, highways or canals safely. The DFOs should identify strategic locations where barriers (trenches/solar fences/stone walls) have to be deployed to prevent incursion of wild elephants to human settlement/cultivations. These have to be planned after due thought, ground-truthing and should not be counter-productive. Solar fencing, using the recently launched *Jana Surkahya Gaja Rakhya* should be taken up in all vulnerable areas of the Division. The use of portable (removable) which has been found to be effective in Sri Lanka can be tried out on a pilot basis in selected areas. Innovative ways of using solar fencing ensuring community participation has to be devised by the DFOs. Community-driven solar fencing has given rich dividends in southern states.

d. Rescue and Rehabilitation Centre

Elephant rescue and rehabilitation centers should be well managed and should be provided adequate funding. Steps should be taken by the State Government/ WLHQ for strengthening of existing elephant rescue centers at Kumarkhunti (Chandaka) and Kapilash by provision of veterinarians, tranquilization and rescue teams. Establishment of new such facilities at Sambalpur, Rourkela and Baripada circles should also be taken up.

e. Training of Mahouts

India has history of keeping elephants in captivity. The relationship between elephant and mahmout is very complex. It is essential training of existing departmental elephants and mahouts also needs for use as kunkis during elephant depredation, patrolling and radio-collaring operations. Technical expertise from other states (W.Bengal, Karnataka, Madhya Pradesh, Assam) etc may be sought. Steps should be taken for procurement of Kumki elephants from Karnataka.

f. Capture and relocation of elephants

In regions where elephants have moved out of the more intact forest areas especially protected areas or large reserve forests, into human-dominated landscapes, primarily for crop raiding, the levels of chronic conflict are unacceptably high. These elephants may either be solitary bulls or bull groups as well as family groups. There may be no other option

but to capture these elephants. The question then arises as to what should be the course of action after capture – whether the elephants be released back into a forest or should they be retained in captivity. Every Circle having scattered elephant population should have an Action Plan for capture and translocation of problematic elephants from the conflict prone areas including development of necessary logistics, staff roles and clear prior identification of possible release sites. Fernando and his co-worker (2012) suggested that translocation of ''problem-elephants'' was an important HEC mitigation and elephant conservation strategy across elephant range. Translocated elephants show variable responses: ''homers'' returned to the capture site, ''wanderers'' ranged widely, and ''settlers'' established home ranges in new areas soon after release.

g. Managing Transboundary Elephant Movement.

Some elephant populations are known to regularly cross state boundaries. There is tendency to push the elephant populations back to home state using harsh methods resulting in much hardship to elephants, especially young calves. All efforts should be made to avoid such practices. RCCF of Circles having inter-state movement of elephants will have a meeting with his/her counter-part of the neighboring state before the migratory season to ensure inter-state co-operation and prevent erection of unnecessary obstructions/barriers and indiscriminate driving operations. Further, close co-ordination between the DFOs and field level staff of neighbouring divisions should be there during the movement season.

CWLWs of the adjoining elephant-bearing States of the East-Central landscape to have a consultation meeting once a year. Project Elephant to take the lead in this.

h. Mobile Veterinary Unit.

To address capture and relocation of elephants and other wildlife, steps should be taken by WLHQ for the formation of Mobile Veterinary Units in Keonjhar, Angul, Sambalpur and Bhubaneswar.

3.3.2 Compassionate payment/ Ex-gratia payment.

In recent years ex-gratia for damage to crops compensation has become an important mechanism to redress grievance and assuage feelings of community affected by human-elephant conflict. The rates for crop compensation should ideally be commensurate to the crop damage. In case of injury to human beings the affected person is provided treatment by the Forest Department free of charge and may be given additional ex-gratia. In case of human

death, the Forest Department provides ex-gratia payment to next of kin of the deceased at State Government approved rates.

The present mechanism of disbursing compassionate grants using the "*Anukampa*'. App has resulted in a quick turnaround time. However, the functioning of the app need to be given wide publicity among local people and the existing glitches (cases of encroached land, absentee owners, tenant cultivators etc) have to be eliminated to ensure complete user satisfaction. Staff of *Jana Seva Kendra* of each division to be trained in filling up of "*Anukampa*" app applications.

The DFOs need to have a revolving fund (like the District Red Cross Fund) from where emergency compassionate payment can be made for emergency compassionate payments resulting from cattle kills, property damage or crop loss as a result of human-wildlife conflict (HWC) along the lines of existing norms for payment in cases of human death.

The State WLHQ and the Government need to take steps for revision of compassionate payment for both human death, crops loss, human injury and property damage by wild animals. Linking damages sustained due to crop loss to periodic rise in MSPs may be considered. In case of bona fide destruction of house by elephants, DFO may recommend the owner to be included as a beneficiary under *Biju Pacca Ghar Yojana* of the State Government.

Crop Insurance

The *Pradhan Mantri Fasal Bima Yojana* (PMFBY) which was introduced in 2016 provides insurance to a wide variety of crops at very low premium. The MoEF & CC has requested for inclusion of crop damage by wild animal in the scheme. Crop insurance schemes for farmers in areas of high elephant conflict can be put in place by the Agriculture Department.

Table 28: Rates of Compassionate payment for crop damage and house damage

Sl. No.	Particulars	Rate	Time period for disbursement of compassionate payment
1	Bullock/ Cow/ Buffalo	5000/-	30 days
2	Calf	2500/-	30 days
3	Sheep/ Goat	2000/-	30 days
4	Lamb	750/-	30 days
5	Crop damage (Paddy and Cereals)	10000/- per acre	90 days
6	Crop damage (cash crop)	12000/- per acre	90 days

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7	House damage (part)	2000/-	
8	House damage (full)	10000/- + allotment of house under Biju Pucca Ghar since 20.10.2014	

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3.4 People's Participation

People participation is pivotal for successful implementation and sustainability of all people centric projects particularly the management of natural resources. In Odisha, Forest Department have been involving people for joint forest management (JFM), VSS (*Van Sarankshyana Samities*) and EDC (Eco Development Committees) since long for conservation of forest and protected areas including wildlife. In this arrangement, people's cooperation is reciprocated with provisioning their needs to permissible extent from this natural asset in perpetuity. Where as human-elephant conflict is a multifaceted complex matter requiring multiple strategy for management and mitigation, synergy of options is imperative to solve it. People's participation is crucial among them.

Local people are indispensable stakeholders. They play the role of contributor as well as collaborator for the problem and its solution. Resolution of any conflict can neither be effective nor long lasting without active participation of the people. To lay the ground for meaningful community involvement, it is essential to know their perception of the problem for assessing their adaptive capacity, resilience potentiality and loss withstanding vulnerability. Instead of a formal and routine approach, it is required to resort to informal interaction/discussion where people can freely speak their agony, anxiety and aspiration in a friendly manner. An antagonistic attitude has been developed in people psyche towards elephant which is perceived as an animal of nuisance and a serious threat to the human life and property. In the districts like Balasore, Mayurbhanj, Sundargarh, Dhenkanal, Angul, Jajpur, Khorda, Keonjhar and Cuttack, it has become a regular havoc. People are resorting to retaliation while encountering this problem. A core committee to enhance people's participation in wildlife conservation to be formed in every Division consisting of Honorary Wildlife Warden, NGOs, PRI Members, EDC & VSS members, Local influential people, Local MLAs & M.Ps within three months . The periodicity should be bimonthly. Minutes of meeting to be sent through RCCF to the WLHQ.

People's Expectation

In order to secure wilful participation, it is very much important to know their expectation on the issue for a sustainable solution. These are enumerated below.

a) Respond- Quick response by the forest officials in reaching the site of depredation and taking charge of the situation tops the wish list of the people. It ensures a feeling of rescue by the Forest Deptt. in the minds of apprehended villagers.

b) Resend- To ensure the return of intruding elephants to forest forthwith through round the clock non stop operation. Sooner is the better.

c) Reduce- Human casualty as well as injury to zero and damage of crop & house to minimum is not only the desire of local inhabitants, but also of the Deptt.

d) Release- Immediate payment of compassionate amount at market value to the victims by simplifying the cumbersome and time consuming procedure

e) Restrict- Invasion of wild elephants to human use landscape through deterrent measures by the Dept. is the desire of all.

f) Retain– Confining elephants to their parent habitat through rejuvenation and development by catering their food requirement and other needs adequately is also demanded for preventing outside straying outside.

These are the notable ones among the limitless expectations of the aggrieved people. However, site specific demands are to be taken into consideration while formulating the strategy for that place. In order to streamline the process, the people are to be convinced about the reality of the situation and practicability of the solution measures. Hence to aware and educate the people in this regard is a most vital. To make the awareness and education effective, it should be simple and compatible to socio-economic condition of the people.

Socio-Economic Status

Information on following aspects of the target population is very necessary to chalk out the modality for awareness / education

a) Demographic profile

b) Occupation

c) Literacy

d) Income

This can be obtained from the statistical handbook of the District in which even G.P. wise information are available. However the people in affected areas are mostly marginal farmers, share croppers, farm laborers, industrial worker, mining laborers, NTFP collectors, firewood collector cum seller and unskilled daily wage earners.

3.4.1 Education and Awareness

It should be well structured for effective result in short time.

i) **Theme**

It is important just like learning series. People must be convinced satisfactionly about the necessity of elephant as well as the consequence of its absence. Similarly the

depredation management to zeroing the casualty and minimizing the crop loss and house damage is another crucial aspect. So a chronological thematic subject is prescribed as under.

a) Why to protect Elephant.

b) Depredation Management

c) Precaution during invasion (Do & Don'ts): Framing of precautionary measures (Do's & Don'ts) to be adopted by local lpeople during incursion of elephants into villagers/Crops Fields and to be widely circulated among the community for awareness in vulnerable areas.

d) Save Elephant Safe Life (*Gaja Surakhya Jeevan Rakhya*)

ii) **Medium-** Vernacular language even local dilect will be most suitable for awareness campaign as it is people friendly.

iii) **Mode-** Both audio and audio-visual mode can be resorted depending on the location, feasibility people compatability. But the audio visual method is well accepted and most effective one, involving local villglers, PRI members, VSS and EDC members, *Gaja Sathi* Voluntaries shall spear-head this activity. The different method of communication is prescribed as under.

a) Informal discussion in the village at leisure time preferably evening after completion of day long work is easy for ice breaking.

b) Formal meeting- Conduct formal meetings emphasizing attempt to achieve "zero accidental death of elephant and human beings' in conflict prone ranges. *Gaja Surakhya Jeevan Rakhya* can be most appropriate theme in present context.

c) Film show- Short duration film should be prepared narrating need for protection and conservation of elephant along with mitigation methods of human-elephant conflict and be screened in problematic villages frequently. Film should be given more preference than meeting.

d) Rural Folk song / Religious song / Street play – *Daskhatia, Palla, Gotipua nacha* etc should be exhibited emphasizing on the concept of aforesaid theme in problematic villages.

e) Social Media – This can be resorted considering the literacy status of the target group.

f) Poster / Signage / wall painting – This should be done at places of people's congregation.

g) Radio &T.V Shows- Awareness Campaign should be made in popular electronic media preferably local channel.

iv) **Brand Ambassador** – Celebrities from film industry / cricket & other sports / athletes should be involved to spread the message for protection in electronic media for better & quick impact and larger outreach.

v) **Implementation** – It consists of two components in the instant case *i.e.* production of awareness campaign material and execution at field level.

a) Production – Professional agencies should be hired to prepare films, signages, posters, wall paintings etc for successful campaigns within six months.

b) Execution – Some credible N.G.O.s should be entrusted for carrying out these activities in the field under supervision of local forest officials who are over burdened with technical activities of the Dept.

People's connect

The people particularly the fringe dwellers are the key stakeholder in the process. Through forest Dept. is taking a lot of steps to contain the issue, but it is still unabating perhaps due to lack of involvement of local people in due spirit. It appears that there is trust deficit gap also. So the first and foremost step is to bridge the said gap, through some enlighted persons of the village / locality. *Gaja Sathi* volunteers can play an important role in this. Some preliminary operational method for managing the depredation will be taught to this village volunteers through training for their capacity building. They should be equipped with knowledge and technique for operation and maintenance of depredation devices and deterrent structures.

People Incentives

It allures the people to arouse interest for any programme and ensures their willful participation easily and smoothly. Some such incentives are enumerated below.

(a) *Mo jungle- Mo Parivesh*: The District administration should take up massive awareness programs on wildlife conservation in schools and colleges.

(b) *Swachha Bharat* Programme: Promote/Incentivise toilets to be built in all households under Swachha Bharat Programme, especially in areas frequented by elephants to sensitize people to use their toilets instead of going to the fields to attend call of nature.

(c) Eco-tourism: Use of innovative eco-tourism practices to watch and photographs elephants may be tried at a pilot level to aid income generation among local villagers and also foster a sense of ownership among them.

(d) Reward: It boosts the morale of indifferent & inactive stakholders and pacify antagonists to cooperate in implementing mitigation measures. Document all good practices and successful case studies in human- elephant conflict mitigation and replicate them in other

divisions, a compilation of these should find a place in the Annual Report of the State wildlife HQ. Cash prizes should be given to villages which are successful in human-elephant conflict management ensuring no injury / death to both human and elephant as well as reducing damage of crop and house drastically.

(e) Compensation - As already discussed the Ex-grantia) payment has to be made timely and promptly. The current rates need to be revised at the earliest. In addition, some other relief should be provided to the victims of depredation.

3.4.2 *Gaja sathi*

Communities are being involved in wider scale in man-animal conflict management. The forest department should identify motivated youth from the villages and train them in human animal conflict management. A total of 5 member per village named as *gaja sathi* have been engaged from VSS members at most vulnerable villages in all vulnerable Divisions to alert the villagers on elephant movement and helping the department officials. They have been provided training, uniform and some basic instruments. Help and Co-operation of PRI members is also taken. The role of *gaja sathi* are as follows-

i. Communicate the details of elephant presence/ movement to Forest Department. Such details may sometimes be opportunistically gathered by interacting with cattle grazers and villagers who may have seen elephants or their signs.
ii. Assist the forest department in monitoring conflict at the village level.
iii. Assist various line agencies in safely moving people, especially women and children from the conflict affected areas.

These volunteers selected by EDC/VSS shall be imparted short training in ant depredation measures and about ecology and behavior of elephants.

A set of equipment's like flash lights, megaphones, crackers etc. shall be placed at their disposal. Such primary response teams will be active from Oct to Feb *i.e.,* crop season when there is more conflict.

For such association in anti-depredation work each VSS/EDC will be provided incentive to the tune of 25,000/- for five months.

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Table 13: Unit cost for *Gaja sathi* engagement

Sl. No.	Item of work	Amount (In rupees)
1	Rs. 25,000/- to each selected VSS/EDC	25,000/-
2	Supply of uniform and other logistics (a) T-Shirts 2 nos. @ 350/- (b) Cap- 1 no. @ Rs. 50/- (c) Water bottle – 1 no @ Rs. 100/-	4250/-
3	Training for each VSS/EDC @ 2500/-	2500/-
4	Equipment's for each VSS/WDC @ 8500/-	8500/-
Total:-		**40,250/-**

Table 14: Division wise *Gaja Sathi* volunters

SL No.	Name of Division	No. of villages reported by DFO	No. of *Gaja Sathi* Volunters
1	Angul	119	600
2	Athgarh	101	483
3	Athmallik	27	145
4	Balasore WL	25	125
5	Baripada	332	505
6	Berhampur	12	50
7	Bolangir	25	125
8	Bonai	15	75
9	Cuttack	10	50
10	Deogarh	93	465
11	Dhenkanal	150	750
12	Ghumsur North	25	125
13	Ghumsur South	10	50
14	Kalahandi North	17	17
15	Kalahandi South	10	10

16	Karanjia	30	150
17	Keonjhar WL	10	51
18	Keonjhar (T)	216	803
19	Khordha	45	45
20	Nayagarh	15	50
21	Rairakhol	54	270
22	Rairangpur	10	10
23	Rourkela	100	103
24	Sambalpur	57	250
25	Subarnpur	31	50
26	Sundargarh	20	100
	Total	**1559**	**5457**

3.4.3 *Jana Surakhya Gaja Rakhya*

"*Jana Surakhya Gaja Rakhya*" — Erection of Solar fencing around the crop field in PPP mode — A Scheme to minimize human animal conflict by local Communities.To overcome man animal conflict it is desired to secure active role of communities in this endeavour to ensure its effective implementation for this purpose. A scheme is as below.

Objectives

1. To prevent entry of wild elephants into human habitations.
2. To make communities partner in addressing Man-Elephant Conflict.

Modalities of implementation:

This scheme will be implemented as below —

i. For Communities

a. In elephant conflict areas the solar fencing shall be erected along the forest boundary / village / hamlet / boundary to prevent the entry of elephants in to human habitations.

b. Villages interested to have solar fencing in their area shall conduct a meeting of *Gram Sabha* and pass a resolution with majority who have solar fencing

in their area.

c. This resolution will be forwarded to concerned DFO through local ward member.

d. On receipt of such resolution the DFO concerned shall get a feasibility study done from an officer not below the rank of ACF. Findings of such study shall be discussed with the *Gram Sabha* and exact stretch and length to be covered shall be decided jointly by Forest Department and *Gram Sabha*.

e. Care should be taken that erection of solar fence should not adversely affect the neighbouring villages. Also, the natural movement path of elephants should not be blocked.

f. On finalization of the stretch and length of the solar fence, villagers of the concerned village shall deposit 10% of the total cost of solar fence with the concerned DFO. Rest amount shall be contributed by the Government.

g. A MoU shall be signed between DFO and the Villagers defining roles and responsibilities of both sides.

h. On receipt of share of the villagers DFO will execute the works in the field. At least 5 years maintenance shall be incorporated in the agreement with the agency executing the work.

i. For this purpose, agencies shall be empanelled by the department to execute the work of solar fencing as per cost norm fixed.

j. After execution, the solar fence shall be handed over to the community for its maintenance and upkeep.

ii. For individuals

1. Orchards are used by elephants as hiding places during day time and lead to damage of orchards and many accidental deaths of human beings. Solar fencing for individuals shall be limited to orchards only.
2. Individual Orchard owner who is interested to have solar fence around his / her orchard shall apply to concerned DFO.
3. On receipt of request from Orchard owner, DFO shall get the same physically verified in the field by Range Officer / ACF. Inspecting Officer shall submit feasibility report (indicating length etc. to DFO giving details.
4. On receipt of report from field, if solar fence is to be taken up then the individual orchard owner shall be informed in writing about the same. He should be asked to get the solar fence installed from an empanelled agency of the department.

5. On installation of solar fence by the orchard owner, DFO shall get the solar fence verified and if satisfied with quality and quantity then 50% share of the total cost shall be reimbursed by the DFO to the orchard owner.
6. For this purpose, agencies shall be empanelled by the department to execute the work of solar fencing as per cost norm fixed. At least 5 years maintenance shall be incorporated in the agreement with the agency executing the work.

After execution, the solar fence shall be handed over to the orchard owner for its maintenance and upkeep. A MoU shall be signed between DFO and Orchard owner defining roles and responsibilities.

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3.5 Inter-departmental co-ordination

At the district level, it is suggested that District level Human Wildlife Conflict Mitigation to be formed under the Chairmanship of Collector, Superintendent of Police, relevant line department will be represented with concerned DFO being member secretary. Minutes of monthly meeting to be sent through RCCF to Wildlife Head Quarter. The committee may coordinate all human wildlife conflict mitigation activities, ensure all assistance is provided by the district administration to the forest department engage with the public with the support maintain law and order in human wildlife conflict scenarios.

3.5.1 Police Department

(i) Monthly Wildlife Crime prevention enforcement meeting with Superintendent of Police and DFO within a month. Minutes of monthly meeting to be sent through RCCF to Wildlife Head Quarter.

(ii) Often presence of mobs makes management of HEC situations very difficult. Sometimes human deaths take place when people get in the way of fleeing elephants. In such circumstances mob control becomes an important part of HEC management. An effective mob/crowd control plan should be chalked out in areas where such situations are frequent. Help of District Administration particularly Police Department should be taken for mob control. Use of S/144 under CrPC should be employed wherever required.

(iii) Coordination with local police officials for intelligence gathering of offender, TDR, CDR and live location in order to track and arrest the offenders.

3.5.2 Preventing electrocution deaths

Special focus on preventing accidental & deliberate electrocution of elephants

1. **Co-ordination Meeting**

   There shall be regular co-ordination meeting with Energy department/ DISCOM to regularly monitor the progress of the work of infrastructure development and ironing out other issues at the level of R.O/JEE, RO/DFO/SDO/Executive Engineer, RCCF/ DFO/ Executive Engineer in monthly basis and DISCOM Authority/ PCCF(WL) in quarterly basis.

2. **Preventive measures and enforcement**

a. Intensive patrolling Mechanism.

- DISCOM to ensure frequent Patrolling in vulnerable locations to check illegal hooking and should also take necessary legal action against such offenders.

- Joint patrolling of Forest and Energy Department staff along vulnerable stretches of transmission lines in elephant movement areas and village prone to illegal hooking by GPS mounted Vehicle to be done regularly. DFO to undertake monthly review on this.

b. Statutory Inspections of Powerlines and up gradation of Existing power supply system

- The exercise already covered to identify and map vulnerable points of electrocution in each Division (Sagging Lines/Tilted Poles/Interposing Poles where required/habitual hooking villages) is to be updated and periodically monitored. Accordingly appropriate mitigation measures have to be undertaken. DFOs should ensure cabling by the DISCOMs of 4444 Km of bare conductors and 31,000 of vulnerable points which have been identified in elephant movement areas. These have to periodically update after joint verification.
- Ensure insulation of 11 KV & L.T lines passing through forest areas. In particularly vulnerable areas such as inside PAs with dense elephant movement, the feasibility of underground transmission lines to be explored.
- Dismantling of defunct solar power fencing to be ensured by individuals/ community to eliminate charging by unscrupulous elements. DFO to take a special drive on this.
- Ensure fitting of spikes on electric poles and barricading of substations/unprotected transformers, lift irrigation points in forest and forest fringe areas.

c. Recording of trip record

- Ensure sharing of trip record immediately by electricity department to forest department by WhatsApp.

d. Scientific and legal ways of controlling the population of wild pigs.

- Most of the electrocution death of elephants happen due to accidentally while coming into contact with charged wires kept for wild pigs, either for crop protection or poaching, whose population has grown in many areas. Scientific and legal ways of controlling the population of wild pigs to be explored and implemented in a site specific and transparent manner drawing from similar examples on other States.

3. Prosecution

- The energy department officials should be present in all electrocution cases and should be investigated the case by electrical inspector. The report of the electrical inspector on death of wildlife due to electrocution should be shared invariably with the PCCF (WL) for information and follow up.

- Under Electricity Act-2003 cases shall be booked by electricity department against offenders where electrocution death of wildlife has occurred due to illegal hooking.
- Filing of police case by Energy department in the local Police Station.

4. Technical up gradation

- Up gradation of electrical infrastructure and use of technology to prevent death due to electrocution. For LT distribution, fuse wires of standard rating to be used for circuit breaker. Further, MCB (Miniature Circuit Breaker) to be used in the Sub-station of all forest fringe villages for tripping electricity.
- Ensure working of Primary Sub-stations (PS) in all electrical control rooms of 11 KV lines. In case of any illegal hooking from 11 KV line, they can save lives of wildlife and elephants which are killed by electric traps since earthing at any place would have the effect of cutting off power instantaneously.

5. Preparation of scheme

- In order to prevent deaths of wildlife and elephants by electrocution, a scheme to be prepared for engagement of one person per village for verification of electrical lines daily /reporting in most susceptible areas to check hooking / live traps. This is to be funded/engaged jointly by DISCOMs and the Wildlife Wing. To start with, forty volunteers each by the two organisations to be engaged. These volunteers to be chosen from members of EDC/VSS wherever possible.

6. Capacity Building

- There shall be organization of capacity building training for front line staff of DISCOM to prevent illegal hooking and another training should be organized at Range level for identification of wildlife deaths due to electrocution.

3.5.3 Railway Department

i. Regular co-ordination meetings are to be carried out between officials of forest department and that of various zones of Indian Railways. (East- Coast Railways, South-Eastern Railway, S.E Central Railway)

ii. Railway authorities have been requested for provision of overpass and underpass required for movement of elephants in upcoming projects as well as in existing railway lines at identified points. 35 locations have been identified along railway tracks forconstruction of animal underpasses/ overpasses along with 12 locations for level crossingsin new and expansion projects.

iii. Signages have been installed at vulnerable locations along railway tracks.

iv. Strengthening of 24x7control roominKhordha Road, Sambalpur and Bandhamundain Rourkela Railway Divisions to ensure seamless transmission of elephant movement information from the field to prevent accidental train hits.

v. Capacity of elephant squad have been strengthened with provision of GPS mountedmotorcycles and red torch lights (as emergency measure) to patrol along the railwaytracks and stop the trains in emergency cases.

vi. The SMS/WhatsApp communication system between Forest and Railway Departmentregarding movement of elephants near railway tracks has been done.

vii. Wireless communication between Forest & Railway staff established with pairing of VHFsets.

viii. Solar fencing is being installed along railway line at vulnerable locations to check crossingof railway line by elephants in Rourkela division and watch tower is being constructedalong vulnerable areas of Railway line in Bamra Division. Solar Fencing of further vulnerable locations has to be done after careful thought in places where absolutely required should not be counter productive. Watch Tower to be erected in sights adjoining railway lines were they are absolutely required.

ix. Total 372 locations have been identified for fixing of fluorescent signage along tracks to alert the loco pilots and 111 nos. of signage have been fixed byrailways till now which has to be completed.

x. Railways should reduce speed of the train passing through Forests or high Accident prone areas as per the caution order issued due to presence of elephant herd near the railway track.

xi. During construction of overpass/under pass most of the materials should be prefabricated elsewhere so that the construction process does not attract animal movement no construction to be allowed between 6 PM and 6 AM.

3.5.4 Roads

xii. Regular coordination meeting with National Highway Authority of India (NHAI) are to be carried out at level of WLHQ, RCCF, DFO to review the progress of mitigation projects of the state.

xiii. Till now 188 numbers of crossing points have been identified on highways. Patrolling is regularly being done by dedicated squad on highways at vulnerable elephant crossing locations, which alert the commuters on elephant movement as well as facilitate crossing of the road by the elephants.

xiv. Fixing of signage on additional crossing points and maintenance of 370 signage are already in place.

xv. 49 numbers of underpasses have been identifiedfor Highway projects so far (new and expansion projects). Works on 11 numbers elephant under pass are under progress (Rimili-Rajamunda, Tileibani-Sambalpur, Talcher- Kamakshyanagar, Kamakshyanagar- Duburi and Cuttack-Angul) and need to be expedited.5 nos. of underpass which have already been completed in Keonjhar Forest Division must be monitored regarding use by elephants and other wildlife.

xvi. Night traffic should be regulated in areas where a road passes through important wildlife area and pressure horn prohibited.

xvii. Regular patrolling on highways by Highway Squads and vulnerable elephant crossing location to alert the commuters on elephant movement as well as facilitate crossing of the road by the elephants.

3.5.5 Alternative Crops

Changing of Crop patterns of farmers in villages along with the elephant corridors

i. The possibility of change in crops/ cropping pattern in order to reduce elephant conflictin pilot projects in select localities. (Short duration crops such as millets/ elephant-repellent crops such as Chilly, Ginger)

ii. Promotion of innovate agro-horticulture, high yielding stall-fed livestock rearing, poultry, pisciculture to promote livelihood of local people and offset their losses due to traditional paddy cultivation.

iii. Use of innovative eco-tourism practices to watch and photograph elephants may be tried at a pilot level to aid income generation among local villagers and also foster a sense of ownership among the

Co-operation with Agriculture Department, Animal Husbandry Department, Fishery Department and other line departments for livelihood development of the local people.

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3.6 Human resource management

The objective of Odisha Forest Department is management of forest resources through strong institutional infrastructure for conservation and ecological security in order to meet the needs of present and future generation. The aim of human resource management in Odisha Forest department includes the ways and means to protect the resources available, develop additional resources and maintain harmony between needs and availability. Therefore, effective human resource management is the need of the hour.

3.6.1 Staff Strength

An analysis of the avialble data indicates that only about 60% post of different cadres are in position. Adequate number of staff is required for protection, management and implementation of different departmental works in the state. Recruitment process for filling of different cadre posts, though under active consideration of Govt. should be hastened.

The cadre strength, vacancy position and recruitment process for different post is given in Table 15 & 16 respectively.

Chief Conservator of Forests
O/o the PCCF(WL)
Odisha, Bhubaneswar

Table 15: Cadre strength and vacancy position of field staff (as on 31.12.2022)

Sl no	Name of circles	Deputy Conservator of Forests			ACF			Ranger			Deputy ranger			Forester			Forest guard		
		SS	MIP	Vac.	SS	MIP	Vac.	SS	MIP	Vac.	SS	MIP	Vac.	SS	MIP	Vac.	SS	MIP	Vac.
1	**Angul**	9	7	**2**	22	13	**9**	44	25	**19**	40	18	**22**	249	216	**33**	584	227	**357**
2	**Bhubaneswar**	10	8	**2**	28	13	**15**	45	23	**22**	34	18	**16**	270	210	**60**	601	258	**343**
3	**Berhampur**	9	7	**2**	26	8	**18**	45	29	**16**	47	23	**24**	249	196	**53**	727	389	**338**
4	**Bhwanipatna**	8	5	**3**	22	8	**14**	40	26	**14**	35	31	**4**	232	174	**58**	596	341	**255**
5	**Baripada**	9	6	**3**	24	14	**10**	49	34	**15**	30	12	**18**	226	179	**47**	517	265	**252**
6	**Koraput**	7	5	**2**	20	8	**12**	36	16	**20**	26	12	**14**	204	132	**72**	589	290	**299**
7	**Rourkela**	7	6	**1**	20	8	**12**	39	25	**14**	36	22	**14**	202	128	**74**	576	314	**262**
8	**Sambalpur**	8	6	**2**	22	8	**14**	36	20	**16**	29	12	**17**	193	155	**38**	485	294	**191**
Grand total		67	50	**17**	184	80	**104**	334	198	**136**	277	148	**129**	1825	1390	**435**	4675	2378	**2297**

SS-Staff Strength, MIP-Man in position, Vac.-Vaccancy

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Table 16: Recent position of recruitment process

Sl. No.	Name of the Post	Process of recruitment
1	IFS Cadre (Group-A)	The recruitment of IFS is conducted through Union Public Service Commission.
2	OFS-I SB/STS/SAG Cadre (State cadre Dy. CF) (Group-A)	The DY.CF. (SB/STS/SAG) is a promotional post from ACF.
3	OFS-I JB Cadre (ACF) (Group-A)	24 candidates recruited are undergoing training in CASFOS Dehradun on 18.7.2022. Further proposal has been submitted to Govt. to accord permission for filling up of **45** nos. of ACF under direct recruitment quota by Odisha Public Service Commission.
4	OFS-II Cadre (FR) (Group-B)	29 candidates recruited for the post of Range Officer are undergoing training in OFRC, Angul. Further proposal has been submitted to Govt. to accord permission for filling up of **131** nos. of Forest Rangers under direct recruitment quota by Odisha Public Service Commission.
5	Dy RO(Group-C)	The Dy.RO is a promotional post from Forester.
6	Forester (Group-C)	Proposal has been submitted to Govt. to accord permission for filling up of **363** nos. of Foresters by Odisha Subordinate Staff Selection Commission.
8	Forest Guard (Group-C)	Recruitment for filling up of **806** posts of Forest Guard by OSSSC is completed & the result is announced on 31.12.2022. 779 Forest Guards have been qualified. Further proposal has been sent the Govt. for recruitment of **1677** numbers of Forest Guards.

Steps to be taken for filling up of vacancy of frontline staff

Substantial number of vacancies of different cadres such as DCF, ACF, RO, Dy. RO, Forester and Forest guard in the State affects adversely the protection of wildlife. Steps being taken up to fill up the vacancy positions of Forest guard (2297 no), Forester (435 no), Deputy Ranger

(129 no.), Ranger (136 no.), ACF (104 no) and DCF (17 no.) for effective protection and monitoring of Sch- I species should be accelerated.

Table 17: Vaccancy position and cadre strength of field staff

Sl. No.	Name of the cadre post	Cadre strength	No of vacancy
1	DCF	67	17
2	ACF	184	104
3	RO	334	136
4	Dy.RO	277	129
5	Forester	1825	435
6	Forest Guard	4675	2297

Designation of a prosecution range officer in each division

A Range Officer should be nominated in each division only to look after the case status, filing of PR within the stipulated time period (60 days arrest of first accused), proper liasioning with court to follow up the pending cases and take care of other legal aspects of the division.

Similarly, filling up of the posts of Veterinarians should also be taken up at the earliest.

Table 18: Cadre strength of Veterinarians within the Forest Department

Sl. No	Name of the Establishment	Description of the Post	Sanctioned Strength	Men in position	vacancy position
1	Rajnagar (WL)	Veterinary Assistant Surgeon	1	0	1
2	Sunabeda (WL)	Veterinary Assistant Surgeon	1	0	1
3	Satkosia (WL)	Veterinary Assistant Surgeon	1	1	0
		Junior Assistant Officer	1	0	1
4	PCCF (WL)	Veterinary Assistant Surgeon	1	1	0

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Sl. No	Name of the Establishment	Description of the Post	Sanctioned Strength	Men in position	vacancy position
5	STR Baripada	Veterinary Assistant Surgeon	1	1	0
6	Bamra (WL)	Veterinary Assistant Surgeon	1	0	1
7	Nandankanan	Veterinary Assistant Surgeon	1	1	0
Grand total			**8**	**4**	**4**

Chief Conservator of Forests (WL) & CWLW
O/o the PCCF (WL) & CWLW
Odisha, Bhubaneswar

3.7 Habitat Management for Asian Elephants

Habitat requirement for Asian elephants

Asian elephants are a wide-ranging landscape species which require substantial home ranges for effectively maintaining their population. They wander across large tracks of area comprising forested and sometimes non-forested landscapes. Elephant herds during the course of a year would require all three components of habitat viz. Food, Water and Cover in adequate quantity and proportion. Unless this is ensured, elephants have a propensity to move from areas where one of these is a reduced or absent.

Therefore, making available in required quantities and managing each of these aspects of the habitat is crucial for maintaining a viable elephant population in a landscape.

Food

Elephants are course feeders and require adequate proportions of roughage, concentrate nutrients, minor nutrients and trace elements and pre-formed and metabolic water in their diet. Therefore, Elephants use a large number of plant species (grass, leaves, branches, twigs of trees, shrubs, herbs, fruits etc. in their diet and also plant parts such as barks, roots, etc. to meet their dietary requirements, specifically micronutrients. They also need sufficient quantity of water and also mineral salts from salt lakes and urban banks. Therefore, as regards enhancing habitat quality in terms of food, elephant habitat quality is directly proportional to the amount of food or forage of all these categories available within that habitat.

3.7.1 Meadow development and improvement

This is a crucial component of managing elephant habitats and studies have indicated that elephants defend a lot on rough forage like grasses and bamboos to meet their bulk requirement of diet. Therefore, it is imperative that habitat quality in terms of availability of the species are enhanced in a planned manner. The most important component is to improve the quality of degraded meadows.

3.7.2 Bamboo and grasses

Among grasses, bamboo especially Salia *Dendrocalamus strictus* the most preferred species of elephant and special attention will have to be given for their development. Kantabaunsa *Bambusa arundinacea* is also fed upon, especially when young. Degraded bamboo forests have to be worked and restored using laid down in silvicultural practices for

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the working of bamboo forests. Bamboo working following accepted silvicultural practices have been found effective to improve the forest quality of degraded bamboo forest.

Similarly standardized nursery techniques exist for raising bamboo seedlings through rhizome planting or seeds. Broadcasting seed balls in appropriate areas have been found effective and use of drones for aerial broadcasting may be tried in hilly and inaccessible terrain.

Bamboo shoot *'karadi'* collection is a major source of disturbance as well and cause of food depletion for elephants. Enforce prevention of bamboo shoot collection by local people in elephant bearing areas. Ensure adequate supply of bamboo rhizomes and encourage them to plant for self-sufficiency. Alternative livelihood to be planned for habitual *karadi*collectors.

A variety of grasses and sedges such as *Imperatasp*, *Saccharum sp*, *Cyperus sp*etc. are also fed upon by elephants and some such as Duba *Cyanodon dactylon* is a particular favourite. This comes up very well in slightly moist patches and in reservoir draw down areas and margins of water bodies and have to be actively propagated.

Emphasis should be given to the development of new grass meadows as well as improvement of the quality of existing degraded meadows. There are established techniques available for grassland restoration and should be followed meticulously for which training programmes of staff should be organised. If required, irrigation facilities can also be provided to maintain a suitable mix of grass species.

3.7.3 Fruit and fodder trees

Fruits provide a concentrated source of energy to elephants and there are several species which are favourites such as wild mango *Mangifera indica*, ber *Zizyphussp*, kumbhi *Careya arborea*, bel *Aegle marmelos*, Jamun *Syzygium cumini*, Mahula *Madhuca indica*, *Artocarpus heterophyllus*, Similarly, foliage of trees such as *Ficus bengalensis*, *Lannea coromandelica, Mallotus philippensis, Kydia calycina, Grewia sp*; *Buchanania lanzan, Sterculia urens, Streblus asper* shrubs such as *Helicteresisora* and climbers such as *Bauhinia vahlii, Combretum decandrum, Milletiara cemosa* etc. are eagerly devoured.

A detailed list of forage species including grasses, trees, shrubs, climbers and herbs is given in the Annexure 3. Elephant-bearing divisions should raise, maintain sufficient stock and undertake concentrated planting of such species.

Ficus species are keystone species which is invaluable for the health of a forest and provides food for a large number of species including elephants. Therefore, planting Ficus

species especially *Ficus bengalensis* is of paramount importance. However, as they are highly palatable, care should be taken to protect them till the trees get established. Assisted planting of Ficus species on standing snags/dying trees so as to enhance their survival percentage is an innovative solution.

3.7.4 Weed clearance and targeted restoration of weed-ridden patches

One of the most important aspects which is responsible for reduction in habitat quality in elephant habitats is the proliferation of a large number of weeds some of which are invasive and exotic. The major species are *Chromolaena odorata, Mikania micrantha, Cassia tora, Lantana camara* etc. These take up a lot of forest undergrowth area and provide hardly any nutrition to elephants and therefore systematic efforts need to be undertaken to remove these weeds and then plant bamboo, edible grasses, herbs, shrubs and also fruit bearing trees in such areas. This has to be taken up as a medium and long-term measure and effort should be to restore weed infected areas by regularly and continuously working on identified patches of something like 5 to 50 ha year after year so that such areas are eventually restored to a functional elephant habitat. Towards this, specific funds may be allotted and specific norms maybe prepared. A 10-year action plan to be developed for weed eradication in such identified areas. Extensive and persistent weed removal to be done along with planting up with palatable species of grasses, herbs/forbs, shrubs, and fruit/fodder trees.

Improving water and moisture regime

Availability of adequate water is also a crucial prerequisite for an effective elephant habitat. This assumes importance, especially with regard to impacts of climate change. Towards this purpose a large number of water bodies have already been dug and a series of water harvesting structures of various kinds have been put in place. Soil and moisture conservation (SMC) following a integrated catchment area treatment plan/watershed restoration approach should also be done. However, construction of a water body requires careful thought and site selection in order for it to be not counter-productive. Elephant habitat should be mapped in such a way that whenever there is a large area of about 10 square kilometres free of water, it should be provided. Efforts have already been undertaken to ensure saturation of water points in almost all the elephant bearing habitats and this effort should be continued.

Fire management

This is a crucial aspect where often there is a blanket approach of 'total fire prevention'. However, in tropical ecosystems especially dry deciduous forests, fire is a natural phenomenon and floral elements have co-evolved with fire. Therefore, total fire prevention is neither desirable nor possible. Rather, the emphasis should be on control fires to reduce fuel load to avoid violent conflagrations, use of fire as a management tool in cool season burning of meadows etc. However, in evergreen forests, semi-evergreen forests and mesic patches, fire should be totally prevented.

Unsustainable population of low-yielding cattle

This is a major issue which not only depletes resources but also aids disease transmission. Reduce the presence of scrub cattle and livestock in elephant areas, and contamination of waterholes by wallowing buffaloes. Supply of high-yielding stall-fed cattle can be tried in pilot basis with support from V&AH Dept.

Corridors

One of the most ignored points in elephant habitat restoration is the habitat development of 'corridors'. Usually, substantial funds are spent in developing corridor as elephant habitats. However, this is possibly not a right strategy because this will encourage elephants to stay in the corridor area instead of moving through and using corridor just as a passage from one intact habitat to another. Therefore, focus should be on consolidating and protecting 'corridors' from change in land-use and also fragmentation and ensuring elephant-friendly land-use.

Cluster approach

Instead of taking up habitat management activities in isolation and scattered across the habitat, it is always a better strategy to follow a Cluster Approach. Here, the idea is to locate protection infrastructure (Anti-poaching camps, Watch-towers etc.), habitat management areas (meadows, fruit and fodder tree plantations, salt-licks, water bodies etc) in one compact area so as to ensure year-round protection and continued monitoring and interventions.

Instead of a piece-meal approach to habitat 'improvement', a holistic habitat 'restoration' approach to be followed, wherein clearly identified degraded patches (5-25 hectares or more) to be continuously managed in the long-term. Experts in this field to be invited for a Workshop and their advice sought for forming an Action Plan on this, especially in PAs.

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Stratification

In each elephant-bearing division, stratify beats into Good, Medium and Poor elephant habitats based on forage, water, cover and disturbance and identify areas that are intact elephant habitats. A map to be prepared showing all prominent habitat features including water bodies, dense and open forests, meadows and grassland etc. so that key elephant habitats may be delineated.

Strategy for future

Unfortunately, due to a variety of reasons the propensity of elephants towards raiding crops is being increasingly established in elephants of Odisha and possibly they treat it as an evolutionarily stable strategy (ESS). Elephants take shelter in scrub jungle and small village woodlots adjoining cropland during daytime and go out and raid food crops mainly cereal crops during the late evening and night hours. Similar trends are also seen in the case of orchard crops (mango, cashew) and vegetable crops. This has been causing an immense amount of man animal conflict in a large number of districts in Odisha with human death, injury, property and crop losses mounting from year to year. One suspects that this has also lessened the traditional tolerance of local people and at least in some areas, this has led to retaliatory killing. Elephant herds which are used to raiding crops will continue to do that as elephants are a social species. The younger ones in such herds will increasingly see paddy and grown serials as part of their natural diet, a trend which has to be discouraged. This is a huge challenge and a long-term approach is required of which enhancing habitat quality of intact forest areas (especially of Zone I and II) is a critical pre-requisite. Once done, the elephants will be encouraged to forage on their natural diet, spend time within natural habitat areas, thereby reducing conflict.

3.8 Elephant corridors and connectivity

3.8.1 Introduction

The major challenges threatening the survival of elephants in India is habitat loss, fragmentation and degradation of habitats and human-elephant conflict (Johnsingh *et al.,* 1991). Fragmentation of habitat could well be attributed to loss of habitat connectivity between existing habitats as a result of anthropogenic pressures such as the development of linear infrastructures (railways, highways, power-lines, irrigation canals, etc.) in face of growing economy of the country (Menon *et al.,* 2010). Over years, the continuity between habitats is getting broken and the major challenge is to balance and harmonize the challenge of economic growth, development and the protection of environment.

A long-term solution is planning the conservation initiatives at a landscape level so that human need and wildlife requirements are both taken into consideration for a sustainable growth. One important way of achieving the long-term species survival in a landscape level is providing habitat connectivity (corridors) for the species between habitat patches. These habitat connectivities/elephant corridors are generally defined as the linear stretches that serve as a link between viable habitats to facilitate elephant movement to minimise the risk of inbreeding, increase genetic diversity, provide access to seasonal foraging ground and facilitate overall survival of the species (Rameshan *et al.,* 2014).The use of these corridors depend on the ranging behaviour of elephants and the size and physical features of corridors (Sivaganeshan, N. & Sukumar, R., 2000).Identification and protection of corridors allows elephants to utilize a variety of habitat types and survive over seasonal fluctuation of food resources and water.

In Odisha, 14 elephant corridors have been identified by the State Forest Department in 2011 of which 4 corridors are interstate corridors connecting to the state of Jharkhand and West Bengal. The remaining 10 corridors are spread across 12 of 30 districts of the state. Around 75% of the elephant population is distributed in three Elephant Reserves *viz.* Mayurbhanj, Mahanadi and Sambalpur and remaining elephants are reported from outside Elephant Reserves and Protected Areas. Even within the Elephant Reserves, a large population is outside the protected Area network, raising the concern for human-elephant conflict (HEC) in the state. Hence, it is important that most of the elephant habitats are connected to provide larger habitat availability.

Function of elephant corridor:

(i) Increases immigration rate to a forest/patch which could
   i. increases or maintain species richness and diversity
   ii. increases population size of a species and decreases probability of extinction
   iii. prevents inbreeding and maintain genetic variation with pop

(ii) Increases foraging area for wide-ranging species

(iii) Provides mix of habitats to elephants that requires variety of habitat for sustenance and/or lifecycle

(iv) Population can move in response to environmental calamities and resource availability crunch

(v) Helps minimize human-wildlife conflict

Corridors should not be thought of as habitat, where increased residency could promote conflict in adjoining settlements. Therefore, restoration programmes should not focus on habitat improvement that could encourage elephants to stay within corridors but only provide cover for the elephants to move.

It is essential to iterate that elephant corridors only connect source patches where survivorship and natality (birth rate) for a stable or growing population exist. Connecting sources with sinks (which are entirely dependent upon on immigrants to sustain their populations) are undesirable for elephants, unlike for a number of other species. This is because by definition, sinks do not support viable populations and are usually marginalised because of human settlements. Corridors promoting elephant movement into such sinks could greatly escalate conflict levels. However, there could be sinks that contain habitat of good quality and have little human presence, and which do not have viable populations for historic reasons e.g. past hunting levels. Corridors connecting such sinks with sources could encourage the creation of additional viable populations.

3.8.2 Elephant Corridors in Odisha

Odisha houses a sizable population of elephants. Therefore, to conserve elephants, with the kind of developmental needs and population pressure, significance of corridors increases in the state.

The state Forest Department in the year 2011 has identified 14 elephant corridors in the state and they are listed below: -

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Table 19: Elephant corridors in Odisha

Sl. No.	Name of the Corridor	Extends over District	Name of the Forest Division	Length of the Corridor (km)	Width of the Corridor (km)	Total Area (sq.km)
1	Badampahar (Mayurbhanj) Dhobdhobin (Jharkhand) **(Interstate)**	Mayurbhanj	Karanjia Rairangpur	16	0.5-1.5	24.3
2	Badampahar (Mayurbhanj) Karida (Jharkhand) **(Interstate)**	Mayurbhanj	Rairangpur	43	0.2-2.6	26.09
3	West Bengal-Deuli-Suliapada (Passage) **(Interstate)**	Mayurbhanj	Baripada	72	0.1-0.7	39.5
4	Simlipal-Hadgarh-Kuldiha	Mayurbhanj, Keonjhar, Balasore	Baripada, Balasore (WL) Keonjhar (WL)	41.7	0.7-3.5	91.39
5	Telkoi-Pallahra	Keonjhar, Angul	Keonjhar, Deogarh	30.4	0.2-0.6	13.24
6	Karo (Keonjhar)-Karampada (Saranda,Jhrkhand) **(Interstate)**	Keonjhar	Keonjhar	15	0.3-2.3	17.3
7	Maulabhnja-Jiridamali-Anantpur	Dhenkanal	Dhenkanal	6.5	0.25-0.28	1.55
8	Kahneijena-Anantpur	Angul, Dhenkanal	Angul, Dhenkanal	6.6	0.4-1.1	5.22
9	Buguda-Central RF	Nayagarh	Nayagarh	2.6	0.8-0.6	0.76

10	Nuagaon-Baruni	Angul	Athamallik	4.5	0.4-4.6	20.7
11	Tal-Kholgarh	Sambalpur	Rairakhol	6.3	0.5-0.08	4.56
12	Barpahad-Tarva-Kantamal	Subarnpur, Boudh	Subarnpur, Boudh	24.2	0.38-1.5	21.7
13	Kotgarh-Chandrapur	Kandhmal, Rayagada	Balliguda, Rayagada	77	2.0-22.4	575.4
14	Karlapat-Urladani	Kalahandi, Rayagada	Kalahandi North and South, Rayagada	75	0.2-0.5	28.9
	TOTAL			421		870.6

(Source- Wildlife Odisha-2019)

Though these are the corridors identified by the department but many authors have also done so. A brief account is as follows; -

Some attempts were made in 1999 (by Rout *et.al.* on the basis of remote sensing) and 2002 (by Sar and Lahiri Choudhury). The first detailed report on elephant corridors in Odisha was published by Wildlife Trust of India (WTI) in 2005. It was titled as **"Right of Passage-Elephant Corridors of India"**. In this report, under chapter 5, "Elephant Corridors of Central India" elephant corridors of Odisha as identified are dealt. This report has mentioned following corridors; -

Table 20: Elephant corridors in Odisha as per WTI report 2005

Sl.No.	Corridor Name	Length (km)	Width(km)	Ecological Priority	Conservation Feasibility
1	Karo-Karampada (Odisha- Jharkhand)	2.5-3	2-3	Medium	High
2	Badampahar-Dhobadhobin (Odisha-Jharkhand)	4-5	1.5-2	Medium	Medium

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Sl.No.	Corridor Name	Length (km)	Width(km)	Ecological Priority	Conservation Feasibility
3	Badampahar-Karida East (Odisha-Jharkhand)	28-30	1-2	Medium	Low
4	Simlipal-Satkosia (Simlipal-Hadgarh)	15-16	3	High	Medium
5	Baula-Kuldiha (Hadgarh-Kuldiha)	19-20	2-2.5	High	Low
6	Kahneijena-Anantpur	5-6	1	Medium	Low
7	Tal-Kholgarh	4	0.5-1	Medium	Medium
8	Nuagaon-Baruni	1	4	Medium	Medium
9	Kotgarh-Chandrapur	14-15	2	High	Medium

In the year 2010, The Elephant Task Force of the Government of India, submitted its report (GAJAH) which inter-alia classified elephant corridors as priority I and priority II elephant corridors. As per the list of Gajah report of Government of India Odisha priority corridors are given below: -

Priority-I corridors

1. Simlipal-Satkosia
2. Baula-Kuldiha
3. Kotgarh-Chandrapur

Priority-II corridors

1. Karo-Karampada
2. Badampahar-Dhobadhobin
3. Badampahar-Karida East
4. Kahneijena-Anantpur
5. Tal-Kholgarh
6. Nuagaon-Baruni

In the year 2017,WTI again surveyed the elephant corridors of India and brought out the report titled **"Right of Passage-Elephant Corridors of India".**In chapter 5 of the report

titled as "Elephant Corridors of Central India"elephant corridors of Odisha (along with other elephant states of Central India) are listed. As per this report following corridors are identified;

Table 21: Elephant corridors in Odisha as per WTI report 2017

Sl. No.	Corridor Name	Length (km)	Width (km)	Ecological Priority	Conservation Feasibility
1	Karo-Karampada (Odisha-Jharkhand)	8.4-19	0-1.8	High	Medium
2	Badampahar-Dhobadhobin (Odisha-jharkhand)	11	0-1	Medium	Medium
3	Badampahar-Karida East (Odisha-jharkhand)	34.5	0-1.5	Medium	Low
4	Simlipal-Satkosia	7	0.2-1.5	High	Medium
5	Baula-Kuldiha	25	0.3-2.0	Medium	Medium
6	Kahneijena-Anantpur	3	0-0.5	Medium	Low
7	Anantpur-Aswakhola (via Jiridamali)	25	0-0.5	Medium	Low
8	Aswakhola-Sunajhari	13.5	0-0.5	Medium	Medium
9	Buguda-Central RF	2.2	0.2-0.3	Medium	Low
10	Nuagaon-Baruni	4-5.8	0.57-3.5	High	Medium
11	Tal-Kholgarh	5	0-1	High	Medium
12	Kotgarh-Pankhalgudi (Kotgarh-Chandrapur)	7	0.1-1.2	High	Medium

In January, 2018, **Asian Nature Conservation Foundation** (ANCF) submitted its study report to Government of Odisha. This report is titled as "Elephant Carrying Capacity of

Odisha's Forests". In this report chapter 5 is devoted to "Elephant Corridors in Odisha". Under table 5.1 of this chapter authors have given the list of corridors identified by Forest Department indicating functional existence and ecological feasibility as assessed by ANCF, and it is reproduced below: -

Table 22: Elephant corridors in Odisha as per Asian Nature Conservation Foundation report, 2018

Sl. No	Name of the Corridor	Extends over District	Length of the Corridor (km)	Total Area (sq.km)	Functional existence and no. of elephant using the path	Ecological Feasibility	PA Connection
1	Badampahar (Mayurbhanj) Dhobdhobin (Jharkhand) **(Interstate)**	Mayurbhanj-Jharkhand	16	24.3	Poor & max 20	Not good	Yes
2	Badampahar (Mayurbhanj) Karida (Jharkhand) **(Interstate)**	Mayurbhanj	43	26.09	Very poor & NA	Bad	Yes
3	West Bengal-Deuli-Suliapada (Passage) **(Interstate)**	Mayurbhanj	72	39.5	Very good & 100+	Very bad	No
4	Simlipal-Hadgarh-Kuldiha	Mayurbhanj, Keonjhar, Balasore	41.7	91.39	Good & 40+	Good if mining stopped	Yes
5	Telkoi-Pallahra	Keonjhar, Angul	30.4	13.24	Poor& 15 ±	Not good	No
6	Karo (Keonjhar)-Karampada	Keonjhar	15	17.3	Poor& 1 or 2	Bad	No

Sl. No	Name of the Corridor	Extends over District	Length of the Corridor (km)	Total Area (sq.km)	Functional existence and no. of elephant using the path	Ecological Feasibility	PA Connection
	(Saranda,Jhrkhand) **(Interstate)**						
7	Maulabhnja-Jiridamali-Anantpur	Dhenkanal	6.5	1.55	Very poor& 20-26	Not good	No
8	Kahneijena-Anantpur	Angul, Dhenkanal	6.6	5.22	Very poor & 15-20	Not good	No
9	Buguda-Central RF	Nayagarh	2.6	0.76	Good & 20-40	Good	Yes
10	Nuagaon-Baruni	Angul	4.5	20.7	Good & 60-100+	Good	Yes
11	Tal-Kholgarh	Sambalpur	6.3	4.56	Good & 40+	Good	No
12	Barpahad-Tarava-Kantamal	Sonepur-Boudh	24.2	21.7	Poor & NA	Not Good	No
13	Kotagarh-Chandrapur	Kandhamal-Rayagada	77.0	575.4	Poor & 20+/-	Not Good	Yes
14	Karlapat-Urladani	Kalahandi-Rayagada	75	28.9	Very Poor & NA	Not Good	Yes

Further, under part 5.9 of this chapter, authors have given their list of priority corridors and under these a new corridor called Hatibari Corridor is also listed which is not listed in any of the earlier studies.

Hatibari Corridor

It connects Baduapali-Dumer-Chua-Munder RF-Jaduloisingh RF to Hatibari RF and Bandher RF by a narrow stretch of land which is non-forest, in Hatibari village (both east and west of NH-42). The link between Hatibari and Meghpal RF is also important in this area. This passage allows the passage to Badarma Wildlife Sanctuary from Rairakhol Forest Division.

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Study of Karo-Karampada elephant corridor in 2012 by forest department of Odisha

State Government, in Forest and Environment Department, vide Order number -10F (Cons.)-406/2012-18047/F&E dated 22.09.12, constituted a committee under the Chairmanship of Regional Chief Conservator of Forests, Rourkela, with other members. This committee was constituted to undertake site inspection, evaluate secondary information and to furnish a report on status/existence of the Karo-Karampada Elephant Corridor in terms of its functionality in the context of Bolani Ore Mines of M/S SAIL (as SAIL has raised objections to existence of this corridor as identified by Forest Department in 2011, due to inclusion of their mine area which were there since 1960).

This committee found that corridor demarcation is not done correctly and recommended inter alia that the present movement path of the elephants should be surveyed and demarcated in the field and affected area have to be given the status of the Elephant Corridor for its scientific management in the future.

From all the above studies/reports following can be inferred: -

1. There is no unanimity on existence of Elephant Corridors in Odisha as per various studies/reports.
2. The length and width of the corridors is identified differently in different studies/reports.
3. Even the report of 2017 study by WTI and 2018 study by ANCF, though conducted in very short span of time, have different findings on elephant corridors.
4. Study reports by the same agency i.e. WTI in 2005 and 2017 gave different findings.
5. Detailed verification, in 2012, of the Karo-Karampada Corridor (as identified by the Forest Department in 2011) by a committee constituted by Forest Department of Odisha found that it was not correctly identified.

3.8.3 Details on elephant Corridors:

1. Simlipal – Hadgarh- Kuldiha corridor: The elephant corridors spreads across three districts of Mayurbhanj, Keonjhar, Balasore in an area of 91.39 sq.km. for a length of 41.7 km. and width of 0.7-3.5km. Similipal-Kuldiha-Hadgarh and the adjoining population comprises of three Protected Areas, viz. Similipal Tiger Reserve, Hadgarh Wildlife Sanctuary and Kuldiha Wildlife Sanctuary and is in continuity with Noto Reserve Forest, Sukinda Reserve Forest and Badampahar Reserve Forest and supports about 500 elephants

(Right of Passage 2005). Initially Kuldiha Wildlife Sanctuary, Hadagarh Wildlife Sanctuary and Similipal National Park were part of a larger continuous stretch of forest area but now Kuldiha has been disconnected from Similipal. The elephant movement between Hadagarh and Kuldiha has been severely hindered by chromite mining at Baula Reserve Forest, stone quarrying and expansion of settlements and agricultural land resulting in increased human-elephant conflict.

2. Telkoi-Pallahara: Elephant population of South Keonjhar plateau is spread across 2600km in Deogan, Ghatgaon and Telkoi range of Keonjhar forest division and Pallahara of Angul division. The inter-district corridor lying between Keonjhar and Angul districts is 30.4 km long and 0.2-.06km width and spreads across an area of 13.24 sq.km. The ecological feasibility of the corridor has detoriated a lot due to linear developments and encroachments in the area though a small number of elephants (around 15) still use the corridor.

3. Maulabhanja – Jiridamali- Anantapur: This elephant corridor lies in the district of Dhenknal and is 6.5km long and 0.25-0.28 km wide passing through Reserve Forest and private land. The corridor connects Anantapur Reserve Forest and Aswakhola Reserve Forest of Dhenkanal Forest Division thereby maintains elephant movement between Anantapur Reserve Forest and Kapilash Wildlife Sanctuary. Elephants move through fragmented forest patches (Jiridamali Reserve Forest, Maulabhanja Reserve Forest and Tipilei Reserve Forest) in human dominated landscape with vast expanse of agriculture fields. National Highway-200 and Rengali Left Bank Irrigation canal are the key artifacts passing through the corridor affecting elephant movement. Dhenkhanal Forest Division has about 165 elephants (2015 census) and the corridor is occasionally used by elephants. Rengali Left Bank canal and its sub-canals passing through Jiridamali RF, Rengali Left Bank Irrigation Canal, National Highway-200 (Talcher and Chandikhol), PWD road connecting Kamakhyanagar and Kankadahad has severely fragmented the corridor. Construction of new railway connecting Angul and Sukinda will further affect elephant movement through the corridor. For securing the elephant movement through the corridor, it is important to construct animal friendly overpass on Rengali Irrigation canal and its sub-canals, regulate traffic on NH-200 at night, trenches and/or fencing obstructing elephant movement should be removed and lease permit of existing stone crusher and quarries coming within elephant movement range should be cancelled.

4. Kahneijena-Anantapur: The 6.6km long corridor connects Kanheijena Reserve Forest of Angul Forest Division with Anantapur Reserve Forest of Dhenkanal Forest Division. Elephants from Satkosia Wildlife Sanctuary, Handapa Reserve Forest move through adjoining forest patches of Simuliapadar RF, Durgapur Reserve Forest, Nisha Protected Forest, Kuio Protected Forest, Kauchiakhol Reserve Forest, Rakas Reserve Forest and Kanheijena Reserve Forest to Anantapur Reserve Forest. National Highway-23, construction of Rengali Irrigation canal, establishment of brick kilns on the Brahmani River bank and presence of industries (Fly Ash Brick Plant, Sponge Iron and Tar Refinery) in Ekagharia village are major hurdles in the corridor severely affecting the elephant movement.

The corridor is spreads across an area of 5.22 sq.km. and used to support about 300-350 elephants but at present 15-20 elephants use the corridor due to the construction of linear infrastructures (rail and road) and other developmental activities in the landscape. The human-elephant conflict on both the connecting habitats has increased over the years.

5. Buguda-Central RF of Nayagarh Divn: The corridor connects Baisipali Wildlife Sanctuary with North Ghumusar Forest Division through Central Reserve Forest of Nayagarh Forest Division. The corridor comprises of teak plantation, revenue lands, private lands, river, National Highway-57 (Nayagarh - Boudh), college and human settlements (Buguda Colony). In spite of the presence of Buguda colony, private collage (Maninaga Bahumukhi College), vehicular traffic on NH-57, expansion of shops, hotels along the highway and soil erosion in the area which has severely impacted elephant movement, elephants still use the corridor throughout the year. The corridor is about 2.6 kms in length and 0.6-0.8 km wide and the landscape supports about 120 elephants.

6. Nuagaon-Baruni: This corridor is located in Athmalik Forest Division at Madhapur Forest Range and falling within Bahratpur, Ghodagadi and Nuagaon Forest beats. The corridor connects Nuagaon Reserve Forest with Baruni Reserve Forest (East & West) and is used for the passage of elephants from Mahanadi Elephant Reserve to Sambalpur Elephant Reserve thereby maintaining connectivity of elephant population between Satkosia Tiger Reserve and Khalasuni Wildlife Sanctuary through Raun Reserve Forest and Tal Reserve Forest. The corridor is about 4.5 kms long and 0.4-4.6 kms wide and consists of Khesara forest and Reserve Forest.

In this corridor, there is a water reservoir associated with a dam, irrigation canals and Undemarcated Protected forest and khesra lands covering an area of 21sq.km. The

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construction of Manjore Medium Irrigation Project near Manarbeda village has fragmented and degraded the corridor forest affecting elephant movement between the habitats. Construction of staff quarter of Manjore project, Bamur-Madhapur road and two canals running from the irrigation project and human settlements (Manarbeda and Patrapada villages) in and around the corridor has fragmented the habitat and hindered elephant movement. The landscape supports about 200 elephants and the corridor is regularly used by elephants, especially during the cropping season (November-January). The human-elephant conflict is on increase.

The major threat to the corridor are

- Irrigation canals of Manjhor irrigation project
- Doubling of railway line between Bamur and Charmal station without elephant pass
- Widening of NH No. 42 (new NH 55) without provision of elephant pass
- Proposed power plants between Mahanadi and Sambalpur Elephant Reserves

7. Tal-Kholgarh: The corridor connects Tal Reserve Forest with Kholgarh Reserve Forest and Landakot Reserve Forest thereby maintains connectivity of elephant population between Kholgarh Wildlife Sanctuary with Satkosia Wildlife Sanctuary through Baruni RF (East & West) and Raun RF. High traffic on National Highway-55 (Sambalpur and Cuttack) and developmental activities along the highway, railway track (Angul- Sambalpur) and settlements (Purunagarh, Kuhi, Barsikia) in the corridor has hindered elephant movement. Proposed expansion of highway to four lanes and railway to double lanes will further aggravate the condition. Elephants cross the railway track between Kuhi and Purunagarh villages. The corridor is about 6.3 kms long and 0.5 km wide. The landscape supports about 200 elephants and the corridor is regularly used by elephant. Human-elephant conflict is on the increase in the region.

8. Barpahad-Tarava-Kantamal: The corridor is present in the forest division of Sonepur and Boudh. Though the corridor is relatively longer in size of 24.2 km and 0.38-1.5 km wide, the ecological feasibility of the corridor is not good. Elephants hardly use this corridor and the revival of this corridor may be relooked into.

9. Kotagarh-Chandrapur: Madanpur- Rampur- Kotgarh- Chandrapur zone in the Eastern Ghats has about 1800 sq.k.m of habitat of which 80% is fragmented due to shifting cultivation. About 300-400 elephants are estimated to be present in the area. The elephant population in the area is to the south of Mahanadi in the district of Kandhmal and Rayagada.

Elephant movement between Kotagarh Wildlife Sanctuary and Chandrapur Reserve Forest takes place through degraded forest patches.

The corridor connects Kotagarh Wildlife Sanctuary with Pankhalgudi Reserve Forest of Rayagada Forest Division. Elephants from Kotagarh Wildlife Sanctuary crosses the State Highway-5 between Pandaripi and Getabali village to enter Laseri extension Foret and Madagurdi RF leading to Pankhalgudi Reserve Forest. Shifting cultivation in the forest areas along with encroachment has fragmented and degraded the elephant habitat and reduced the width of corridor used by elephant to move between habitats. Earlier the elephant movement was till Chandrapur Reserve Forest of Rayagada Forest Division. The corridor is about 77kms in length and 2-22.4 km wide and seasonally used by over 50 elephants. Human-elephant conflict is moderate.

10. Karlapat-Urladani: The corridor spread between Kalahandi and Rayagada divisions is 75 km long. But the assessment made by the State Forest Department indicates very poor ecological feasibility and elephants rarely use this corridor.

The four interstate elephant corridors in the state are as below:

1. Badampahar – Dhobadhobin: The corridor connects Badampahar Reserved Forest of Odisha with Dhobadhobin Reserved Forest of Jharkhand leading to Haldipokhari Reserved Forest of Chaibasa thus connecting the elephant population of Mayurbhanja Elephant Reserve (Odisha) and Chaibasa (Jharkhand). The corridor is about 11kms long and about a km wide which reduces to almost zero at certain places. The corridor comprises of fragmented forest patches, agriculture fields, human settlements, mines (Iron ore and china clay in Badampahar Reserve Forest), stone quarries and crushers, State highway - 49 (Jashipur and Rairangpur) and power line. Encroachment of corridor forest in Budhipat DPF and Basila Reserve Forest by local people for agriculture and settlements has further fragmented the corridor forest thereby reducing the corridor width affecting elephant movement. The corridor is regularly used by bulls and small herd. The landscape support about 450-500 elephants with moderate to high human-elephant conflict reported in the region.

2. Badampahar-Karida: The corridor connects Badampahar Reserve Forest of Odisha with Karida East Reserve Forest of Jharkhand state thereby maintains elephant movement

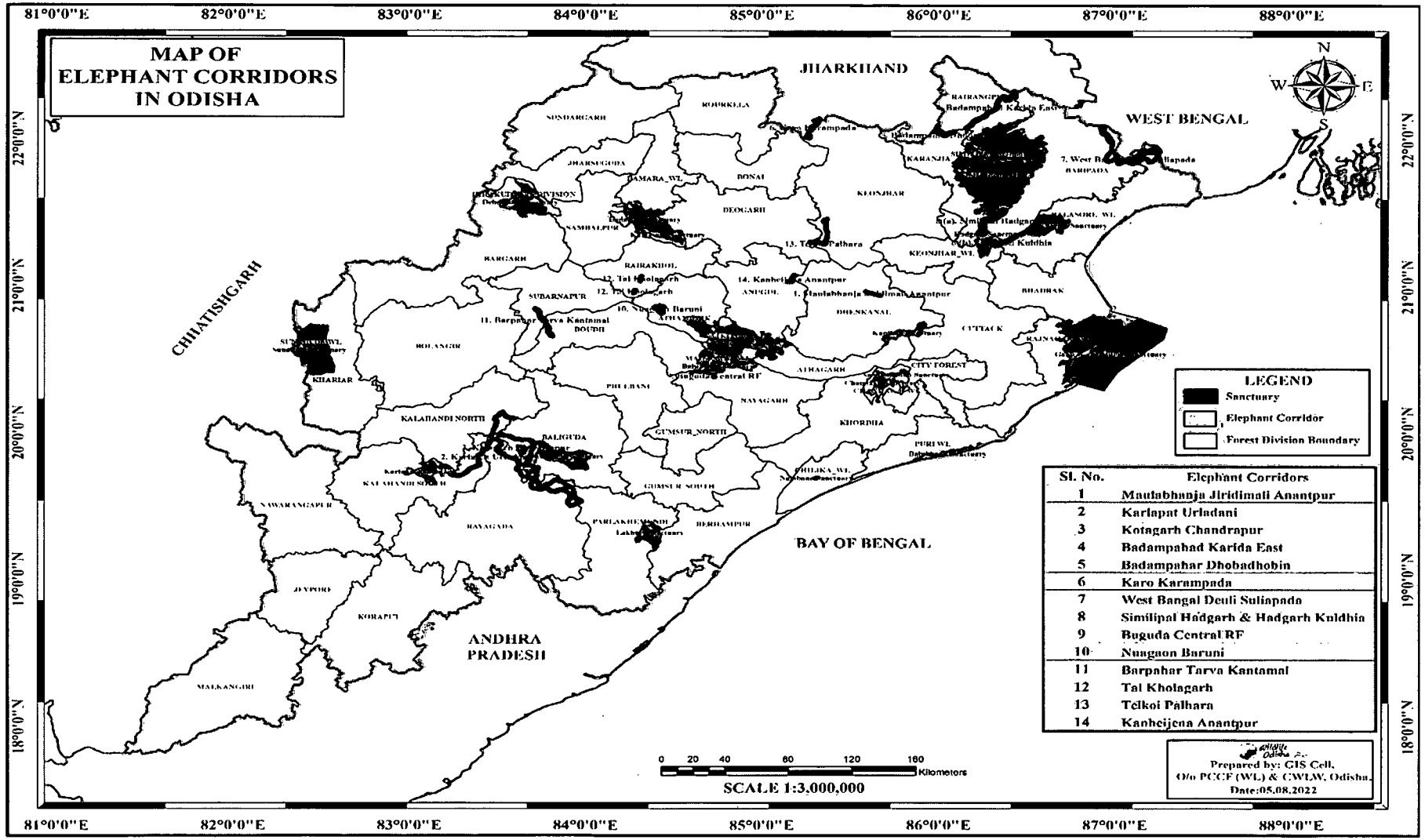
between Similipal WLS (Mayurbhanj ER) and Mosabani Range of Jamshedpur Forest Division, Jharkhand. The elephants from Similipal pass through Dhusara Reserve Forest, Teltangia village forest, Dhinkia DPF, Pidhakata forest and Tunguru Reserve Forest. The elephant movement has greatly reduced between Badampahar Reserve Forest to Dhusura Reserve Forest due to mining (iron ore) in Badampahar RF, Suliapat Dam and Suliapat irrigation canal. Similarly the elephant movement between Dhinkia DPF and Dhusura RF has markedly reduced due to human settlements, agriculture fields, construction of Suliapat irrigation canal with cemented surface on either side of SH-50 and electric sub-station near the Bankabal River. The corridor is about 34-35 kms long and width varies between 0-1.5 kms. The landscape support about 400-450 elephants. Habitat restoration (Dhusara Reserve Forest and forest cover between Kalatamak and Jhumukapahari village), overpass on Suliapat irrigation canal at select sites used by elephants, regulation of mining and securing land between Dhinkia DPF and Dhusara Reserve Forest are some of the urgent actions required to secure the corridor.

3. West Bengal-Deuli-Suliapada (passage): This corridor spreads in the districts of Mayurbhanj and Balasore in Odisha and cuts into West Bengal. The corridor is 72 km long and the functional existence of the corridor is well maintained. Over 100 elephants use this corridor on a regular basis. But the ecological feasibility of the corridor is highly reduced to presence of human habitations, agricultural crops.

4. Karo (Keonjhar) Karampada (Saranda): The corridor connects Karo and Sidhamatha Reserve Forests of Keonjhar Forest Division of Odisha with Karampada Reserve Forest of Saranda Forest Division of Jharkhand state. Elephant moves through hilly terrain and mining (Bolani mine of SAIL and Arjun Ladha mines) areas between the habitats through Haramotto-Kolhapunduli-Jhandiburu-Nawagaon-Karampada. Elephant movement have also been reported near Kiriburu Hill Top and Arjun Ladha mine near Jhirina nallah. The foothills of Karo Reserve Forest are ideal for elephant movement and if a part of SAIL mining area is secured for the corridor and restored, there is then a possibility of increased usage of foothills to move between the Karo and Karampada Reserve Forests.

The corridor is about 15 km long and 0.3-2.3 wide. The landscape supports a minimum of about 200 elephants and regularly used by elephants, especially during paddy season. The human-elephant conflict is moderate. The corridor has to be secured by securing 373 acres of land in SAIL Bolani mining area, few private land in Karampada and Nawagaon villages (69 acres), cancelling the lease of Arjun Ladha mine located very close to the corridor and eco-development support to villagers (Haramotto and Kolhapunduli) to reduce dependency on corridor forest.

Table 5: Identified elephant corridors in Odisha



3.8.4 Recommended activity to protect elephant corridors

i. Rationalizing and securing elephant habitats

Adopt a zonation approach of the state based on habitat quality and viability, elephant use and movement, spatial configuration of forest fragments and corridors, human population, developmental imperatives, pattern and degree of human-elephant conflict.

ii. Connectivity between habitats

A contiguity has to be maintained between Mahanadi and Sambalpur Elephant Reserves by the expansion of both the Reserves to provide for the unhindered movement of elephants within the landscape. This could be ascertaining by planting of forest plants and providing for water holes to enrich the habitat. Some of the issues that needs to be addressed for providing connectivity to habitat are as below:

- Each division should have a Connectivity Map where wildlife crossing points and crucial cross-over sites between forest patches are mapped and earmarked for mitigation. Wherever linear infrastructure projects (railways, roads, canals, slurry and water pipelines etc) have fragmented habitats, mitigation measures have to be provided. This will also include overhead electric lines.
- All new linear infrastructure projects will necessarily incorporate a animal passage plan.
- Ensure compliance of all stipulated points as mentioned in the SSWLPs, for those projects in place and currently operational. DFO to verify and report to RCCF who then will report to the WLHQ.
- Provision for pre-project consultation to be done to factor in appropriate mitigation plans/alternative alignments etc in case of major infrastructure projects, especially linear infrastructure to avoid 'fait accompli' situations.
- In highways in mining districts, parking of trucks in vulnerable elephant crossing areas during night time hampers smooth crossing of elephants. Such spots should be designated as no-parking zones and signages erected to that effect.
- Ensure completion of ongoing Overpass construction on the three crossing points identified by the State Forest Department on the distribution canal of Manjore dam for movement of elephants between Mahanadi and Sambalpur Elephant Reserves.
- Provision of underpasses/overpasses to be made in the Site-Specific Wildlife Conservation Plans on the crossing points that pose as a barrier for movement of elephants in all developmental projects involving linear infrastructure.

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iii. **Identification and protection of elephant corridors**

- Commissioning of at least a year-long (1-2 years) study covering all seasons by a national institution to assess the functionality and feasibility of the 14 identified elephant corridors and the additional corridors mentioned in the ANCF report of 2018.
- Proposal for notification of Hadgarh-Kuldiha Elephant Corridor as a Conservation Reserve to be expedited.
- Once identified, each corridor should have a Corridor Management Plan to chalk out and implement interventions. The same agency who has carried out the study can be given the responsibility or can be part of the original ToR.

iv. **Spreading of awareness among stakeholders in the Elephant corridor areas**

- Awareness programs should be carried out for various stakeholders to create awareness and garner public support.
- Signages on elephant corridors should be erected after identification of elephant corridors.
- Involving children from schools and colleges located in the fringe villages in awareness activities.

v. **Removal of encroachment in corridors & consolidation:**

- Illegal settlements/land-use in elephant corridor areas to be identified and removed. Wildlife-friendly land-use to be promoted in case of private lands.
- Land purchase wherever feasible. Voluntary relocation of people to whom rights/individual titles have been granted under FRA, 2006.

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vi. **Regular monitoring of elephant corridors**

- The corridor functionality is determined by its usage and therefore should be regularly monitored to assess the usage, detect any change in land use/developmental activities and plan conservation measures to strengthen the corridor.
- Developmental activities should be thoroughly discussed with all stakeholders to prevent further fragmentation and degradation of corridors.
- Involve local people in monitoring of use of elephant corridors.
- Road/rail traffic passing through elephant corridors should be regulated, especially at night.

vii. **Inter-state consultative meetings**

- State level consultative meetings should be organized to discuss issues pertaining to movement of elephants across inter-state elephant corridors.

viii. **Work closely with other agencies**

- It Work with NTCA to identify elephant corridors that overlap with tiger corridors to jointly secure these corridors.

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3.9 Wildlife Health Management and Disease Control

Now, it has been observed that there is occurrence of contagious disease in wild elephants causing both morbidity and mortality. The pathogens normally found in domesticated animals are now being detected from bio-samples of wildlife. It is true that the health of domesticated animals, human being and wild animals are inter-dependent.

In the preceding years, there were instances of detection of contagious diseases of domesticated animals such as Hemorrhagic septicemia affecting wild elephants and similarly Foot and Mouth Disease found in Bisons substantiating possible transmission of microbes/ pathogens from domesticated animals to wild animals may be through indirect means.

Animal diseases surveillance is continuously being done in our state throughout the year to find out the prevalence of various contagious diseases in domesticated animals. This surveillance is routinely being conducted by the experts of Animal Disease Research Institute (ADRI), Phulnakhra, Cuttack, whose findings may be considered as Early Warning Signal (EWS) for control of contagious diseases in wild animals.

Measure activities to be taken up in our state for control of diseases in wild animals are summarized below.

3.9.1 Vaccination drives

1. **Preventive vaccination:** The domesticated animals reared in forest fringe areas are to be vaccinated regularly as per the schedule against the vaccine preventable diseases such as Hemorrhagic septicemia (HS), Black Quarter (BQ), Anthrax and Foot and Mouth Disease (FMD). Mass vaccination will be adopted covering 80% to 100% of existing animal population except in case of FMD the coverage will be 100%. The mass vaccination work will be carried out jointly by the field Veterinarians and staff of Forest Department.

   Emphasis will be given to cover the existing livestock population of entire villages coming within three-kilometer radius area adjoining Sanctuaries under preventive vaccination. A total of 3232 villages in 23 districts as demarcated/ determined by Odisha Remote Sensing Application Center (ORSAC), Bhubaneswar within 3 km corridor area in the vicinity of Sanctuaries will be our focus point for mass vaccination work.

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The details of animal population as per the information received from Animal Husbandry Department in these districts are placed below at Table 23.

Table 23: Livestock population for coverage under preventive vaccination

SL. No.	Name of the District	Livestock Population of the Villages				
		Cattle	Buffalo	Sheep	Goat	Total
1	Angul	18592	1182	3996	20268	44038
2	Balasore	50568	0	144	47080	97792
3	Bargarh	14824	600	2877	10128	28429
4	Bhadrak	21075	0	1072	1820	23967
5	Boudh	4566	883	1931	6031	13411
6	Cuttack	37886	1836	5918	21162	66802
7	Deogarh	3928	95	111	5492	9626
8	Dhenkanal	14753	671	3156	6991	25571
9	Gajapati	5428	200	450	4308	10386
10	Ganjam	6130	746	1842	3197	11915
11	Jajpur	1873	0	93	811	2777
12	Jharsuguda	70	0	0	50	120
13	Kalahandi	10774	1153	3193	13350	28470
14	Kandhamal	21225	2245	135	19544	43149
15	Kendrapada	84733	5356	2969	30404	123462
16	Khordha	41603	3441	2641	12332	60017
17	Mayurbhanj	94946	1856	8227	184147	289176
18	Nayagarh	8651	771	705	4266	14393
19	Nuapada	17214	1396	1863	6488	26961
20	Puri	22151	844	1016	4144	28155
22	Sambalpur	58860	981	1002	39316	100159
23	Subarnpur	861	24	593	1162	2640
Total		540711	24280	43934	442491	1051416

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Table 24: Preventive vaccination schedule of domesticated animals

SL No	Name of the vaccine	Type of animals	Time schedule for vaccination	Vaccination interval	Period of immunity after vaccination	Dosage	Route of administration
1	HSV (Alum)	Cattle and buffalo	(Apr-May) (Oct-Nov)	Biannual	6 months	5ml/273 kg body weight & 10ml/more than 273kg body weight	Subcutaneously
2	BQV (Bivalent)	Cattle and buffalo	(Apr-May) (Oct-Nov)	Biannual	6 months	5ml/per animal. Booster dose to be given on 10th day of first vaccination	Subcutaneously
3	Anthrax spore vaccine	Cattle, buffalo, sheep and goat	(Mar-Apr) Once in a year	Annual	9 to 12 months	1ml/ animal. 05ml/sheep & goat	Subcutaneously
4	FMDV	Cattle, buffalo, sheep and goat	(Mar-Apr) (Sep-Oct)	Biannual	6 months	2ml per large animal / 1ml per small animal	Intramuscular

3.9.2 Surveillance

The findings of animal disease surveillance report as conducted by Animal Disease Resource Institute (ADRI), Phulnakhara, Cuttack with regard to prevalence of diseasesin domesticated animals will be used simultaneously for taking precautionary / preventive measures for control of vaccine preventable contagious disease in forest fringe areas including sanctuaries and zoos.

In addition, the animal disease forecasting model prepared by National Animal Disease Epidemiology Network (NADEN), ADRI, Cuttack under the guidance of National Institute of Veterinary Epidemiology and Disease Informatics (NIVEDI), Bangalore will also be referred for strengthening our EWS.

Apart from this physical surveillance of wild elephants will also be made by ground level staff of Forest Department by filling a model format through observation of any abnormal behavior / injury / sickness with unusual morbidity and mortality. Such formats duly filled by the field staff of Forest department will be communicated immediately to the control rooms functioning at Division level as well as State level for information and suitable necessary action.

1. **Strengthening of Centre for Wildlife Health (CWH)**

For easy and quick diagnosis of diseases of wild animal, the Centre for Wildlife Health will be further strengthened by supplementing better infrastructural setup, equipping modern diagnostic, adoption of new technology and creation of disease related data base.

This laboratory is now functioning as referral laboratory for the entire state, where both ante mortem and post mortem biological samples from wild animals are examined for disease diagnosis, forensic work, toxicological analysis and research purpose.

2. **Organization of Awareness –cum- Animal Health Camps**

Depending upon the geographic location of the village along with its close proximity to the core area of forest will be selected for organization of awareness cum animal health camp involving all the available animal keepers.

Through these camps the domesticated animals including poultry will be clinically examined, dewormed and treated for any specific diseases.

Simultaneously, there will be creation of general awareness among all concerned to impress them about the benefits of preventive vaccination, adoption of bio-security measures including scientific disposal of carcass and some do's and don'ts about control and containment of contagious diseases in domesticated animals of nearby localities.

3. **Training of field staff**

Regular trainings on different aspects of wild life health management entailing tranquilization/ sedation, treatment of sick &/or injured wild animals, conducting Post mortem examination of carcass and scientific Collection, Preservation and Dispatch of samples to Laboratory will be conducted for imparting need based uptodate knowledge and skill to field Veterinarians and staff of forest departments for enhancing their capacities on disease control.

These trainings will be organized for different participant groups both at district as well as state level. The field Veterinarians posted adjacent to forest areas in

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26districts mostly with elephant movement will be selected on priority basis for participating in such training programmes.

The rest four districts such as Jagatsinghpur, Koraput, Nabarangpur and Malkanagiri in which such training programmes may be organized in future depending upon the movement of wild elephants in these areas.

Similarly the field staff of forest department will be selected basing on their experience and skill for up scaling their existing knowledge and expertise in either tranquilization or supporting / assisting treatment of injured or sick wild elephants through various Training programmes

4. **Treatment of sick / injured wild elephants**

The wild elephants found sick / injured will be treated by local Veterinarians / forest department Veterinarians and expert from College of Veterinary Science and Animal Husbandry after proper tranquilization / sedation as the case may be. Preference will be given for in-situ treatment of injured/sick wild elephant instead of its translocation followed by treatment.

5. **Disinfection of water bodies**

This main objective of this process is to minimize the incidences of water born diseases in wild animals. All existing water bodies within forest areas will be disinfected on principle twice in a year preferably before and after monsoon with a suitable and easily available disinfectant with assistance and help of Engineers of Rural Water Supply and Sanitation (RWSS).

6. **Conducting PM examination of dead wild elephants and scientific collection of morbid materials for laboratory examination**

Upon detection death of wild elephants, the local staff of forest department will immediately requisition the services of local veterinarians through communication of letter to CDVO/SDVO/BVO for conducting postmortem examination. For maintaining transparency in conducting postmortem examination, a team comprising three veterinarians of the district may conduct the PM examination.

7. **Control of emerging disease**

It has been experienced that few pathogens, which are commonly found in domestic animals are now being detected in wild elephant bio-samples causing emerging disease. In such emerging situation, advisories with regard to control and containment of emerging diseases will be issued from wild life headquarter to various Forest Divisions from time to time for adherence and needful action.

3.10 Research and use of Technology

Background

Considerable amount of basic research has been carried out on Asian elephants in the state of Odisha and a large number of general studies are available. The latest and most seminal among these is the report titled 'Elephant Carrying Capacity of Odisha's Forests' by Asian Nature Conservation Foundation of 2018. However, various important aspects of population estimation and change, elephant behaviour, ranging, habitat use and demography has not been conducted before and are the need of the hour. These require in-depth research and analysis to provide information for data-driven decision making. A list of such studies are listed below:

Table 25: List of studies included for research and dicission making for Asian elephants management

Sl. No.	Topics
4	Undertake a biennial elephant population estimation (once every two years) following standard protocols. [Collaboration with Project Elephant and a National Institution of repute]
6	Commission a study covering both the wet and the dry seasons to assess the status of identified corridors including new corridors listed by ANCF to be completed within two years.
7	Radio-collaring studies should be carried out in select localities of the State to elucidate habitat use, ranging and patterns of crop depredation. Candidate animals could be Matriarchs, Adult bulls, Lone bulls.
9	Pilot project to assess efficacy of various types of barriers on a pilot basis (community solar fences, rubble walls, steel channel/rail bars etc.)
11	Take up pilot project on the use of emergent technology including ground impact detection sensor technology/temperature and movement sensors etc to detect and give early warning of presence of elephants, especially on identified crossing points across railway tracks.
12	Take up pilot projects on the use and efficacy of low-cost bio-deterrents such as chilly bombs, use of bee-boxes, elephant-repelling crops, lure crops as well as acoustic deterrents (bee-sound, tiger roars) etc. which have been tried across the country.

13	Study of peoples' perceptions on HEC and people's participation involving social scientists / organisations.
14	Commission study on the use of linear infrastructure mitigation measures such as Elephant Underpasses and Overpasses in select divisions.
15	Studies to understand social carrying capacity and also the changing trends in human tolerance and traditional co-existence between elephants and local people in select landscapes involving reputed local universities.
16	Study on elephant habitat quality with special reference to palatable tree, shrub, climber and grass species and also meadow management practices with an aim to improve these. [One each in Mayurbhanj, Mahanadi and Sambalpur Elephant Reserves]
18	Long-term ecological monitoring stations to assess bioclimatic variables using automatic data loggers should be installed in all PAs. Similarly, assessment of stream flow, soil profiles etc to assess ecosystem services evaluation.

3.10.1 Use of technology

Mobile Applications

A number of mobile apps developed within the State by ORSAC are currently operational in Odisha. These include OFMS, iWLMS, mSTRIPESetc for patrolling, Anukampa for compassionate payment disbursal, KYFL for knowing status of forest land etc. These need to be more widely used and improved upon in subsequent iterations.

Strengthening of Early Warning Systems (EWS) / Barriers already in place

A number of EWS such as Bulk SMS, WhatsApp group alerts, Tower Lights, ANIDERS etc. This is apart from traditional systems such as Radio and TV announcements, Public Announcement using Public Address systems etc. Similarly innovative technologies in the use of solar fencing has also been found to be very effective such as the use of dismantlable portable mobile solar fences, which can be dismantled and erected wherever required during the crop is crop season and then taken off and stored in the deployment the next season.

3.10.2 Radio-collaring studies

A very important aspect which has unfortunately been done so far in Odisha is that of radio-collaring studies, though a few attempts were initiated which were unsuccessful. Radio collaring of identified elephants gives us valuable data regarding their habitat use, ranging and

activity patterns. It is very important that in all the three elephant reserves as well as in scattered populations which are moving outside, candidate animals be carefully chosen and radio collared for gathering lot of valuable information in this regard. Radio-collaring large adult tuskers will also act as a deterrent for poaching as it will provide exact locations of the elephants which can then be tracked and protected.

3.10.3 Camera traps

Camera trap is a much deployed the device in wildlife monitoring and has been proven to be very useful, so much so that the largest synchronized wildlife population estimation in the world, viz. The All-India Tiger Estimation depends crucially on proper deployment of adequate number of camera-traps. These traps let us know the habitat use as well as presence of elephants in a particular area, especially remote localities. If properly planned and applied, data from camera traps can be a very effective tool for identifying individual elephants, particularly tuskers.

Cameras

Again, a very common device but not used to the extent it should be. Recent models of compact, long-zoom point-and-shoot cameras allow field staff to capture good quality photographs of elephants for individual identification and preparing tusker profiles. This is a crucial exercise that should be undertaken immediately and completed within six months in every elephant-bearing division. Such a database once developed with characteristic features of each adult tusker clearly marked will enable individual identification for continuous monitoring.

Binoculars & Spotting Scopes

Though quite common, it is surprising that this crucial piece of equipment for wildlife watching and monitoring is seldom used by staff. It is an invaluable aid in surveillance, assessing health parameters, to mark injuries and also identify individual animals by specific markings. Therefore, it is important that all frontline staff as well as supervisory officers are equipped, and more importantly use binoculars.

Spotting scopes also serve the above purpose but mostly used from mounted locations such as watch towers and is vital for long-distance surveillance and wildlife observations.

3.10.4 Drones

Drones have become a very useful and effective way of monitoring elephants remotely. The technology is progressing fast with night vision and IR enable drones which are able to track the moment of elephants even in the night. Drones are also an effective way of both guiding elephant movement as well as getting a clear idea of the elephant herd composition and sex/age-class class structure. Therefore, it is highly essential that all elephant-bearing divisions will have to purchase adequate number of drones and get the front-line staff trained in effective use.

3.10.5 Sensor-based technologies

A variety of innovative sensor-based technologies are also emerging to be used in elephant monitoring and preventing conflict. Odisha Forest department has already signed a MOU with IIT Bhubaneswar to develop a series of sensor-based technologies and the studies are underway. However adequate progress in this regard is not been found and this has to be pursued with IIT Bhubaneswar further. OFD may also collaborate with other institutions such as wildlife Institute of India to see how technology can be effectively deployed in mitigation of human wildlife conflict as well as monitoring of elephants in this regard. Some of the new technologies that have come to the fore is the 'Eye in the Sky' and WiFi based CCTV camera deployment which has been piloted in the states of Uttarakhand and also in Kerala. A number of initiatives has attempted deployment of sensor-based technologies near Railway lines and Elephant crossing points near level Crossings in order to give early warning systems. In this regard, AI-based Intrusion Detection System (IDS) already deployed by Northern Frontier Railway (NFR) in Lumding and Alipurduar divisions to be extended to select stretches in Odisha.

3.11 Capacity Building

Under the present scenario of rapid industrial and human population growth in the state, it is essential to take suitable measures to ensure that the movement of crop raiding elephants into habitations curtailed so as to minimize elephant-human conflicts. These needs strengthening of the Odisha Forest Department's capacity to management the elephant population more effectively by providing them training in conflict mitigation, as well as put in place both short-term and long-term mitigation measures and also understand the actual causes of the elephant movement problem and depredation through detailed scientific study. Zimmermann and his co-worker (2009) in his studies stated that "The Assam Haathi Project" proposed long term management solution by taking the local NGOs. It emphasized adequate habitat conserved for elephants through halting the fragmentation and destruction of forests is a priority for which enforced legislation and further funds needed. Hambal and Wahyu (2012) stated that veterinary expertise was important to conservation efforts, especially in cases such as radio-collaring and/or translocation of wild elephants, treatment of wild elephants and other wildlife injured during human-wildlife conflicts, rescuing wild elephants and other species trapped in snares and wells or confiscated from illegal trade and conducting post-mortems on elephants and other endangered wildlife, providing regular veterinary care for captive elephants.

Marimuthu and Daniel (2016) suggested that for mitigating HEC capacity building training for forest frontline staffs such as anti-poaching watchers, anti-depredation squad, watchers, guards and foresters. Apart from this, conduct sensitization programmers for journalists so as to reach out to the public through various media that will bring attitudinal change and positivity among the people. The attitudinal change, in the long run will help local community too harmoniously with elephants. Report of "The Refresher Training Program (virtual) On Wildlife Health Management for Veterinary Health Professionals" (2021) discussed training was given to Veterinary Professionals for their capacity build up, the chapters include introduction to India's biodiversity, its conservation and challenges,veterinary interventions in wildlife conservation, collaborative opportunities for capacity building to address Human- Wildlife Conflict, recent trends in wildlife diseases and its diagnosis including highly infectious diseases, emerging diseases in wild animal health care rabies, CDV, babesiosis, feline virus, COVID-19, etc.,wildlife welfare measures during rescue and rehabilitation, advancements in wild animal immobilization & restraint, managing mega herbivores- Rhino, Elephant, Wild Buffaloes, Gaur, wildlife forensics- latest developments, handling HEC situation- Leopard, Monkeys, Elephant, Bear, , scientific data management for

captive animals, animal welfare as part of captive health management,wildlife crime- call for action etc.

3.11.1 Capacity building of frontline staff

Frontline staff of Forest Department should be trained on the following subjects: -

i. **Managing straying of elephants to Human habitation**

- Training of field staffs more effectively on methods of driving elephants, use of electric fences and low-cost barriers, acoustic devices, use of Kumki elephants, Rapid Response Teams, etc
- Odisha needs to build up a stock of trained Kumki elephants and necessary infrastructure e.g., mahouts, veterinary assistance, for effective HEC management.
- Frontline staff needs to be trained in recording and monitoring elephants in their respective beats, as well as in population estimation methods as part of their normal patrolling duties.

ii. **Detection, enquiry and submission of prosecution of Wildlife Offence cases to the designated court**

Capacity building training should be given to ACFs, ROs and field staffs by police department for proper investigation of cases, preparation of prosecution report and proper follow up should be done to submit the PR within 60 days from arrest of 1st accused person.

iii. **Rescue and rehabilitation of problematic elephant**

- Training to field staffs on pro-active management of conflict through capture and translocation of problematicelephants. At present, the capacity of the forest department is inadequate under the present conditions of severe elephant-human conflicts.
- Provide adequate free ranging space to enable elephants to walk, bathe and forage in wilderness as well as socialize and mingle as herds/groups, under the care of mahouts / managers
- The establishment of Rescue Centres should be in all the Circles as per the recommendation of Regional Chief Conservator of Forests and all Divisional Forest Officers of the Circle.
- The proposed Elephant Veterinary hospital at ERC would be a permanent fully equipped veterinary facility with the required infrastructure and human resource.

The ERC is divided into the following separate zones:

- An **Administrative and Interpretation Zone** composed of an Entrance Plaza, a Research, Training and Skill Development Centre and an Administrative Building.
- A **Restricted Zone (Elephant Zone)** composed of elephant enclosures, elephant feeding area, elephant veterinary clinic, orphan calf area, musth elephant holding area and all other service facilities for elephant care.

iv. Tranquilization Technique of Wild Elephants

- Field level staffs should be given a basic training about tranquilization technique for problematic and sick elephants by the help of veterinarians.
- The field staffs of forest department will be selected basing on their experience and skill for up scaling their existing knowledge and expertise in either tranquilization or supporting / assisting treatment of injured or sick wild elephants through various training programmes.

v. Mitigation of human elephant conflict

- Frontline staff of Forest Department should be trained in techniques for management of HEC. At present the most commonly used techniques are noise making techniques followed by drives. The staffs should be educated in alternative techniques for deterrent measures, early warning systems and effective repellent techniques.
- Also, the goal of training is to ensure long-term survival of elephant populations by minimizing Human Elephant Conflict for the peaceful survival of both elephant and human being. The objective of the project is to conduct capacity building training for forest frontline staff such as anti-poaching watchers, anti-depredation squad, watchers, guards and foresters.
- Regular patrolling in HEC areas, establishment of watch tower, and involvement of local inhabitants will be taken care of regularly for prevention of wildlife crime. The forest officers will be trained to know the modes of poaching, trading of wildlife articles of the animals. Further, regular vigil shall be maintained on the roads connecting to forest area and at local railway stations, bus stops and busy market places.

vi. Capacity building of *Gaja Sathis*, Civil Society (VSS members/ Community Groups)

The module should include the following points-

- Training and capacity-building will be done for local communities to understand the concept of human-elephant co-existence, construction of elephant deterrents such as

solar fences and other proven methods of preventing or minimizing destruction caused by elephants.

- Training on some preliminary operational method for managing the depredation will be given to the *Gaja Sathis*, VSS members/ Community Groups. They should be equipped with Knowledge and technique for operation and maintenance of depredation devices and deterrent methods.
- The module also, includes consultation on acceptable measures of mitigation; and community involvement in long-term monitoring and data collection.
- Local communities should get trained on getting early warning system of any new elephant entry points from information gathered from the app-based monitoring activities.
- Community members will be trained to conduct basic monitoring, and conservation education programs will be initiated to make sure that local community involvement is sustained in the long term.

vii. Capacity building of officers

- The capacity building of officers of the rank of DCFs, ACFs and ROs to be scheduled with the support of WTI, WII, WCCB & BPSPA utilising the services of eminent resource person to combat wildlife crime
- For concrete knowledge about legal aspects, proper procedure for investigation, inquiry, wildlife management, the forest officers should be given training programmes at above institute to strengthen their knowledge for wildlife management and protection.

viii. Capacity building of mahouts for management of Kumki elephant:

Need for Mahout Training

- Mahouts often get used to routines which may or may not be correct practices. These routines are eventually considered to be the norm. Thus, a refresher course about the technically correct, ethical practices and scientifically backed methods was required
- Since the captive elephants/ Kumkies are from Karnataka or Assam, they were being re-trained in the local language of Odisha through Odia commands. A mahout training program using resource persons from Karnataka/ Assam would help the new mahouts in identifying and rectifying the shortcomings, if any.
- Traditional practices of elephant training remain unrevised to accommodate the scientific and technical developments of the 21st century. The harmful fear-imposed negative enforcement techniques, lead to mental and physical stress and end up compromising healthy man-elephant relationships. In the state of Odisha, therefore, a

mahout-training workshop is necessary for them to learn and adopt the best practices of elephant-keeping.

- Since mahouts are the first contact for elephants in terms of connection with the anthropogenic world, it is crucial for the mahouts to have the right knowledge about handling such an animal.
- Elephants are sensitive altruistic animals; however, they originally belong to the wild. Therefore, while training and holding captive elephants, the caretakers must understand in depth about their wild instincts and the needs of such creatures in order to provide them with ethical care.
- Mahouts in this training camp were educated about their roles and the importance for each function they perform. It was ensured that they understood about the need for positive reinforcements when training the elephants.
- The pros and cons of traditional methods of training were also discussed by shedding light on the negative impact on mental health of the elephants.

The main goals of this Mahout Awareness Sessions are as follows:

i. **Sharing knowledge and experiences**

- Presentations by representative camp mahouts about utilizing mahouts and elephants for conservation duties, followed by discussions about the different local experiences in camp elephant management.
- Presentations by representative camp mahouts about the work each camp is doing to address issues such as HEC.
- Discussions about local experiences and knowledge of elephant care, husbandry, and training.
- Discussions about building capacity within the mahout community for improved skills in forest protection and wildlife conservation, and improved job performance and welfare of these individuals.

ii. **Ensuring healthy Mahout-Elephant relationship**

- Measures that are needed to maintain a healthy mahout-elephant relationship were discussed with the participants.
- A strong mahout-elephant relationship is essential as both parties gain from this. The mahout benefits by getting the elephant to comply using minimal effort, and the elephant benefits by having better overall health.
- Lastly, scientifically backed training methods need to be incorporated into the training structure of future workshops across India, like they were in this one. These procedures

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are ethical and effective in ensuring minimal backlash from elephants while keeping them in good health.

iii. **Educating the mahouts**

The mahout education should be done via the following topics:

- Introduction to general elephant biology.
- Physiological features, conservation management of Asian Elephants.
- Captive elephant management in forest camps
- Training for veterinary care and treatment.

iv. **Pre and post training survey**

- To better understand how the program contributes to enhancing the capacity of mahouts in their daily elephant care and conservation work, participants are asked to complete a survey before and again after the session that gives an indication of what has been learned and what type of information is needed by mahouts.
- Survey results are important to understand the effectiveness of the programs and results will indicate where changes are needed.

Objectives of training of Mahouts

The primary objectives are to:

- Refresh the fundamentals of captive elephant management
- Emphasize on the humane methods of managing them
- Impart professionalism in managerial skills

ix. Wildlife Management and human elephant conflict in the syllabus:

- In the syllabus for Forester and Forest Guard training and refresher course in Nicholson Forester Training School, Champua, Forester Training School, G.Udayagiri, *Forester's Training School*, Ghatikia, Bhubaneswar, *Mooney Forest Guards School*, Angul,the chapter on Wildlife Management and Human Elephant Conflict should be included.
- In the frontline staff training, they should be taught about why conserve elephants, ecological role of elephants, elephant facts, elephant ecology and behaviour, census techniques, wildlife law and crime, project elephant, elephant reserves, identifying and handling problematic elephants, elephant corridor management, background of human elephant conflict, elephant rescue, tranquilization, translocation of problem elephants, people participatory approach, human elephant conflict mitigation methods, a few tips on do's and don'ts in elephant areas etc.

- Other than the class room sessions field demonstration sessions must be also conducted such as census techniques of elephants, tranquilization and how to use the field equipment's such as GPS, rangefinder, compass and densitometer etc.,
- All the forest trainees should be provided with a guidebook in Odia language which contains information taught in the training session. Other than this they were provided with multiple copies of big posters, dos and don'ts small posters, t-shirts, bag, stickers etc., to use them as publicity materials at their working areas.
- The module should include the training on iWLMS and other applications developed by the department to track/ monitor and report about the wildlife like elephants, tigers, leopards etc.

x. **Conduct thematic short-term training programme on HEC mitigation for Foresters and Forest Guards in the aforesaid schools**

- Empowering forest staffs-The Project Elephant HEC guidelines of 2017 note "that management of HEC is a complex problem for forest officers and frontline staff, who have to deal with it on a regular basis." Often, they have to face the affected people who may have lost crops, suffered damage to property, or even human death or severe injury.
- There are many instances of forest staff being gheraoed, beaten, and humiliated across the country. Most forest staff who deals with HEC is poorly staffed, equipped, ill-trained and underpaid. This first line of defence for tackling HEC needs to be enhanced and empowered, yet this does not even find a mention in the guidelines.
- The operations/working of anti-depredation squads/ elephant squads is not systematic and there is a lack of Standard Operating Procedures. The activities of such squads tend to be chaotic, with participation of local mobs reducing their effectiveness. Their methods may include firing shots in the ground near the elephants to keep them moving towards the forests, poking elephants with iron spears, and use of mashals in spite of a Supreme Court order that forbids the use of such cruel methods. Such methods need to be discontinued. Such teams on the frontline of HEC need to be composed of technically competent persons, who are sensitised and made aware of elephant ecology and behaviour

xi. **Handpick and nominate ROs for 3-month certificate diploma course in WL management course in *Wildlife Institute of India* (*WII*)**

Interested and efficient ROs should be selected from different parts of Odisha and sent them to WII for certificate course in wildlife management which will help them to mitigate the HEC and manage problematic elephants in their respective range.

xii. **Handpick and nominate ACFs /DCFs in 10-month certificate diploma course in addition to WL management course in *Wildlife Institute of India* (*WII*)**

Interested and efficient ACFs should be selected from different parts of Odisha and sent them to WII for certificate course in wildlife management which will help them to mitigate the HEC and manage problematic elephants in their respective jurisdiction.

xiii. **Training and awareness of sub-divisional and district level judicial officers**

Sub-divisional and district level judicial officers should be sensitised about the gravity of wildlife crime, illegal wildlife trade and role of Forest Department in tackling these.

xiv. **Training and awareness of sub-divisional and district level police officers**

Sub-divisional and district level judicial officers should be sensitised about the gravity of wildlife crime, illegal wildlife trade and their role in supporting Forest Dept in apprehending habitual wildlife criminals, tackling menace of illegal fire-arms etc.

xv. **Training and awareness of Loco Pilots, linemen and Level-Crossing staff to prevent accidents involving elephants**

The field staffs of Railway Dept. should be trained to take necessary steps to mitigate the train accident involving elephants. The loco pilots should quickly respond to the message given by Forest Department to their control room about the presence of elephants.

xvi. **Training and awareness of Medical Officers, Tahsildars and IICs for quick processing of compassionate payment claims for human death**

- Compassionate payment amounting 4 lakh rupees for human death, 1 lakh for permanent injury, 5000/- and free treatment in Govt. hospital for temporary injury should be disbursed by Forest Dept. within 15 days of the incidence. In this matter the IIC and medical officers should cooperate the Forest Dept. for disbursement of the particular amounts smoothly and as soon as possible.
- The Tahsildar of particular jurisdiction should cooperate for quick release of compassionate payment to Forest Dept.

xvii. **Institute division level prizes for acknowledging/rewarding meritorious frontline staff/squad**

- In division levels the frontline staffs should be rewarded basing on their performance in mitigating conflict, protection of wildlife, crime control and enforcement or awareness and education which will increase their zeal and encourage them to work better in future in wildlife protection and management.
- Special prizes for exceptional works like skill for tranquilisation, wildlife photography, identification of birds, knowledge on plant taxonomy etc. to be put in place.

xviii. **Recognising exceptional services of civil society members**

Any valuable suggestions from common people should be appreciated and help from any peoples of society for wildlife protection and management should be recognised to encourage their interest.

3.11.2 Capacity building of Veterinarians

- Regular trainings on different aspects of wild life health management entailing tranquilization/ sedation, treatment of sick &/or injured wild animals, rescue and rehabilitation of problematic/ injured elephant,treatment of captive elephants, conducting

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post mortem examination of carcass and scientific collection, preservation and dispatch of samples to laboratory will be conducted for imparting need based up-to-date knowledge and skill to field veterinarians and staff of forest departments for enhancing their capacities on disease control.

- These trainings will be organized for different participant groups both at district as well as state level. The field Veterinarians posted adjacent to forest areas in 26districts mostly with elephant movement will be selected on priority basis for participating in such training programmes.

I. Create adequate number of posts of Veterinarians within the Forest Department

- Crimes like illegal smuggling, consumption and marketing of products made of wild animals' body parts is an issue of alarming consequence. Veterinarians can work in collaboration with crime control and investigation bureaus to prevent such illegal mischief.
- Appointment of full-time veterinarians in vulnerable divisions and organise regular training for veterinarians of Forest Dept., to equip them to deal with wild animals' disease control, tranquilise problematic elephants.

Table 26: List of captive/ kumki elephants in the State

sl. no	Name of the Division	Name of the captiveelephant	Age	Sex	Microchip no., if available
1	Similipal Tiger Reserve	Bhabani	65 years	Female	000 6485161
2	Similipal Tiger Reserve	Shivani	13 years 10 months	Female	Not Available
3	Similipal Tiger Reserve	Babloo	7 years 10 months	Male	Not Available
4	Similipal Tiger Reserve	Jagannath	1.5 years	Male	Not Available
5	Nandankanan Zoological Park	Basanti	58 years	Female	000648312A
6	Nandankanan Zoological Park	Heera	24 years 3 months	Female	00064DF7AC
7	Nandankanan Zoological Park	Mama	5 years 6 months	Female	0007BDAFA6

8	SatkosiaWildlife Division	Mahendra	62 years	Male	000 64D BF8E
9	Satkosia Wildlife Division	Rajkumar	21 years	Male	000 64D 772B
10	HirakudWildlife Division, Sambalpur	Kharsel	61years	Male	Microchip no.Trovan LID-560 ISO,Transponder Reader (85437069)
11	Chandaka	Jasoda	32 years	Female	Not Available
12	Chandaka	Shankar	28 years	Male	Not Available
13	Dhenkanal, Kapilash wildlife sanctuary.	Chandu	12years	Male	Microchip no.0007BC7D93,Travan-LID-560-ISO,Transponder Reader-214430044
14	Dhenkanal, Kapilash wildlife sanctuary.	Kartik	12 years	Male	Microchip no-0008049FCE,Trovan LID-560 - ISO,Transponder Reader -214430044
15	Dhenkanal, Kapilash wildlife sanctuary.	Uma	10 years	Female	Microchip no-0007BBD057,Trovan LID-560 - ISO,Transponder Reader -214430044
16	Dhenkanal, Kapilash wildlife sanctuary.	Padma	2 years 2 months	Female	Microchip no-0008047EE7.Trovan LID-560-ISO,Transponder Reader -214430044
17	Dhenkanal, Kapilash wildlife sanctuary.	Shyama	1 year 4 months	Female	Microchip no-00080619E9.Trovan LID-560-

					ISO,Transponder Reader -214430044
18	Dhenkanal, Kapilash wildlife sanctuary.	Shiba	2 Years	Male	Not Available
19	Dhenkanal, Kapilash wildlife sanctuary.	Rakesh	35 Years	Male	Not Available

Table 27: Information regarding Mahouts/Assistant Mabouts engaged for captive elephants in different Divisions of Odisha

Sl.No.	Name of the division	Name of the Range	Name of Mahouts/Assistant Mabouts	Name of captive elephants for which they engaged
1	Chandaka (WL)	Chandaka (WL) Range	Sitaram Samburai (M)	Shankar
			Narendra Kuldi (M)	
			Rajaram Samburai (AM)	
			Parameswar Naik (AM)	
			Swadhin Kumar Jena (AM)	
			DuburajMahakud (AM)	Jasoda
			Ramakanta Nayak (AM)	
			Rajkishore Behera (M)	
			Rabindra Sai (AM)	
2	Deputy Director Nandankanan Zoological Park	Sanctuary Management Range	Shyama Singh (M)	Basanti, Hira, Mama
3	Dhenkanal	Kapilash	Anil Chandra Das (M)	Padma
			SushantaDehury (AM)	Umma
			Akhil Chandra Das (AM)	Chandu
			Sumanta Pati (AM)	Syama
			Janmejay Pati (AM)	Shiba
			Prasanta Swain (AM)	Kartik
4	Similipal (S)	Jenabil Range	BasudevMarndi (M)	Babloo
			Laxman Kumar Tung (M)	Jagannath

			Pravakar Barik (M)	Bhabani
			Sourav Barik (AM)	
			Sipun Barik (AM)	Shibani
			BiranchiMahakud (M)	
5	Satkosia (WL) division		Binod Mahakud (AM)	Rajkumar
			GhanashyamMahakud (AM)	
6	Hirakud (WL) division	Kamgaon	NilaBhue (M)	Kharsel
			Hema Chandra Bhue (AM)	

II. **Organization of Awareness-cum-Animal Health Camps in forest fringe area**

- The awareness-cum-animal Health Campsshould be organizedfor clinical examination, screening against diseases, deworming and treatment of any specific diseases of domesticated animals and birds.
- Depending upon the geographic location of the village along with its close proximity to the core area of forest will be selected for organization of awareness cum animal health camp involving all the available animal keepers.
- Through these camps the domesticated animals including poultry will be clinically examined, dewormed and treated for any specific diseases.
- Simultaneously, there will be creation of general awareness among all concerned to impress them about the benefits of preventive vaccination, adoption of bio-security measures including scientific disposal of carcass and some dos and don'ts about control and containment of contagious diseases in domesticated animals of nearby localities.

III. **Training of Veterinarians**

- Training of veterinarians on tranquilization / sedation, treatment of sick and injured wild animals, conducting postmortem examination of carcass and scientific collection, preservation and dispatch of morbid samples to laboratories. Forest field staff to be trained to Assist Veterinarians
- Regular trainings on different aspects of wild life health management entailing tranquilization/ sedation, treatment of sick &/or injured wild animals, conducting Post mortem examination of carcass and scientific Collection, Preservation and Dispatch of samples to Laboratory will be conducted for imparting need based up-to-date knowledge

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and skill to field Veterinarians and staff of forest departments for enhancing their capacities on disease control.

- These trainings will be organized for different participant groups both at district as well as state level. The field Veterinarians posted adjacent to forest areas in 26districts mostly with elephant movement will be selected on priority basis for participating in such training programmes.
- The rest four districts such as Jagatsinghpur, Koraput, Nabarangpur and Malkanagiri in which such training programmes may be organized in future depending upon the movement of wild elephants in these areas.
- Similarly, the field staff of forest department will be selected basing on their experience and skill for up scaling their existing knowledge and expertise in either tranquilization or supporting / assisting treatment of injured or sick wild elephants through various Training programmes

IV. **Wildlife courses in the syllabus of degree course in Veterinary Sciences in CVS, OUAT, Bhubaneswar**

- As there is no special chapter on wildlife management in degree course in Veterinary Sciences in CVS, OUAT, Bhubaneswar, it becomes difficult to identify and diagnosis of diseases of wild animals and wild life management in field.
- So, the degree course should be comprised of chapters on wildlife health, rescue and rehabilitation of wild animals which will help for wildlife management in field.

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Chapter IV

SUMMARY OF ACTION PLAN

(ACTION POINTS UNDER 10-PILLAR STRATEGY)

I. HUMAN-ELEPHANT CONFLICT MITIGATION
(19 Action Points, MT-2, ST-17)

ST: Short-term (<1 year)
MT: Medium-term (1-5 years)
LT: Long-term (>5 years)

Sl. No.	Recommended Activity	Time Line/Periodicity	Nodal Agency/ Level within the Forest department
1	To strengthen ongoing monitoring and coordination with stakeholders/line departments which is being done at various levels, an Advisory and Monitoring Committee on Human Wildlife Conflict chaired by the Chief Secretary, Odisha to be constituted by the Stateto render advice, monitor periodically and enhance inter-departmental co-ordination in the State to address human-wildlife conflict issues.	Within six months Once every six months	Government of Odisha
2	Consolidate efforts at resolving HWC happening now by preparing a Human ElephantConflict Management Action Plan and strategy where the aim will be to ensure zero conflict-induced casualty of humans, elephants and minimise damage to crops and property. All vulnerable villages to be mapped therein. The conflict mitigation plan for a division should be broadly compatible with the overall goals of elephant conservation in the state and the mitigation plan of the adjoining divisions.	Within six months	DFO
3	The present mechanism of disbursing compassionate grants using the '*Anukampa*' app has resulted in a quick turn around time. However, the functioning of the app need to be given wide publicity among local people and the existing issues (cases of encroached land, absentee owners, tenant cultivators etc) have to be eliminated to ensure complete user satisfaction.	Within three months	WLHQ/DFO/ORSAC
4	Staff of Jana Seva Kendra of each division to be trained in filling up of *Anukampa*app applications.	Within six months	DFO / Dt.Adm.

5	The DFOs need to have a revolving fund (like the District Red Cross Fund) from where emergency compassionate payment can be made for emergency compassionate payments resulting from cattle kills, property damage or crop loss as a result of Human-Wildlife Conflict (HWC) along the lines of existing norms for payment in cases of human death.	Within six months	WLHQ
6	Revision of compassionate payment for both Human Death, Crop loss, Human Injury and Property Damage by wild animals. Linking damages sustained due to crop loss to periodic rise in MSPs may be considered.	Within six months	Govt./ PCCF(WL)
7	In case of bona fide destruction of house by elephants, DFO may recommend the owner to be included as a beneficiary under *Biju Pacca Ghar Yojana* of the State Government	Ongoing DFOs to facilitate	Govt. of Odisha / WLHQ
8	Strengthening of existing Early Warning Systems for early detection and warning of elephants' movements using mobile phones, Bulk SMS, Radio Programme, Tower Lights, ANIDERS, Public Announcement for quick communication.	Ongoing	WLHQ/ DFO
9	Strengthening of existing preventive measures such as High Mast Lights, Solar Lights in edges of villages, provision of LED/solar chargeable torch lights to villagers, community grain bins, paddy harvesters, underground grain bins, steel storage bins etc.	Ongoing	DFO
10	Strengthen ongoing efforts by operationalizing a Rapid Response Teams (including staff trained in tranquilization) in all Divisions and at the Circle Level to reduce response time of forest department staff during emergency situations arising due to incursion of elephants into human habitations/cultivation.	Ongoing Within 2-6 months	RCCF/ DFO / Range
11	Identify strategic locations where barriers (trenches/solar fences/stone walls) have to be deployed to prevent incursion of wild elephants to human settlement/cultivations. These have to be planned after due thought, ground-truthing and should not be counter-productive.	Within 1 year	DFO

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12	Solar fencing, using the recently launched *Jana Surakhya Gaja Rakhya* to be taken up in all vulnerable areas. This should be compatible with the landscape and zonal approaches of elephant conservation and management and carefully planned to avoid it being counter-productive. The use of portable (removable) solar power fences which has been found to be effective in Sri Lanka can be tried out on a pilot basis in selected areas.	Within 1-2 years	Division Level
13	Innovative ways of using solar fencing ensuring community participation has to be devised by the DFOs. Community-driven solar fencing has given rich dividends in southern states.	Within six months	DFO
14	Strengthening of existing Elephant Rescue Centres at Kumarkhunti (Chandaka) and Kapilash with provision of Tranquilization and Rescue Teamsand engagement of Veterinarians. Establishment of new such facilities at Sambalpur, Rourkela and Baripada circles.	Ongoing Within 1 year Within 2-5 years	State Govt./WLHQ/RCCF
15	Training of existing departmental elephants and mahouts for use as *kunkis* during elephant depredation, patrolling and radio-collaring operations. Technical expertise from other states (W.Bengal, Karnataka, Madhya Pradesh, Assam) etc may be sought. Procurement of *Kumki* elephants from Karnataka.	Ongoing; Within 6 Months Within 6 months	WLHQ/ RCCF/ DFO
16	Every Circle having scattered elephant population should have an Action Plan for capture and translocation (or retention in captivity as may be decided by the CWLW) of problematic elephants from the conflict prone areas including development of necessary logistics, staff roles and clear prior identification of possible release sites.	Within 6 months To be periodically modified and updated.	DFOs / Guided by RCCF
17	To improve existing inter-state co-ordinating mechanisms, RCCF of Circles having inter-state movement of elephants tohave a meeting with his/her counter-part of the neighbouring state before the migratory season to ensure inter-state co-operation and prevent erection of	Ongoing Once a year	RCCF

	unnecessary obstructions/barriers and indiscriminate driving operations. CWLWs of the adjoining elephant-bearing States of the East-Central landscape to have a consultation meeting once a yearto discuss the interstate movement of elephants and common issues relating to elephant management. Project Elephant to take the lead in this.	Once a year	Project Elephant, MoEF&CC
18	Strengthening of Circle-level Veterinary facilities by having Mobile Veterinary Units in Keonjhar, Angul, Sambalpur and Bhubaneswar Circles to address capture and relocation of elephants and other wildlife.	Ongoing Within one year	WLHQ / Circles

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II. INTER-DEPARTMENTAL CO-ORDINATION

(35 Action Points, LT-2, ST-33)

Human Wildlife Conflict Mitigation Committee			
Sl. No.	**Recommended Activity**	**Time Line/ Periodicity**	**Nodal Agency/ Level within the Forest department**
1	District level Human Wildlife Conflict Mitigation Committee under chairmanship of Collector to be constituted. Superintendent of Policeand heads of relevant line departments will be represented with concerned DFO being Member Secretary.	Within four months Monthly	WLHQ/DFO Minutes of meetings to be sent through RCCF to HQ
Police Department			
2	Monthly Wildlife Crime Prevention and Enforcement meeting with Superintendent of Police to discuss issues on the topic.	Within three months Monthly	Nodal DFO Minutes of meetings to be sent through RCCF to HQ
3	Strengthen existing mechanisms of crowd control by preparing a mob/crowd control plan to in vulnerable areas with the help of District Administration and Police Department for control of Mob during straying of elephants to human settlement. Use of S/144 under CrPC should be employed wherever required.	Within 3months	DFO/ Collector/ SP
4	Enhance co-ordination with local police officials for apprehending habitual and repeat offenders, request for CDR and TDR, call tracking and cracking down on illegal arms manufacturing units. Booking of offences under Arms Act and Explosive Substances Act.	Ongoing Immediate	Forest Dept./ JTF with Police Dept./ STF

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Railway Department			
5	Regular co-ordination meetings are to be carried out between officials of Forest Department and that of various Zones of Indian Railways (East coast Railway, South Eastern Railway, S.E Central Railway) at appropriate levels and periodicity.	Ongoing Quarterly. Bimonthly Monthly	 PCCF WL. RCCF DFO
6	Strengthen functioning of elephant squads already deployed to track the movement of elephants near railway lines and ensure night patrolling using experienced, well-equipped, trained and skilled staff.	Ongoing	
7	Strengthen the 24x7 Railway Control Rooms functioning in Khordha Road, Sambalpur and Bandhamundawith deployment of trained forest staff to ensure seamless transmission of elephant movement information from the field to prevent accidental train hits.	Ongoing	RCCF/DFO
8	Ensure that Advisoryregarding preventing train accidents involving elephants issued by PCCF(WL) vide Memo No 4978 dated 21.05.2018 is followed scrupulously.	Ongoing	RCCF/DFO
9	Solar fencing to be carried out along railway lines at vulnerable locations to check crossing of railway line by elephants. This has to be done after careful thought, ground-truthing and joint verification with Railways in places where absolutely required and should not be counter-productive. Side barriers should be done in both sides and never on one side alone. Similarly watch-towers to be erected in sites adjoining railway lines where they are absolutely required. Avoid dumping of food waste/municipal wate in forested areas near railway lines.	To be mapped within six months and prioritized To be mapped in six months and prioritized	DFO/Railways

10	Fixing of fluorescent signage along the railway tracks to alert the loco pilots. Total 372 locations have been identified for fixing and 111 nos. of signage have been fixed by railways. The rest has now to be completed. In regularly used crossing points, large reflectors to be fixed for reflecting train headlights to warn elephant herds so that they will avoid crossing the tracks.	Ongoing; to be completed within 6 months Periodically thereafter wherever found necessary	DFO / Railways
11	Ensure reduction of the speed of the train passing through elephant inhabited forests or accident-prone areas as per the caution order issued due to presence of elephant herds near the railway track. Non-compliance to be followed by DFOs to higher officers of Railways	Ongoing As and when such incidents occur	Railways
12	During construction of overpass/under pass, to the extent possible, most of the materials should be prefabricated elsewhere so that the construction process does not hinder animal movement. No construction to be allowed between 6 PM and 6 AM.	Immediate	DFO/Executing Agency
Roads & Highways			
13	Regular co-ordination meetings with National Highways Authority of India (NHAI) are to be carried out to review progress of mitigation projects and discuss prevention of accidents.	Ongoing Six Month Quarterly Monthly	 WLHQ RCCF DFO
14	Fixing signages on additional crossing points and maintenance of 370 signages already in place.Speed-breakers to be made in regular crossing points. Signages in points where no longer elephant use is noticed to be removed and re-posted in suitable locations.	Ongoing Rest within 6 months	DFO / NHAI
15	49 numbers of underpasses have been identified for highway projects (new and expansion projects). The ones yet to be constructed have to be started.	Ongoing. Pursue immediately	DFO/NHAI

		Monthly reviews	
16	11 numbers of elephant under passes are under progress (Rimuli-Rajamunda, Tileibani-Sambalpur, Talcher-Kamakshya Nagar, Kamakshya Nagar-Duburi and Cuttack-Angul.) and need to be expedited.	Ongoing Immediately	DFO/Executing Agency
17	Monitor use of elephant and wildlife use of mitigation infrastructure already in place including five under passes which have already been completed in Keonjhar Forest Division. Special drive to mitigate impact of canals by ramps/bridges and wherever present, examine their efficacy. Eg.Rengali Canal, overpasses over Manjore Canal etc. In case of inappropriate design leading to non-use, the same has to be rectified /modified.	Within a year Periodically	DFO / User Agency / Irrigation Dept.
18	Regular patrolling on highways by Highway Squads at vulnerable elephant crossing locations, to alert the commuters on elephant movement as well as facilitate crossing of the road by the elephants.	Ongoing Regularly	DFO
Agriculture Department, Animal Husbandry Department, Fisheries Dept and other line departments for livelihood development			
19	Explore the possibility of change in crops/cropping pattern in order to reduce elephant conflict in pilot projects in select localities. (Short duration crops such as millets/ Elephant-repellent crops such as Chilly, Ginger etc)	Pilots can be tried soon; if successful to be replicated and continued long-term.	DFO/ Agriculture Existing Officer
20	Promotion of innovative agro-horticulture, high yielding stall-fed livestock rearing, poultry, pisciculture to promote livelihood of local people and offset their losses due to traditional paddy cultivation.	Can be started soon to continue for long-term	Dept of Agriculture / Animal Husbandry / Fisheries / DFO
SPECIAL FOCUS ON PREVENTING ACCIDENTAL & DELIBERATE ELECTROCUTION OF ELEPHANTS			
INTER-DEPARTMENTAL COORDINATION			
21	Regular co-ordination meetings are to be conducted with Energy Dept./DISCOMs to regularly monitor the progress of the above as well as ironing out other issues.	Monthly. Monthly.	RO/JEE RO/DFO/SDO/E XECUTIVE ENG.

		Monthly. Quarterly	EXECUTIVE ENG./ RCCF/DFO DISCOM Authority/ PCCF WL.
PREVENTIVE MEASURES AND ENFORCEMENT			
22	DISCOMs to ensure frequent patrolling in vulnerable locations to check illegal looking and should also take necessary legal action against such offenders	Within 6 months	DISCOM
23	The exercise already covered to identify and map vulnerable points of electrocution in each Division (Sagging lines/ tilted poles/ interposing poles where required/ habitual hooking villages) is to be updated and periodically monitored. Accordingly appropriate mitigation measures have to be undertaken. DFOs should ensure cabling by the DISCOMs of 4444 km of bare conductors and 31,000 of vulnerable points which have been identified in elephant movement areas. These have to periodically updated after joint verification.	Every 6 Months	DISCOMs/ DFO
24	Ensure insulation of 11KV & LT lines passing through forest areas. In particularly vulnerable areas such as inside PAs with dense elephant movement, the feasibility of underground transmission lines to be explored.	Within one year	DISCOM
25	Dismantling of defunct solar power fencing to be ensured by individuals/community to eliminate charging by unscrupulous elements. DFO to take a special drive on this.	Immediate	RO/DFO/DISCOM.
26	Ensure fitting of spikes on electric poles and barricading of substations/unprotected transformers, lift irrigation points in forest and forest fringe and other vulnerable areas.	Within Six months	RO/DFO/DISCOM.
27	Joint patrolling of Forest and Energy Department staff along vulnerable stretches of transmission lines in elephant movement areas and villages prone to	Ongoing Periodically	DFO/RO / DISCOM

	illegal hooking by GPS mounted vehicles to be done regularly. DFO to undertake monthly review on this.		
28	Ensure sharing of trip record immediately by electricity department to forest department by WhatsApp.	Immediate	JEE/Forester/RO
29	Most of the electrocution deaths of elephants happen due to accidentally while coming into contact with charged wires kept for wild pigs, either for crop protection or poaching, whose population has grown in many areas. Scientific and legal ways of controlling the population of wild pigs to be explored and implemented in a site-specific and transparent manner drawing from similar examples in other states. Local villagers also to be sensitized to not deploy such traps.	Within six months	WLHQ
PROSECUTION			
30	Under Electricity Act.2003 cases shall be booked by electricity department against offenders where electrocution death of wildlife has occurred due to illegal hooking.	Immediate	RO/JEE/SDO/Executive Engineer.
31	The Energy Dept. officials should be present in all electrocution cases and such cases should be investigated by electrical inspector.	Immediate	IO/DFO/JEE/SDO/ Executive Engineer.
32	Filing of police case by Energy Department in the local police station.	Immediate	JEE/SDO/Executive Engineer.
TECHNICAL UPGRADATION			
33	Upgradation of electrical infrastructure and use of technology to prevent death due to electrocution. For LT distribution, fuse wires of standard rating to be used for circuit breaker. Further, (Miniature Circuit Breaker) MCB to be used in the sub-stations of all forest fringe and other vulnerable villages for tripping electricity.	Within 6 Months	DISCOM
34	Ensure working of primary substations (PS) in all electrical control rooms of 11 KV. Lines. In case of any illegal hooking from 11 KV line, cut off power instantaneously.	Immediate	R.O/JEE/SDO, Electrical.

CAPACITY BUILDING			
35	Capacity Building training should be organized at Range level for identification of wildlife deaths due to electrocution. The details in the next page in Annexure-1.	Within one month.	DFO/RO/JTF/ DISCOM.
36	Capacity Building for front line staff of DISCOM to prevent illegal hooking.	Within 6 Months.	DISCOM

III. PROTECTION, ENFORCEMENT AND PROSECUTION

(42 Action Points, LT-2, MT-4, ST-36)

Sl. No.	Recommended activity	Timeline/ Periodicity	Nodal agency/ Within the level of forest Department.
1	Ongoing filling up of vacancy positions at all levels of regular frontline and supervisory staff to be expedited as to ensure man in position in all field level positions.	Highest priority Regularly thereafter	State Govt.
2	Formation of dedicated, trained and physically fit 'Elephant Tracking Teams' to be raised in conflict and poaching-prone divisions to closely follow, track, monitor and photograph elephants. They should be ideally drawn from local tribal villagers who have an innate sense of jungle craft. These ETTs should be separate from routine protection squads. Training in elephant tracking may be provided from experienced elephant trackers in Southern States.	Within one year	DFO
3	Augment the number of Protection Squads in particularly vulnerable areas after careful analysis in each division. Protection squads should be drawn from local villages, physically fit, motivated and given adequate training, periodic drills and equipment. Their movement and output should be carefully monitored and findings acted upon.	Ongoing Immediately Saturate within 1-2 years phase-wise	DFO/RCCF/WLHQ
4	Strengthen the functioning of the Elephant Protection and Wildlife Crime	Ongoing	RCCF/DFO

	Control Cell at Wildlife HQ. Wherever not present in Circle and Division level, put in place for close monitoring of elephants. Activities will include daily monitoring of adult tuskers, inter-divisional movement and predictive early warning for crop depredation, wildlife crime prevention, investigation and prosecution with special emphasis on developing intelligence networks, arresting habitual offenders and timely prosecution of ongoing cases aiming to achieve significant proportion of conviction.	Immediate to be completed within a month	
5	Develop independent, diffused and effective intelligence networks at all levels and even at the level of individual officers. Allotment of secret funds made for this to be closely monitored. **Actionable intelligence from the field leading to crime prevention should be the key aim.**	Ongoing but need to be made effective with immediate priority. To be completed within 6 months To be maintained thereafter	All levels
6	Ensure strengthening of functioning of 24x7 Control Room at HQ, Circle and Division levels	Ongoing Within one month	WLHQ / RCCF/DFO
7	Ensure Strengthening of functioning of Toll-free number at Circle and WLHQ and give wide publicity regarding the same.	Ongoing Immediate	WLHQ / Circle
8	Preparation of Criminal Data base and CriminalDossier at State HQ /Circle HQ.	Ongoing Within Six Months To be regularly updated.	WLHQ /RCCF

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9	Preparation of Wildlife Crime dossier and Maintenance of Surveillance register (phone / presence) of habitual/repeat offenders.	Ongoing Within 3 Months To be regularly updated.	DFO/ Range Office
10	Wildlife & Forest Offence Meeting (Discuss & review pending investigation and trialcase special efforts should be made to arrest absconder and monitor the activity of habitual offenders).	Immediately Monthly Quarterly	 Range Level/ Division Level RCCF Level
11	Meeting with Police and DISCOMs about suspected wildlife criminals/ illegal hooking/ Management of Man-animal Conflict in HEC area. Pursuing of cases under Arms Act to be booked by police and under Electricity Act by DISCOM staff.	Within 2 months Monthly	DFO/Police/DISCOM
12	Joint Enforcement (Combined patrolling) with DISCOM field staff for checking illegal hooking in suspected areas.	Ongoing Once a week	Range Level/DISCOM
13	Ensure preparation of Wildlife Crime Risk Maps and Wildlife Protection Plan covering spatial and temporal extent of wildlife crime within the division. *Inter alia*, it shall contain details of habitual villages, village *haats*, entryroutes of poachers and vulnerable areas prone to poaching (hotspots)by various techniques such as snaring, foothold traps, illegal hooking, illicit liquor brewing, poisoning, illegal machan over water bodies, artificial salt licks prepared by poachers etc. Movement/temporary camping of any outsiders including wandering tribes/snake-charmers should also be closely monitored. Similarly unprotected dug wells, unprotected transformers, lift irrigation points,	Within six months	Range/Division Level

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	defunct solar fences, other vulnerable points for illegal hooking should also be mapped. This Plan along with details of periodic meetings and reporting framework should mandatorily form part of the handing over note of the DFO to his successor.		
14	Ensure regular foot patrolling and night patrolling (Random and Surprise) by staff, RO, ACF & DFO along afore-mentioned poaching/crime hotspots.	Ongoing but requires strengthening and close monitoring.	Supervising Officers & DFO
15	Extensive touring and night halts covering all vulnerable areas of poaching by supervising officers in the field.	Ongoing but requires strengthening and close monitoring.	HQ officers – 5 days/month RCCF- 10 days/ Month DFO-12 days / Month ACF-15 days / Month RO-15 days / Month
16	RCCFs to ensure inter-divisional and joint-divisional patrolling in vulnerable areas and also have joint Protection Camps in bordering areas of divisions.	Ongoing in some Circles but to be put in place immediately in others. Saturate within 2-5years	RCCF
Infrastructure Development.			
17	A comprehensive plan should be prepared about availability of protection infrastructure such as Protection Camps/Anti-Poaching Barrack/ Staff Quarter/ Watch tower etc. in each division, especially in 'no-man's land' along divisional boundaries. These should be taken up and saturated.	Within one year Can go on for 5-10 years	Division Level
18	Elephant Proof Barriers (Elephant Proof Trench/ Stone Wall Guard/ Solar	Ongoing	Division Level/RCCF

	fencing) to be erected as per Site Specific Action Plan. Existing ones to be renovated for efficacy and wherever defunct and not required to be filled or removed. To be carefully deployed after proper ground-truthing and should not be counter-productive. While selecting sites, special attention to be given to ensure that traditional movement paths, paths to water sources etc are not blocked or elephants diverted to nearby areas. RCCFs to carefully analyse and monitor.	Within 1-5 years Can continue as a long-term measure too.	
19	Solar power fencing using the recently launched *Jana SurakhyaGajaRakhya* should be taken up in all vulnerable areas after due diligence of its utility and efficacy. The use of portable (removable) solar power fences which has been found to be effective in Sri Lanka can be tried out on a pilot basis in selected areas. Same caveats as above to apply.	Just launched and need to be scaled up. Within one year	Division Level
20	Monitoring of effective deployment of Vehicles (including GPS Mounted) for protection and anti-depredation duty. Specialised customised RRT vehicles may be introduced on a pilot basis.	Ongoing	Division Level
21	Effective use of VHF network with maintenance of VHF register in the Circle, Division and Range HQs.	Ongoing. To be revived immediately where defunct.	Division Level
22	In case of electrocution case of elephants due to illegal hooking, DISCOM staff to be present and also book cases under the relevant Act. In case of human death, due to illegal hooking in forest areas, Police to book cases promptly and inform the Forest Dept.	Immediate	DISCOMs/Police Dept/Forest Dept

23	Deployment of Drones (including night vision and IR-camera mounted) in vulnerable areas and also on routes used by criminals. CCTV cameras to be installed in check gates and vulnerable entry gates.	Ongoing Immediate To be saturated in 1-2 years and maintained therefter	Division Level
24	Close monitoring of use of Apps like OFMS/ M-Stripes and iWLMS for detection of Wildlife offence cases	Ongoing but major improvement required. Immediate	Division Level/Circle Level/WLHQ
25	Ensure use of concealed Trap Cameras (including IR-enabled ones) along suspected routes used by poachers	Within one year	Division Level
26	Explore proposal for insurance coverage for members of Anti-poaching Squads and other frontline staff in case of any eventualities during patrolling.	Immediately	DFO/WLHQ
Crime detection, enquiry and prosecution.			
27	Effective site investigation and collection of evidence following detection of wildlife crime.	Ongoing but requires major improvement Immediate	Range and Division level
28	Investigating Officer should ensure preparation of fool-proof case records in case of all wildlife cases, especially for scheduled species. DFO to cross check and forward all PRs with supervision note.	Ongoing but to be made effective Immediate	DFO/JTF
29	DFO must be empowered to collect CDR of Wildlife Criminals relevant to the wildlife offence case directly from service provider under 65-B Indian Evidence Act	Within 6 months	State Govt / Home Dept.
30	Meeting betweenForest Department and STF for sharing of information on wildlife crime	Immediately Monthly	WLHQ /JTF/STF
31	To ensure submission of final Prosecution Report within a stipulated period of 60 days from the date of arrest of accused.	Immediate.	Division level.

32	Wildlife crime control should be mandatorily included in the agenda in the Senior Officers meeting of the district	Immediate Monthly	DFO
33	Ensure booking of cases in the local police station where arms / explosives /poison is involved in wildlife cases.	Immediate.	RO/DFO
34	Establishment of Fast track court with Special Public Prosecutor/APP to ensure speedy trial of wildlife offences cases	Within one year	Govt. of Odisha / State Wildlife HQ.
35	Engagement of Legal Expert at Circle level to hand hold preparation of case records in Wildlife Offence cases.	Within 3 months	RCCF
36	Guide I.Os in effective investigation and prosecution of wildlife cases and ensure inter-agency co-ordination.	Ongoing but to be scaled up. Immediate.	JTF/Legal expert in Circles.
37	Perusal of judgment in acquittal cases and prefer appeal inthe higher courts. Oppose bail applications strongly whenever moved by the accused.	Not followed everywhere. Immediate.	DFO / JTF
38	Explore provision of financial incentive in case of wildlife offence detection to informer/ Sources by amendment of the Act (Odisha Reward for detection of) Forest Offence Rule, 2004	Within six months	WLHQ
39	Effective use of Secret Fund to maintain a wide and effective intelligence network.	Ongoing with limited success. Major improvement required.	DFO/RCCF/ Wildlife HQ.
40	Establish close co-ordination with the Wildlife Forensic Laboratory of the Wildlife Institute of India soas to decrease the turn-around time for receiving reports on samples sent as part of evidence in wildlife crimes.	Ongoing but needs improvement Immediate	DFO/Hand-holding by JTF
41	Facilities of State Forensic Science Laboratory to be used in helping collect scientific evidence in wildlife crime cases. An MoU may be signed.	Within six months	DFO/WLHQ
42	Establishment of a Wildlife Crime Forensic Laboratory at Nandankanan with technical aid from Wildlife	Within 3 years	State Govt. / WLHQ

	Institute of India. Once certified, this will be a major asset for quickly obtaining test reports which will aid prosecution.		

IV. ELEPHANT HABITAT, CORRIDORS AND CONNECTIVITY

(20 Action Points, LT-4, MT-2, ST-14)

Sl. No.	Recommended activity	Timeline/ Periodicity	Nodal agency
	A. Rationalizing and securing Elephant Habitats		
1	Adopt a zonation approach of the state based on habitat quality and viability, elephant use and movement, spatial configuration of forest fragments and corridors, human population, developmental imperatives, pattern and degree of human-elephant conflict. **Zone 1: Elephant Conservation Zone** **Zone2: Elephant-human Co-existence Zone** **Zone 3: Conflict mitigation Zone** **Zone4: Elephant Removal (or Exclusion) Zone** A draft list of divisions/ranges in each zone have been listed and has to be fine-tuned after due ground truthing and finalisation of corridor study. Meanwhile indicative management action points can be initiated forthwith as suggested.	Within 1-2 years	WLHQ
	B. Connectivity between habitats		
3	Each division should have a Connectivity Map where wildlife crossing points and crucial cross-over sites between forest patches are mapped and earmarked for mitigation. Wherever linear infrastructure projects (railways, roads, canals, slurry and water pipelines etc) have fragmented habitats, mitigation measures have to be	To be completed within one year	DFO

	provided. This will also include overhead electric lines. All new linear infrastructure projects will necessarily incorporate a animal passage plan.	Provision exists but must be enforced.	User Agency/DFO
4	Ensure compliance of all stipulated points as mentioned in the SSWLPs, for those projects in place and currently operational. DFO to verify and report to RCCF who then will report to the WLHQ.	Can be started immediately and completed within a year.	DFO/RCCF
5	Provision for pre-project consultation to be done to factor in appropriate mitigation plans/alternative alignments etc in case of major infrastructure projects, especially linear infrastructure to avoid '*fait accompli*' situations	Within six months	Nodal Wing of FHQ/WLHQ, DFO
6	In highways in mining districts, parking of trucks in vulnerable elephant crossing areas during night time hampers smooth crossing of elephants. Such spots should be designated as no-parking zones and signages erected to that effect.	Within 3 months	DFO/RCCF
7	Ensure completion of ongoing Overpass construction on the three crossing points identified by the State Forest Department on the distribution canal of Manjore dam for movement of elephants between Mahanadi and Sambalpur Elephant Reserves.	Immediately	DFO Athamalik, Angul RRB Division
8	Provision of underpasses/overpasses to be made in the Site-Specific Wildlife Conservation Plans on the crossing points that pose as a barrier for movement of elephants in all developmental projects involving linear infrastructure.	Ongoing To be saturated within 5-10 years	NHAI, Railways, SFDs / Irrigation Dept

Identification and protection of elephant corridors			
9	Commissioning of at least a year-long (1-2 years) study covering all seasons by a national institution to assess the functionality and feasibility of the 14 identified elephant corridors and the additional corridors mentioned in the ANCF report of 2018.	Within six months To be completed within 1-2 years	State Govt. / WLHQ
10	Proposal for notification of Hadgarh-KuldihaElephant Corridor as a Conservation Reserve to be expedited.	Immediately	State Govt., MoEF&CC
11	Once identified, each corridor should have a Corridor Management Plan to chalk out and implement interventions. The same agency who has carried out the study can be given the responsibility or can be part of the original ToR.	Within one year of identification of corridors.	RCCF / DFOs
Spreading of awareness among stakeholders in elephant corridor areas			
12	Awareness programs should be carried out for various stakeholders to create awareness and garner public support. Details given in Chapter III.	Ongoing Periodically	Division
13	Signages on elephant corridors should be erected after identification of elephant corridors.	Within 1 year	DFO
14	Involving children from schools and colleges located in the fringe villages in awareness activities	Ongoing Every 3-6 months	DFO, Civil Society Organisations
Removal of encroachment in corridors& consolidation			
15	Illegal settlements/land-use in elephant corridor areas to be identified and removed. Wildlife-friendly land-use to be promoted in case of private lands.	To be initiated soon where evident. Long Term	DFO/RCCF

16	Land purchase wherever feasible. Voluntary relocation of people to whom rights/ individual titles have been granted under FRA, 2006.	To be initiated once corridor study completed To go on for 10-15 years	CAMPA funds of MoEF&CC
Regular monitoring of elephant corridors			
17	Involve local people in monitoring of use of elephant corridors.	Immediately	SFD and local community
18	Road/rail traffic passing through elephant corridors should be regulated, especially at night.	Ongoing In identified stretches	SFD and NHAI and Railways
Inter-state consultative meetings			
19	State level consultative meetings should be organized to discuss issues pertaining to movement of elephants across inter-state elephant corridors.	Ongoing Yearly	SFDs of Odisha, West Bengal, Jharkhand, Andhra Pradesh, Chhattisgarh
Work closely with other agencies			
20	Work with NTCA to identify elephant corridors that overlap with tiger corridors to jointly secure these corridors	Within I year Secure within 5-10 years	WLHQ and NTCA

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V. PEOPLE'S PARTICIPATION, EDUCATION & AWARENESS

(17 Action Points, LT-1, ST-16)

Sl No	Recommended Activity	Time Line/ Periodicity	Nodal Agency/ Level within the Forest department
1	A Core Committee to enhance people's participation in wildlife conservation to be formed in every division consisting of Honorary Wildlife Warden, NGOs, PRI Members, EDC & VSS members, Local influential people, Local MLAs& MP.	Within 3 Months Bimonthly (Once every 6 months)	DFO Minutes of meetings to be sent through RCCF to the WLHQ
2	Framing of precautionary measures (Do's & Don'ts) to be adopted by local people during incursion of elephants into villages/ Crop Fields and to be widely circulated among the community for awareness in vulnerable areas.A list of indicative Do's & Don'ts is depicted in the poster appended in the relevant Chapter.	Ongoing	RCCF/ DFO
3	For spreading such awareness campaigns, vernacular language to be used in both audio-and audio-visual mode involving local villages, PRI members, VSS & EDC members. GajaSathivolunteers shall spear-head this activity.	Ongoing Monthly	Forest Guard & Forester in each range to be supervised by DFO
4	Conduct formal meetings emphasizing attempt to achieve 'zero accidental death of elephant and human beings' in conflict prone ranges.	Ongoing Quarterly	Forest Guard, Forester, RO & DFO
5	Film shows: short duration film should be prepared narrating need for protection and conservation of elephant along with mitigation methods of human-elephant conflict and be screened in vulnerable villages frequently.	Ongoing Periodically	RCCF/DFO
6	Rural Folk song / Religious song / Street plays – *Daskhatia, Palla,*	Ongoing in many divisions. To be	Division/Range/Section

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	Gotipuanacha etc should be exhibited emphasizing on the concept of aforesaid theme in problematic villages.	replicated in others. Within 2-3 months Once in a fortnight during crop depredation season.	Forest Guard & Forester
7	Awareness Campaign by social media – To be used in peri-urban, urban and other areas having internet penetration.	Ongoing Regularly	HQ/RCCF/DFO/RO
8	Poster / Signage / wall painting – This should be done at places of people's congregation within villages.	Ongoing	DFO/RO
9	Radio and T.V Shows- Awareness campaigns / Alerts should be made in AIR and popular electronic media preferably local channels.	Ongoing Regularly	DFO
10	Brand Ambassadors – Celebrities from film industry / cricket & other sports / athletes should be involved to spread the message for protection of elephants in electronic media for better impact and larger outreach.	Within 6 months	RCCF/DFO
11	Professional agencies should be hired to prepare films, signages, posters, wall paintings etc for successful campaigns.	Within 6 months to one year	RCCF/DFO
12	DFOs to prepare a panel of NGOs/ NGIs to help them execute such activities	Within 6 months	DFO/RO
13	A volunteer group of villagers to be formed in villages acutely affected by Human-Elephant conflict. This should be spear-headed by *GajaSathis*. Roping in community / individuals to participate in the *Jan SurakhyaGajRakhya*scheme	Within six months – one year	Forest Guard, Forester & ROs
14	*Mo Jungle-Mo Parivesh*: The district administration should take up massive	Within one year	District Administration

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	awareness programs on wildlife conservation in schools and colleges		
15	Document all good practices and successful case studies in human-elephant conflict mitigation and replicate them in other divisions. A compilation of these should find a place in the Annual Report of the State Wildlife HQ.	Ongoing but to be strengthened to enable completion of an exhaustive repository.	DFO / RCCF / WLHQ
16	Promote/Incentivise toilets to be built in all households under '*Swachh Bharat*' programme, especially in areas frequented by elephants to sensitize people to use their toilets instead of going to the fields to attend call of nature.	To be pursued in 2-6 months in pilot areas.	WLHQ/DFOs
17	Use of innovative eco-tourism practices to watch and photograph elephants may be tried at a pilot level to aid income generation among local villagers and also foster a sense of ownership among them.	Within 2-10 years	Local people / Tourism Dept / DFO

VI. HABITAT MANAGEMENT FOR INCREASED PRODUCTIVITY

(18 Action Points, LT-8, MT-4, ST-6)

Sl. No.	Recommended activity	Timeline/Periodicity	Nodal agency / Level within FD
Stratifying elephant habitats			
1	In each elephant-bearing division, stratify beats into Good, Medium and Poor elephant habitats based on forage, water, cover and disturbance and identify areas that are intact elephant habitats. A map to be prepared showing all prominent habitat features including water bodies, dense and open forests, meadows and grassland etc. so that key elephant habitats may be delineated.	Within Six months	Division Level

Improving Elephant Habitat			
2	Instead of a piece-meal approach to habitat 'improvement', a holistic habitat 'restoration' approach to be followed, wherein clearly identified degraded patches (5-25 hectares or more) to be continuously managed in the long-term. Experts in this field to be invited for a Workshop and their advice sought for forming an Action Plan on this, especially in PAs.	Consultations to be initiated immediately for the Workshop. Long-term	WLHQ/RCCF/DFO
3	Map extensive weed-infested areas [emphasizing on most nefarious species such as *Chromolaena odorata, Mikania micrantha, Cassia tora, Lantana camara*] in all divisions and ear mark area for weed eradication.	Within 1-2 years	Division Level
4	A 5-year action plan to be developed for weed eradication in such identified areas. Extensive and persistent weed removal to be done along with planting up with palatable species of grasses, herbs/forbs, shrubs, and fruit/fodder trees. Suggested list appended.	Within one year To be implemented thereafter for 5-10 years	Division Level
5	In all Regional Wildlife Management Plans, Site Specific Wildlife Management Plans, at least 25% funds to be ear-marked for habitat improvement.	Policy to be formulated within six months Regularly	Forest HQ / WLHQ
6	In all plantation drives within elephant rich RFs (Zone I&II), at least 50% of planting material will have to be from a list of elephant food plants and nursery stock to be accordingly developed. In other elephant movement areas at least 20% to be planted.	Policy to be formulated within six months	WLHQ/Division
7	Follow wildlife-friendly norms specified in the Wildlife Conservation (Overlapping) Working Circles prescribed in the Working Plans while undertaking forestry	Ongoing	Division Level

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	operations.Routine climber-cutting, bush-clearance, roadside clearance etc to be avoided. Working Plans for divisions with high elephant populations should necessarily include a chapter for elephant conservation and management.	To be enforced Immediately	PCCF, Working Plan Officers
8	Restoration of degraded/blank patches by enrichment plantations of fodder/food species.	Ongoing but more focus required. Should go on for 10 years at the least	Division Level
9	Restoration of degraded meadows by site-specific strategies.	Ongoing but enhance focus and should go on for 10 years at the least	Division Level
10	Mining area restoration plan should focus on wildlife and habitat restoration including planting of bamboo and elephant food plants and also appropriate water conservation and harvesting methods.	Ongoing but needs focus. Within 1-2 years but go on for 10-20 years Regularly	Division level
Plantation of Bamboo, Ficus and preferred elephant food plants			
11	Raise Bamboo plantations of *Dendrocalamus strictus* [rhizome/seedball] wherever possible.	Ongoing but requires massive scaling up. Short-term/Medium term& Long-term.	Division Level
12	Ensure improvement of degraded bamboo forests using accepted silvicultural practices.	Ongoing but requires massive scaling up. Short-term/Medium term& Long-term	Division / OFDC
13	Enforce prevention of bamboo shoot (*karadi*) collection by local people in elephant bearing areas. Ensure adequate supply of bamboo rhizomes and encourage them to plant for self-sufficiency. Alternative livelihood to be planned for habitual *karadi* collectors.	Short-term Medium-term	Division Level

14	Planting of Ficus species especially *Ficus bengalensis* in all suitable areas with due protection. In addition, preferred elephant food trees (fruits/leaves/bark) to be planted extensively. Assisted planting of Ficus species on standing snags/dying trees so as to enhance their survival percentage.	Ongoing but requires massive scaling up. Immediately Short-term/Medium term& Long-term	Division Level
15	Develop captive fodder farms near elephant rescue centres as well as in divisions having captive elephants	Ongoing in some areas and needs replication. Within 1-5 years	Division
Water Sources and other habitat improvement measures			
16	Development of water resources in carefully chosen areas by catchment treatment plans and SMC works including WHS, LBS, BWCDs,SSDs and also digging of waterbodies to ensure pinch period water availability. Saturation to be achieved over time.	Ongoing but requires rationalisation. Short-term and medium-term till saturation over the long run.	Division Level
17	Reduce the presence of scrub cattle and livestock in elephant areas, and contamination of waterholes by wallowing buffaloes. Supply of high-yielding stall-fed cattle can be tried in pilot basis with support from V&AH Dept.	Medium-term	Division Level
Forest fire managementand control			
18	Fire management / control measures which are already in place to be followed meticulously. Special care to be taken to manage fire in key elephant habitat areas and where plantation of elephant fodder species have been taken up.	Ongoing Fire season	DFO/RCCF

Short-term: <1 year / Medium term: 1-5 years / Long-term: > 5 years

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VII. HUMAN RESOURCE MANAGEMENT & CAPACITY BUILDING

(21 Action Points, MT-1, ST-20)

SL No.	Recommended activity	Time line / periodicity	Nodal Agency / level within Forest Department
1	Ongoing filling up of vacancy positions at all levels of regular frontline and supervisory staff to be expedited as to ensure man in position in all field level positions.	Highest priority Regularly thereafter	Govt. of Odisha
2	Designation of a Prosecution Range Officer in each Division for constant liasoning with the Courts, effective prosecution and timely filing of PRs.	Within 6 months	DFO
3	**Capacity building of frontline staff:** Frontline staff of Forest Department should be trained on the following subjects: - a. Managing straying of elephants to Human habitation and mitigation of Human Elephant Conflict. b. Intelligence collection, Detection, enquiry, interrogation techniques, case record preparation, and prosecution of Wildlife Offence cases to the designated court. c. Tranquilization Techniques and Rescue and rehabilitation of problematic elephants. d. Elephant behaviour e. Habitat Management, weed eradication and propagation of high-quality grassland, nursery techniques of food and fodder species. f. Use of new technology and apps in wildlife monitoring Every elephant-bearing division should have a Core Group of 10-15 young staff trained in rescue, emergency anti-depredation activities, tranquilization, shifting and management of conflict situations.	Ongoing but to be improved/strengthened Quarterly Existing in few circles but should be enhanced. Within six months	WLHQ/RCCF/ DFO DFO

4	Create adequate number of posts of Veterinarians within the Forest Department considering their crucial role in wildlife health management, rescue and rehabilitation. Fill up existing vacancies forthwith.	Existing but to be enhanced Within six months	Govt. of Odisha / WLHQ
5	**Capacity building of *GajaSathis*, Civil Society (VSS members/ Community Groups):** Training on preliminary operational methods for managing the depredation should be given to the *GajaSathis*, VSS members/ Community Groups. They should be equipped with knowledge and technique for operation and maintenance of depredation devices and deterrent methods. Knowledge of elephant behaviour and appropriate response should also be a key component of such training.	Ongoing but to be strengthened. Within sixmonths Periodically	DFO
6	**Capacity building of Veterinarians**: On rescue, treatment and rehabilitation of problematic/ injured elephant/ PM of elephant and treatment of Captive Elephants and also on control of wildlife diseases.Veterinary Officers' Training Institute may be roped in for this.	Ongoing but to be strengthened. Within sixmonths to 1 year Periodically	WLHQ
7	**Capacity building of officers of the rank of RO, ACF and DCF** To be scheduled with the support of WCCB, BPSPA, WWF, WTI utilising the services of eminent resource personson themes such as intelligence gathering, surveillance, modern methods such as CDR tracking, cyber-crime; crime scene investigation, case-record preparation, and prosecution.	Ongoing but needs strengthening. Within sixmonths Periodically	RCCF/WLHQ
8	**Capacity building of mahouts**: Enhance training on husbandry, care and management of captive elephants and kunkitraining so that they can effectively function during Human Elephant Conflict situations.	Within 6 Months to one year Periodically	WLHQ/DFO
9	Include Wildlife Management, Wildlife Health Monitoring and Human-Elephant Conflict (HEC) mitigation in the syllabus	Existing but can be more focussed on	CCF Training and Development

	for IFS and OFS officers and also in curriculum of the Forester and Forest Guard training and refresher courses in Nicholson Forester Training School, Champua, Forester Training School, G.Udayagiri, Forester Training School, Ghatikia, Bhubaneswar, Mooney Forest Guards School, Angul	field practicality and efficacy. Within six months to one year	
10	Conduct thematic short-term training programme on HEC mitigation for Forester and Forest Guards in the aforesaid schools.	Ongoing Every year	CCF Training and Development
11	Handpick and nominate ROs for 3-month certificate diploma course in WL management course in the Wildlife Institute of India (WII)	Ongoing Every year	PCCF (WL)
12	Handpick and nominate ACFs /DCFs in 10-month certificate diploma course in WL management course in the Wildlife Institute of India (WII)	Ongoing Every year	PCCF (WL)
13	Organizing Awareness-cum-Animal Health Camps in forest fringe areas for clinical examination, screening against diseases, deworming and treatment of any specific diseases of domesticated animals and birds.	Ongoing Yearly	Chief District Veterinary Officer / Divisional Forest Officers
14	Training of Veterinarians on Tranquilization / sedation, treatment of sick and injured wild animals, conducting post-mortem examination of carcass and scientific collection, preservation and dispatch of morbid samples to laboratories. Forest field staff to be trained to Assist Veterinarians.	Ongoing Once in a year	Director, AH&VS, Cuttack / PCCF (WL) & CWLW, Odisha
15	Give recommendations to include Wildlife Health, Rescue and Rehabilitation as a Special Paper in the syllabus of the degree course in Veterinary Sciences in CVS, OUAT, Bhubaneswar.	Within one year	WLHQ / CVS, OUAT
16	Training and awareness of sub-divisional and district level judicial officers on the gravity of wildlife crime, illegal wildlife trade and role of Forest Department in tackling these.	Ongoing Periodically	OJA, Cuttack in collaboration with WLHQ

17	Training and awareness of sub-divisional and district level police officers on the gravity of wildlife crime, illegal wildlife trade and their role in supporting Forest Dept in apprehending habitual wildlife criminals, tackling menace of illegal fire-arms etc.	Within one year Periodically	BPPA, Bhubaneswar in collaboration with WLHQ
18	Training and awareness of Loco Pilots, linemen and Level-Crossing staff to prevent accidents involving elephants.	Within six months Periodically	RCCF/DFO
19	Training and awareness of Medical Officers, Tahsildars and IICs for quick processing of compassionate payment claims for human death to be done.	Within six months Periodically	RCCF/DFO
20	Institute division level prizes for acknowledging/rewarding meritorious frontline staff/squad members in mitigating conflict, protection of wildlife, crime control and enforcement or awareness and education. Special prizes for exceptional work to be put in place.	Within six months Periodically	DFO
21	Similar ways of recognising exceptional services of civil society members also to be put in place.	Ongoing	WLHQ/RCCF/ DFO

VIII. WILDLIFE HEALTH MANAGEMENT AND DISEASE CONTROL

(8 Action Points, ST-8)

SL No.	**Recommended activity**	**Time line / periodicity**	**Nodal Agency / level within Forest Department**
1	Preventive vaccination of domesticated animals in forest fringe area against vaccine preventable diseases such as Hemorrhagicsepticemia (HS), Black Quarter (BQ), Anthrax and Foot and Mouth Disease (FMD).	Ongoing Biannual except in case of anthrax where annual vaccination will be done.	Chief District Veterinary Officer / Divisional Forest Officers
2	Animal Disease Surveillance on commonly occurring diseases of domesticated animals and birds and physical surveillance on wild elephants.	Ongoing Continuous programme	Director, AH&VS, Cuttack / Divisional Forest Officers
3	Strengthening of Centre for Wildlife Health with modern diagnostic facilities and	Ongoing	Project Coordinator,

	adoption of new technologies for easy and quick diagnosis of disease of wild animals. Enable its recognition as a recognized Forensic Laboratory.	Continuous programme	CWH / PCCF (WL) & CWLW, Odisha
4	Disinfection of water bodies within forest areas preferably before and after monsoon	Ongoing Twice in a year	Engineers of RWSS / Divisional Forest Officers
5	Treatment of sick / injured wild elephants: the field staff of forest department will follow the Standard Operating Procedure (SOP) already circulated by State WLHQ.	Ongoing but needs to be more effective As and when required	Chief District Veterinary Officer / Divisional Forest Officers
6	Conducting Post Mortem (PM) examination of dead wild elephants and scientific collection of morbid materials for laboratory examinationbya team of local Veterinarians.	Ongoing but needs to be more effective As and when required	Chief District Veterinary Officer / Divisional Forest Officers
7	Preparation of a new SOP for PM and circulation to all field officers in the Divisions and Circle	Within 1 Month	ADVO, WLHQ
8	Control of Emerging Diseases in wild elephants	In case of occurrence.	Chief District Veterinary Officer / Divisional Forest Officers

IX. RESEARCH & APPLICATION OF TECHNOLOGY

(19 Action Points, MT-4, ST-15)

Sl. No.	**Recommended activity**	**Timeline/ Periodicity**	**Nodal agency / Level within FD**
1	Fill up the existing vacancies of Research Officers in the State Wildlife Headquarters.	Within six months	WLHQ/GOO
2	Each Circle should have a Research & Monitoring Cell having at least two Research Scholars.	Within one year	RCCF
3	GIS Cell of each Division and Circle should be strengthenedand detailed land-use, land cover maps prepared and updated regularly.	Ongoing Immediately	
4	Undertake periodic elephant population estimation following standard protocols.	Within one year	WLHQ

	[Collaboration with Project Elephant and a National Institution of repute]		
5	Strengthen close monitoring of elephant herds by trackers, supplemented by photographs/videos by them to realistically estimate sex/age-class distribution so as to decipher demographic parameters and trajectory of population change.	Ongoing Within 3 months / Continuous	Division / Circle / WLHQ
6	Commission a study covering both the wet and the dry seasons to assess the status of identified corridors including new corridors listed by ANCF to be completed within two years.	Within 2 months	WLHQ
7	Radio-collaring studies should be carried out in select localities of the State to elucidate habitat use, ranging and patterns of crop depredation. Candidate animals could be Matriarchs, Adult bulls, Lone bulls.	Within 6 months To be continued at regular intervals	WLHQ / Circle
8	Employ drones for detecting, tracking and monitoring elephants, and assess sex and age-class breakup of herds.	Ongoing but needs to be extended to all divisions. Immediately	Division
9	Pilot project to assess efficacy of various types of barriers on a pilot basis (community solar fences, rubble walls, steel channel/rail bars etc.)	Within 1-2 years	Division
10	Use of camera traps also to be made for understanding elephant presence and habitat use and individual identification of tuskers.	Ongoing in some divisions. To be extended to all. Immediately / Continuous	Division
11	Take up pilot project on the use of emergent technology including ground impact detection sensor technology/temperature and movement sensors etc to detect and give early warning of presence of elephants, especially on identified crossing points across railway tracks.	Within 1-2 years	RCCF/DFO

12	Take up pilot projects on the use and efficacy of low-cost bio-deterrents such as chilly bombs, use of bee-boxes, elephant-repelling crops, lure crops as well as acoustic deterrents (bee-sound, tiger roars) etc. which have been tried across the country.	Within a year	RCCF/DFO
13	Study of peoples' perceptions on HEC and people's participation involving social scientists / organisations.	Within three months	WLHQ/Circles
14	Commission study on the use of linear infrastructure mitigation measures such as Elephant Underpasses and Overpasses in select divisions.	Within one year Can be extended to other areas phase-wise.	WLHQ/Circles
15	Studies to understand social carrying capacity and also the changing trends in human tolerance and traditional co-existence between elephants and local people in select landscapes involving reputed local universities.	Within a year To be continued and extended to other areas	WLHQ / RCCF/DFO
16	Study on elephant habitat quality with special reference to palatable tree, shrub, climber and grass species andalso meadow management practices with an aim to improve these. [One each in Mayurbhanj, Mahanadi and Sambalpur Elephant Reserves]	Within two years	WLHQ/Circles
17	Disease surveillance and monitoring in all elephant reserves and PAs with elephants	Ongoing At regular intervals	Divisions with hand-holding from Veterinary Dept. and Universities.
18	Long-term ecological monitoring stations to assess bioclimatic variables using automatic data loggers should be installed in all PAs. Similarly, assessment of stream flow, soil profiles etc to assess ecosystem services evaluation.	Within 1-2 years	WLHQ
19	AI-based Intrusion Detection System (IDS) already deployed by Northern Frontier Railway (NFR) in Lumding and Alipurduar	Within 6 months	Railways

	divisions to be extended to select stretches in Odisha. Similar other technologies such as Intelligent Seismic Sensing System for Elephant Movement Detection (eleSeisAlert) being developed by CSIR-Central Scientific Instruments Organisation (CSIO), Chandigarh and open-source sensor warning system EleSense-IoT to be explored for pilot-level implementation.		

X. MONITORING

(5 Action Points, MT-1, ST-4)

Sl No	Recommended Activity	Time Line/ Periodicity	Nodal Agency/ Level within the Forest department
1	Strengthen daily monitoring and regular analysis of iWLMS/OFMS/mSTRIPES data at Division and Circle levels for effective protection / patrolling strategy for preventing elephant deaths. This should be ensured by the Elephant Protection and Wildlife Crime Control Cell of the Division and Circles respectively. Movement of elephant herds/solitary tuskers should be regularly mapped at division and circle level so that proactive steps can be taken for their protection. Monthly report in prescribed format should be sentby all Divisions to the Circles and RCCFs should compile and send to WL HQs with their specific observations/comments.	Ongoing but to be enhanced Immediately Monthly	DFO, RCCF/WLHQ
2	Ensure monitoring of smaller and scattered population by the circle-levelCommittees constituted under the chairmanship of Chief Wildlife Warden and to suggest steps for safety and security of those elephants vide Office order No. 7223 dated 02.08.2021	Immediately Monthly	RCCF

206 7.90

3	MOU has been signed between PCCF (WL) & CWLW, Odisha of Indian Institute of Science, Bangalore for radio-collaring of 3 nos of elephants in Angul, Dhenkanal, Keonjhar, Rairakhol, Athagarh, Athamallik&Chandaka WL divisions for monitoring of their movement. This may be expedited. Further radio collaring of identified and candidate animal (adult tusker, matriarchs, solitary males, captured individuals to be released back) to be carried out in select localities of the State.	Within 6 Months Maybe initiated within a year's time and continued thereafter	WLHQ WLHQ/DFO
4	Focus on the recently initiated efforts to prepare a photographic profile of tuskers in all elephant bearing divisions and vetting to be done at the Circle level. Adult tuskers to be identified and regularly monitored to provide protection and prevent poaching. This effort needs to be continued and refined regularly over time.	Preliminary efforts in some divisions but need to be intensified. Within 6 months Updation and analysis at regular intervals	DFO / RCCF/WLHQ
5	Analysis of sex/age-class break-up of elephantherds through periodic monitoring so as to arrive at indicative growth rates and demographic trajectory.	Within 2 Years Updation and analysis at regular intervals	Divisions / Circle / WLHQ

207 791

References

Bhagat, R.B. and Mohanty, S. (2009). Emerging pattern of urbanization and the contribution of migration in urban growth in India. *Asian population Studies*, 5**(1)**:5-20.

Bisht, S. S. (2002). An Over view of Elephant Conservation in India. Indian Forester, **128 (2)**:121-136

Das, H. C. (1986). Military History of Orissa. Calcutta, India: Punthi Pustak.

Digby, S. (1971). War Horses and Elephants in the Delhi Sultunate. Oxford: Oxford University Press.

Doyle, S., Groo, M., Sampson, C., Songer, M. and Jones, M. (2010). Human-Elephant Conflict—What Can We Learn from the News? Gajah, **32** :14-20

Ehrlich, P.R., Ehrlich, A.H. and Holdren, J.P. (1978). Population, Resources, Environment. San Francisco: Eco science, W.H. Freeman and Company

Fernando, P., Leimgruber, P., Prasad, T., and Pastorini, J. (2012). Problem-elephant translocation: translocating the problem and the elephant? PLoS ONE**7(12)**: e50917. doi: 10.1371/journal.pone.0050917

Fritz, H. (2017). Long-term field studies of elephants: understanding the ecology and conservation of a long-lived ecosystem engineer. Journal of Mammalogy, **98(3)**: 603–611. doi: 10.1093/jmammal/gyx023

Fowler, J. (1981). Stages of faith: The psychology of human development and the quest for meaning. New York, NY: Harper and Row.

Gosling, J. (2018). Skinned The growing appetite for Asian elephants, an investigative report from Elephant family protecting Asian Elephants and their family, Vicky Flynn, Belinda Stewart-Cox, Caitlin Melidonis. www.designsolutions.me.uK

Grimm, N.B., Foster, D., Groffman, P., Grove, J.M., Hopkinson, C. S., Nadelhoffer, K.J., Pataki, D.E. and Peters, D.P.C. (2008). The changing landscape: ecosystem responses to urbanization and pollution across climatic and societal gradients. *Front Ecol Environ,* **6(5):** 264–272, doi:10.1890/070147

Hambal, M. and Wahyu, M. (2012). Regional Workshop and Training of Asian Elephant Veterinarians. Gajah, **36**: 39-40

208 792

India State of Forest Report. (2019). Forest Survey of India. Ministry of Environment, Forest & Climate Change.

India State of Forest Report. (2021). Forest Survey of India. Ministry of Environment, Forest & Climate Change.

Johnsingh, A.J.T., Sathyakumar, S.and Sunderraj, F.W. (1991). Ariankavu Pass, a lost elephant corridor in South India. Environmental conservation,18 **(4)**: 368.

Marimuthu, R. and Daniel, B.A. (2016). Asian Elephant Conservation-Capacity building training for forest staff and sensitization programmes for journalists in Tamil Nadu. ZOO's PRINT, 31**(12)**: 1-3.

Menon, V; Easa, P.S., Johnsingh and Amp, A.J.T. (2010). 'Making Way' - Securing the Chilla-Motichur corridor to protect elephants of Rajaji National Park. Wildlife Trust of India, New Delhi.

Mitra, D. (1966). Bhubaneswar. 3 edn. New Delhi: Archaeological Survey of India.

Mumby, H.S. and Plotnik, J.M. (2018). Taking the Elephants' Perspective: Remembering Elephant Behaviour, Cognition and Ecology in Human-Elephant Conflict Mitigation. Frontiers in Ecology and Evolution, 6**(122)**: 1-8.

Patnaik, S. K. (2004). Hati O Orissa. In Nature Scope India, HatiHatiHati (in Oriya) Ahmedabad (CEE East, Bhubaneswar): Centre for Environment Education.

Pokharel, S. S., Singh, B., Seshagiri, P. B. and Sukumar, R. (2018). Lower levels of glucocorticoids in crop-raiders: diet quality as a potential 'pacifier' against stress in free-ranging Asian elephants in a human-production habitat. AnimConserv. https://doi.org/10.1111/acv.12450.

Project Elephant. (2017). Synchronized elephant population estimation India. New Delhi, India: Ministry of Environment, Forest and Climate Change, Government of India.

Rameshan, M. Roy, A. and Ramasamy, E. V. (2014). Identification of potential elephant corridor between Anamalai landscape and Periyar Tiger Reserve, Southern Western Ghats: Ageospatial approach. International Journal of Geoinformatics,10**(2)**: 41-52.

Report of The Refresher Training Program (virtual) On Wildlife Health Management for Veterinary Health Professionals From 23rd To 25th February (2021): Central Zoo Authority, MoEFCC Govt. of India

Rodgers, W.A and Panwar, H.S. (1988). Planning a wildlife protected area network in India. Vol 2. Project FO: IND/82/003. FAO, Dehradun, India, pp 339.

Rout, D. K., Parida, P. K., Samal, R. N., Das, A., Mohanty, D.P. and amp; Behera, G. (1999). Remote sensing application for characterization elephant habitat and corridors in Orissa and part of Bihar. Bhubaneswar; Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden and Orissa Remote Sensing Application Centre.

Rowell, Z. (2014). Locomotion in captive Asian elephants (Elephas maximus). Journal of Zoo and Aquarium Research, **2(4)**: 130-135.

Sar, C. K. and Lahiri-Choudhury, D. K. (2002). Project: Elephant - Human Conflict in Asia, Report on Orissa - India (Pt.-II-f), Boudh Forest Division, Boudh District (1992- May 1998). Kolkata.

Sar, C. K. &Lahiri-Choudhury, D. K. (2002). A Checklist of Elephant Movement Paths / Corridors in Mahanadi Catchment, Orissa. Indian Forester, 128 **(2)**: 235 – 242.

Shaffer, L.J., Khadka, K.K., Hoek, J.V.D. and Naithani, K.J. (2019). Human- Elephant conflict: Areview of current management strategies and future directions.Frontiers in Ecology and Evolution, **6 (235)**: 1-12.

Sivaganeshan, N. and Sukumar, R. (2000). A brief documentation of elephant corridors in Southern India.

Srinivasaiah, N. M., Anand, V. D., Vaidyanathan, S. and Sinha, A. (2012). Usual populations, unusual individuals: Insights into the behaviour and management of Asian elephants in fragmented landscapes. PLoS ONE,**7**, e42571

Sukumar, R., Madhusudan, M.D and Lele, S. 2012. Report of the Karnatak elephant task force, submitted to the High court of Karnatak.

Sukumar, R., Ramakrishnan, U. and Santosh, J.A. (1998). Impact of poaching on an Asian elephant population in Periyar, southern India: a model of demography and tusk harvest. Anim. Conserv. **1**: 281–291.

Sukumar, R., Sar, C.K., Jena, R.K., Chatterjee, S. Ishmael, S.A.F., Suresh, H.S., Kshettry, A., Singh, B. and Roy, M. (2018). Elephant carrying capacity of Odisha's forests. Final Report submitted to Odisha Forest Department. Asian Nature Conservation Foundation. c/o Centre for

Ecological Sciences, 3rd Floor, Biological Sciences Building, Indian Institute of Science, Bangalore 560012, India.

The Code of Criminal Procedure, 1973

The Indian Arms Act, 1959

The Indian Evidence Act, 1872

The Indian Penal Code, 1860

The Orissa Police Manual, 1940

The Wildlife Protection Act, 1972

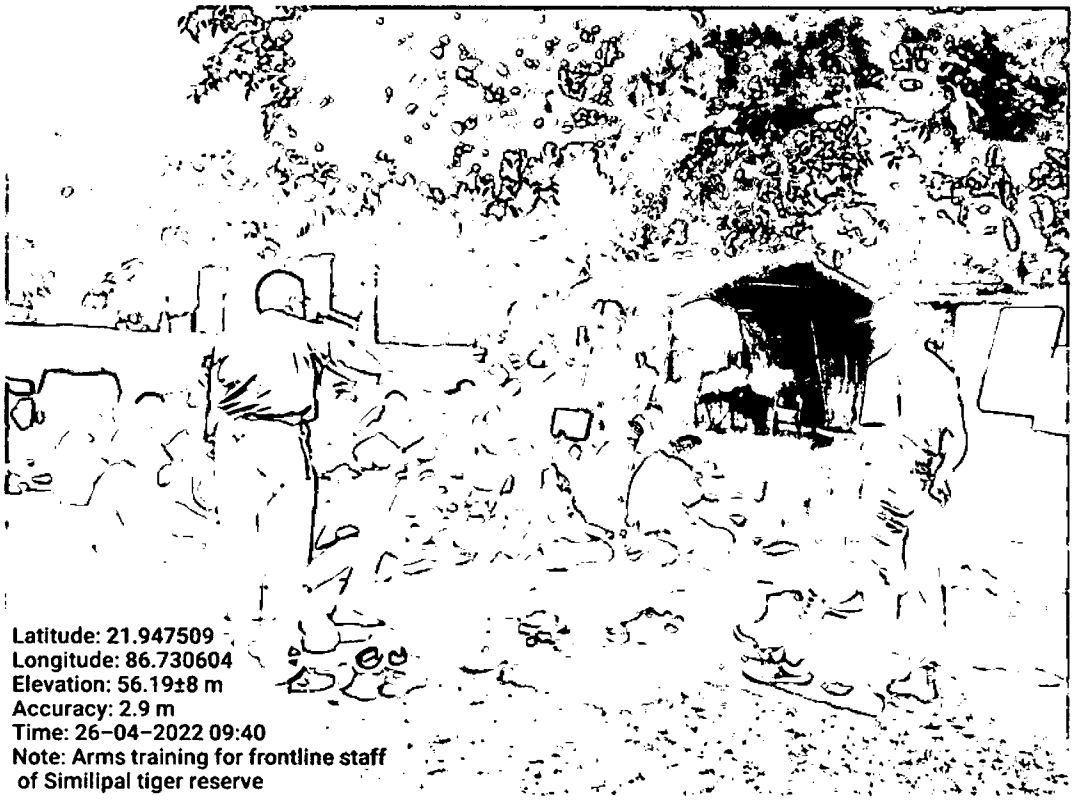
Tiwari, S.K., Singh, A.K., Singh, R.K. & Swain, D. (2005). Elephant corridors of Central India (Chapter 5). In: Right of Passage: Elephant corridors of India. Menon, V., Tiwari, S.K., Easa, P.S. and Sukumar, R. (Eds.). Conservation Reference Series No. 3. Wildlife Trust of India, New Delhi. Pp. 70-119.

Tiwari, S.K., Behera, S.K., Ramkumar, K., Sar, C.K., Swain, D. and Sukumar, R. (2017). Elephant corridors of Central India (Chapter 5). In: Right of Passage: Elephant corridors of India (2nd Edition). Menon, V., Tiwari, S.K., Ramkumar, K., Kyarong, S., Ganguly, U. and Sukumar, R. (Eds.). Conservation Reference Series No.3 Wildlife Trust of India, New Delhi:140-313.

Wildlife Crime Investigation: A Hand book for Wildlife Crime Investigation Officers. Wildlife Crime Control Bureau, Ministry of Environment and Forests, GOI. 2013. 1st Edition.

Zimmermann, A., Davies, T. E., N, Hazarika., S, Wilson, S., Chakrabarty, j., B, Hazarika. and Das, D. (2009). Community-Based Human-Elephant Conflict Management in Assam. Gajah,**30**: 34-40

214 - 294

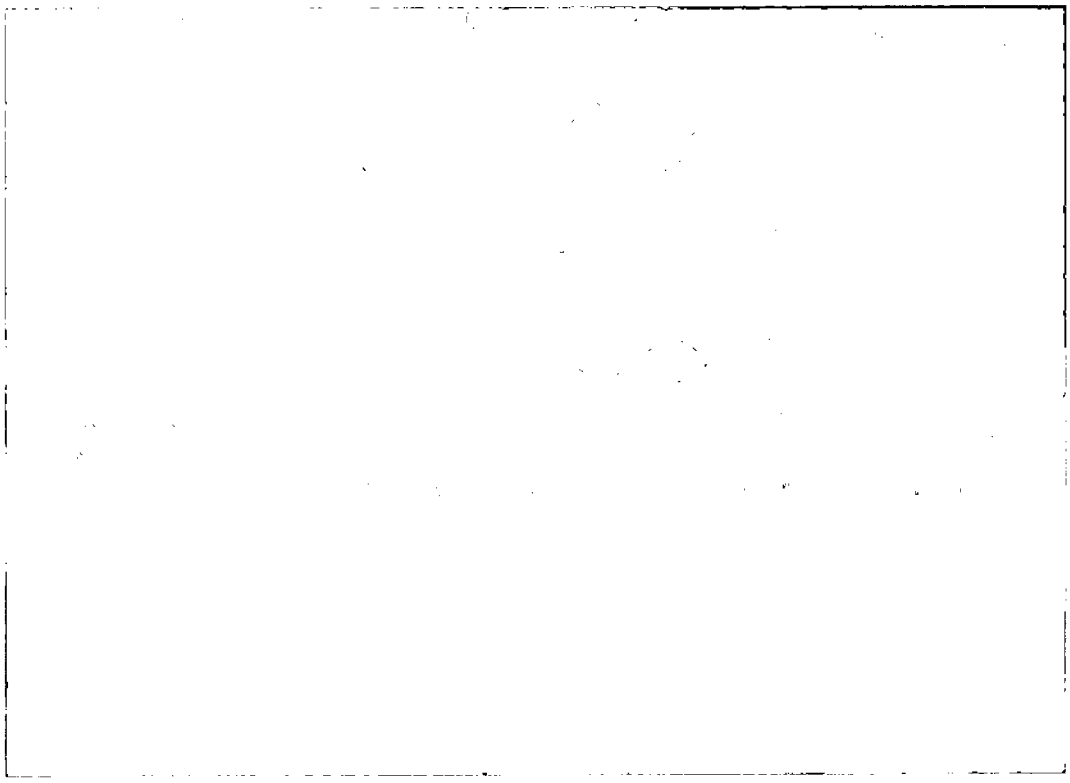


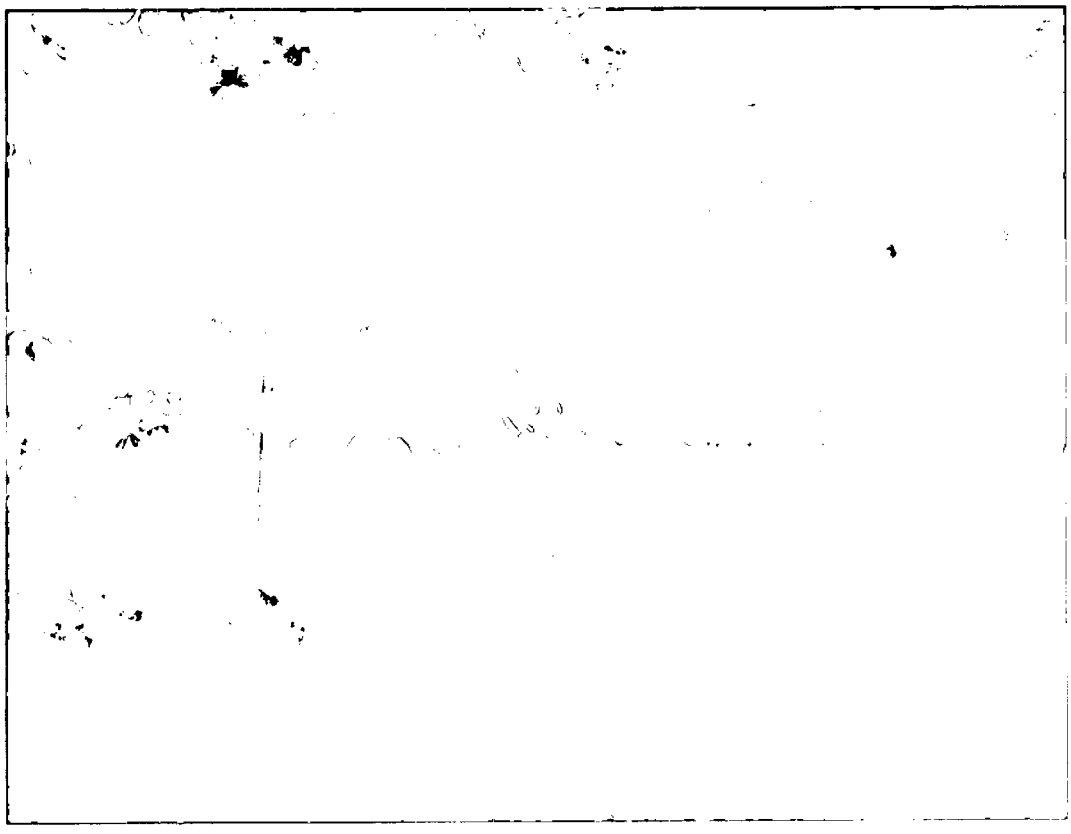
Arms training for frontline staff of Similipal Tiger Reserve, Baripada

Involvement of SSG Group in Fireline Creation Work for Fire Preventive
Range - Barehipani WL Range Division-Similipal North WL Division

SHG involvement in Fireline Creation Work for Fire prevention at Similipal North (WL) Division

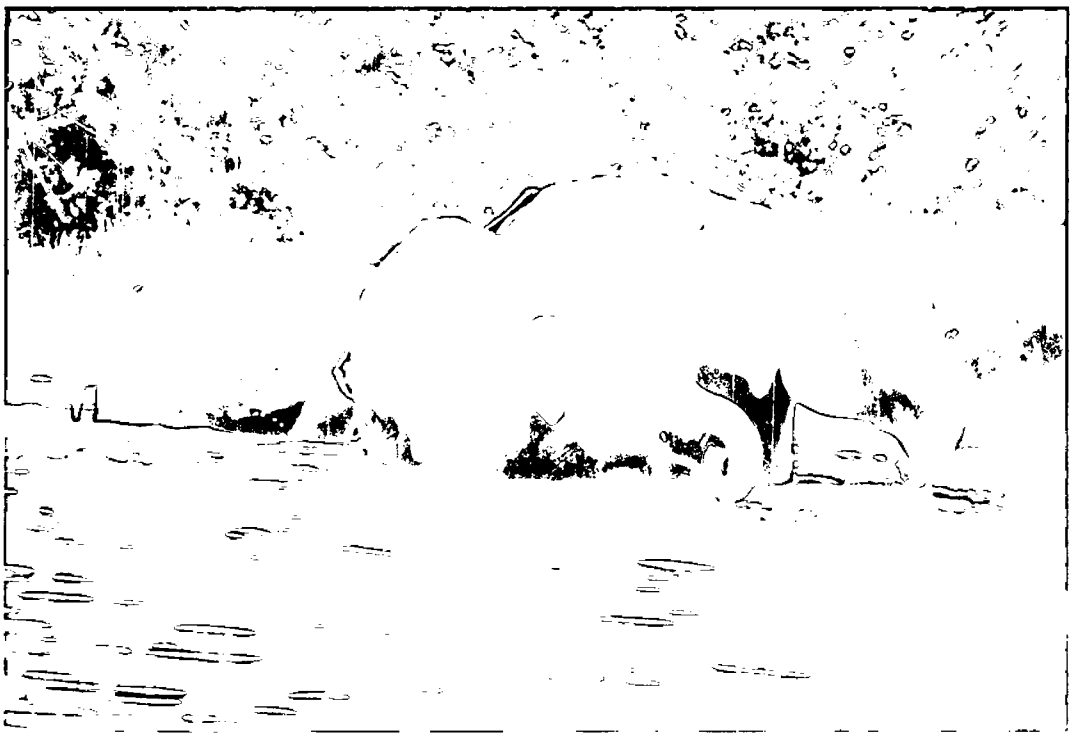
Chief
O/o the PCCF(WL)
Odisha, Bhubaneswar





Crop raiding on balasore division

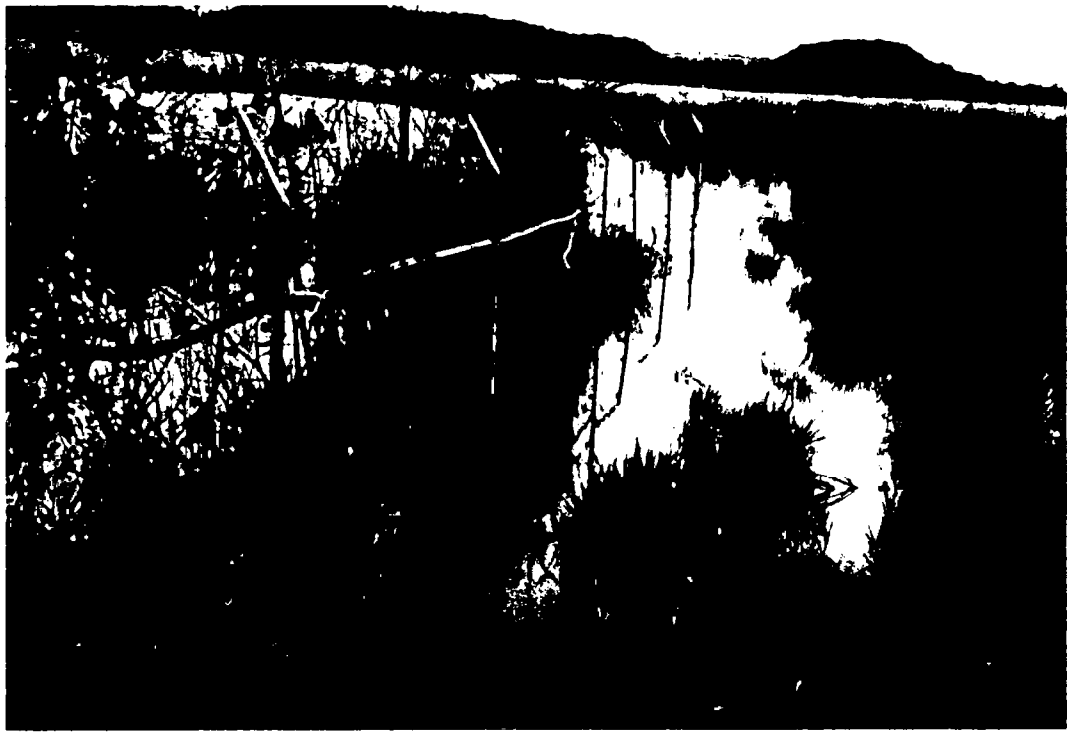
213 797



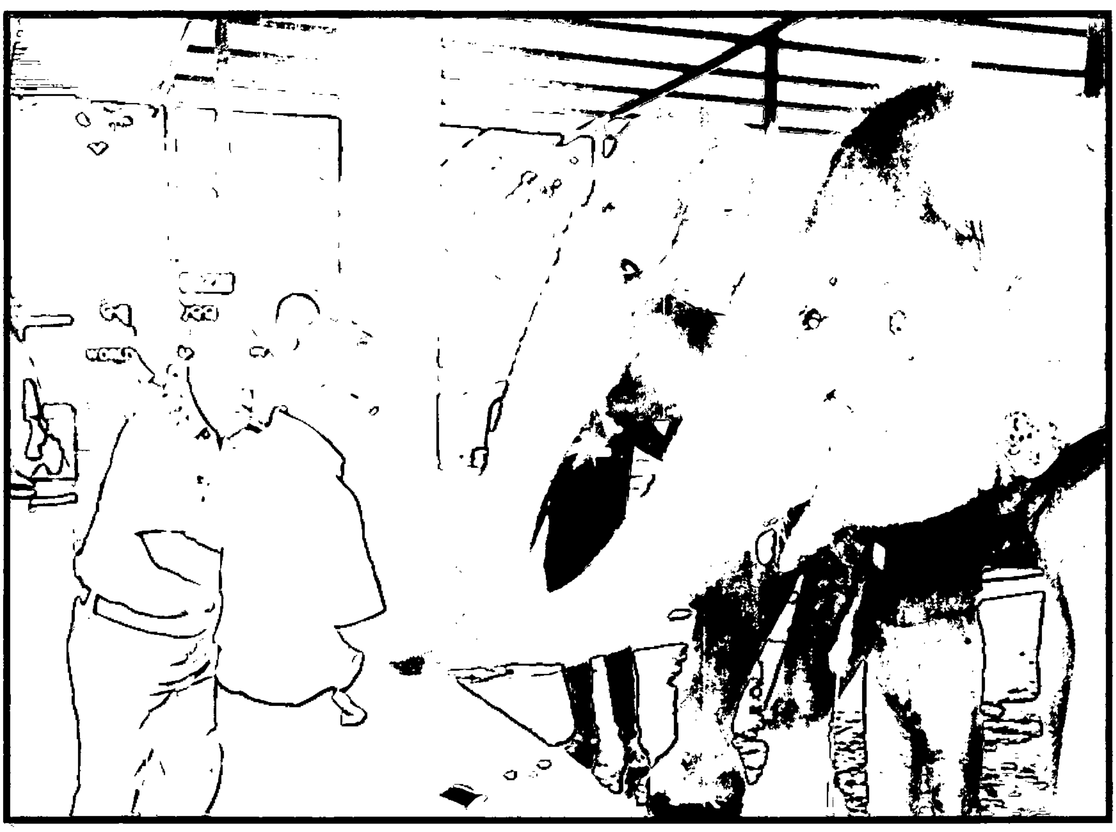
Asian Elephant at Chunakoli Waterbody, Chandaka Wildlife Division

Mother with Calf elephant, Satkosia WL. Division

अप 798



Solar Fencing in Athmallik Division



Observation World Elephant Day 2022, Nandankanan Zoo

800

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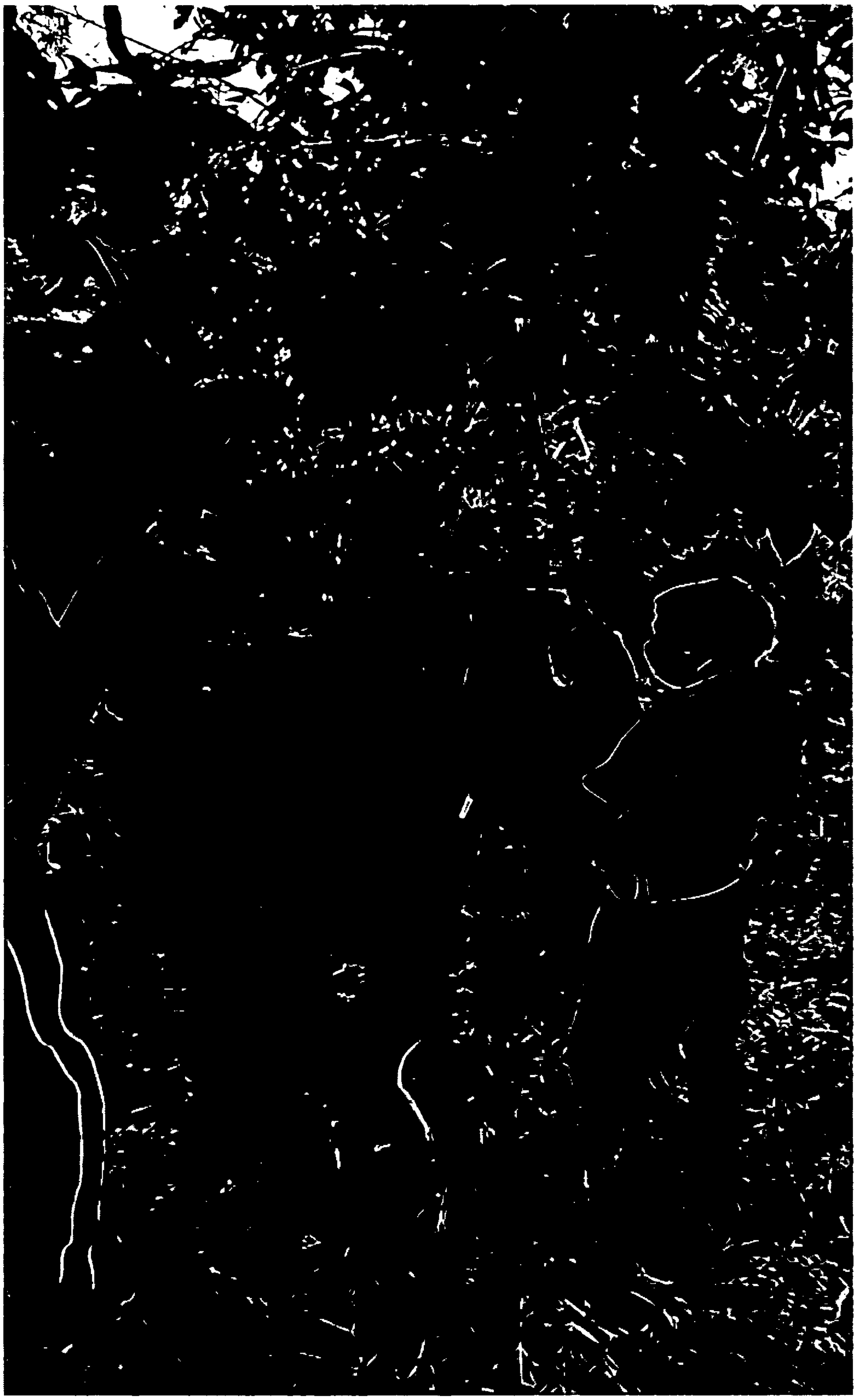
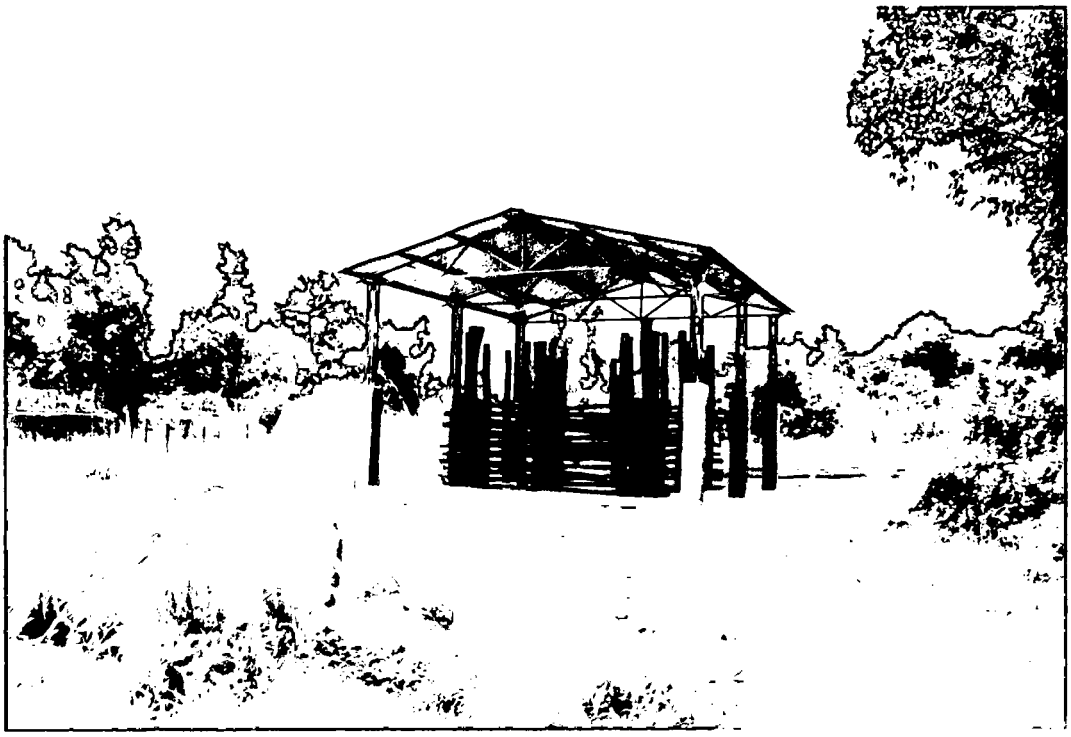
Tusker Crossing Road in Dhenkanal Forest Division

Tusker Roaming inside Chandaka (WL) Sanctuary

217 — 8v |



Sick elephant Treatment in Angul Forest Division



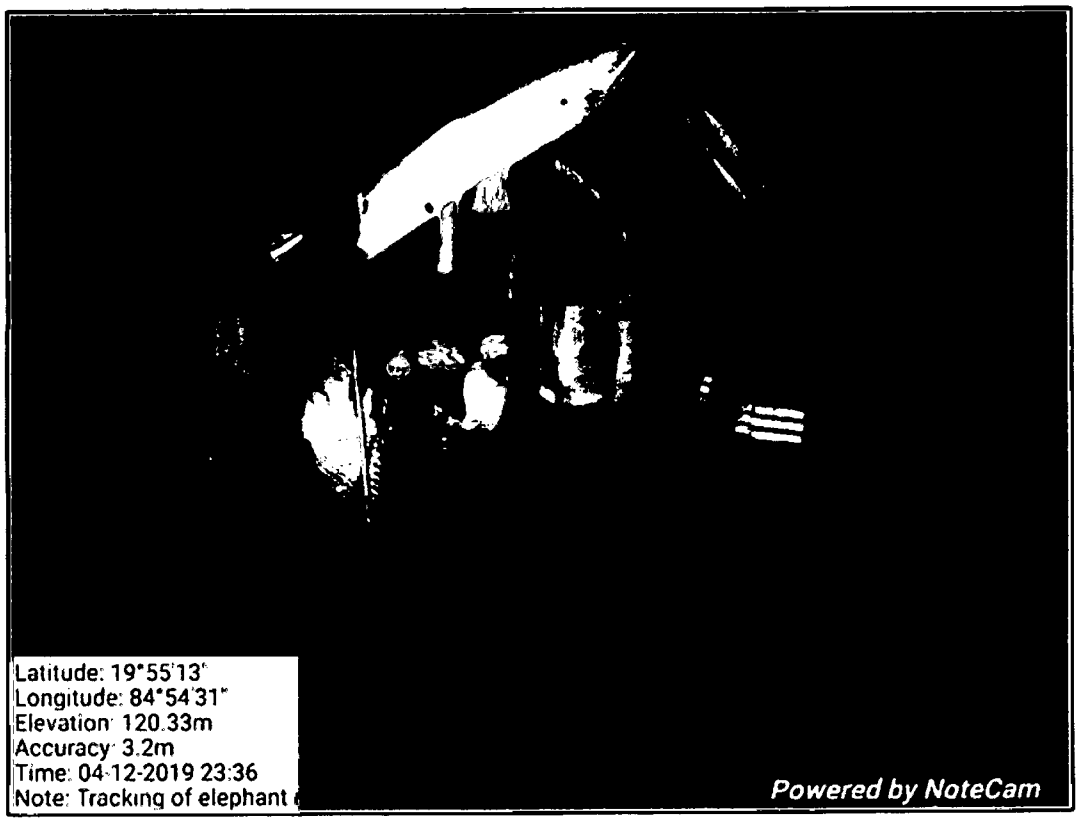
Chandaka Kumarkhunti Elephant Rescue centre, Chandaka WL. Division.

Death of elephant due to open transformer, Khordha Division

Electrocution death of elephant in Keonjhar Division

220 804

Preparation for tranquilization



Elephant tracking at Gochha RF

221-809

Sagging of electric line, Dhenkanal Division

Treatment of tusker infighting in Mahanadi WL. Division

Treatment of sick elephant

224 808 ANNEXURE-Z/1

STATE WILDLIFE HEADQUARTERS
OFFICE OF THE PRINCIPAL CCF(WILDLIFE) & CHIEF WILDLIFE WARDEN, ODISHA
PRAKRUTI BHAWAN, PLOT NO.1459, SAHEED NAGAR, BHUBANESWAR-751007.
Website: www.wildlife.odisha.gov.in, Email: odishawildlife@gmail.com

Memo No. 1318 /10WL-CC-517/2022
Dated, Bhubaneswar the 4th February, 2023

To

All Divisional Forest Officers (T/WL),
Dy. Director, Similipal (North/ South) Divisions.

Sub:- Implementation of action points of comprehensive action plan.

Ref:- W.P.(C) PIL No.14706 of 2022 (Gita Rout Vrs. State of Odisha & Others).

A comprehensive action plan for conservation of elephants & mitigation of human-elephant conflict in Odisha has been prepared in pursuance to the order of Hon'ble High Court of Orissa. The executive summary and action points of the said plan, which was submitted before the Hon'ble High Court and is now under active consideration of the Competent Authority for approval is attached herewith for your perusal. An inception workshop on this plan will be held in the second half of this month to take it forward.

You are hereby requested to go through the Plan and be in readiness to implement the said action plan once approved. As would be seen, many of the action points proposed are already ongoing and now require renewed focus and attention for ensuring effective conservation of elephants; the same may be ensured.

This issues with the approval of the competent authority & be treated as most urgent.

4.2.23

C.C.F.(WL)-cum-Chairman(JTF)
O/o PCCF (WL) & CWLW, Odisha
Bhubaneswar

Memo No. 1319 /Dt. 04/02/2023
Copy forwarded to all RCCFs for ensuring compliance and drawing up appropriate action plan.

4.2.23

C.C.F.(WL)-cum-Chairman(JTF)
O/o PCCF (WL) & CWLW, Odisha
Bhubaneswar

Chief Conservator of Forests (WL)
O/o the PCCF(WL) & CWLW
Odisha, Bhubaneswar

225 809 ANNEXURE-ZA/1

MINUTES OF INCEPTION WORKSHOP ON COMPREHENSIVE ACTION PLAN (CAP) FOR CONSERVATION OF ELEPHANTS AND MITIGATION OF HUMAN-ELEPHANT CONFLICT IN ODISHA

An inception workshop was held on 09.03.2023 at 11.00 A.M. in the 2nd Floor Conference Hall of Prakruti Bhawan Office of PCCF (WL) & CWLW, Odisha through hybrid mode under the Chairmanship of PCCF (WL) & CWLW, Odisha regarding implementation of the Comprehensive Action Plan (CAP) for Conservation of Elephants & Mitigation of Human-Elephant Conflict in Odisha.

The list of participants present during the workshop is placed in Annexure-I.

At the outset PCCF (WL) & CWLW, Odisha welcomed all the participants and apprised them of the fact that the CAP has been approved *in toto* by the High Level Committee Chaired by Chief Secretary Odisha with the stipulation that in zone-IV, in case of straying elephants, all efforts will be taken to drive back the elephant herd/individual into the forested landscape. Tranquilization and removal will be the last resort. However, in the eventuality of elephants straying into areas of high human density such as towns and cities, they will be captured and kept in the Rescue Centre. Decision regarding the area of release/ retention in captivity will be decided on a case-to-case basis by the Chief Wildlife Warden. The copy of the same had already been circulated to all the RCCFs & DFOs well in advance to enable them to remain in readiness to implement its provisions.

In order to prevent electrocution death of elephant PCCF (WL) & CWLW, Odisha informed the house of a new scheme where in one person per village will be engaged in vulnerable areas for verification of electrical lines daily. This is to be funded/ engaged jointly by DISCOMs and Wildlife Wing. To start with, forty volunteers each by the two organisations will be engaged. The DFOs were requested to identify the vulnerable pockets of their respective divisions for this purpose.

The DFOs were further requested to identify the villages/ persons which are particularly vulnerable to crop raiding and whose crops are damaged every year. A scheme will be prepared for early payment of a certain fixed amount as Compassionate payment for crop damage to villages. This can be in line with the scheme by Fisheries

Chief Conservator of Forests (WL)
O/o the PCCF(WL) & CWLW
Odisha, Bhubaneswar

Department wherein a fixed amount is being disbursed during non-fishing time for Conservation of Olive Ridley Turtles.

He also stated some Forest Officers will be empowered for collection of CDR/TDR like police officials for effective tracking of wildlife criminals.

It was further informed that, proposal for revision of Compassionate payment has been submitted and is under active consideration of the Govt.

Further, PCCF (WL) & CWLW, Odisha requested the Chief Conservator of Forests, Office of PCCF (WL) & CWLW, Odisha to give a Power Point Presentation of the Executive Summary and action points of CAP. The same was presented before the participants which was followed by a detailed discussion on the zonation approach and major action points under the 10 pillar strategy. Further the action points to be taken up at the level of RCCFs & DFOs were also discussed in depth.

The participants shared their views with PCCF (WL) & CWLW, Odisha & CCF (WL) Odisha regarding the said Action Plan. After threadbare discussions it was decided that the CAP will be rolled out immediately for effective conservation of elephants and mitigation of Human-Elephant conflict in Odisha.

The workshop ended with a vote of thanks to the Chair.

7/3/2023

Principal Chief Conservator of Forests
(Wildlife) & Chief Wildlife Warden
Odisha, Bhubaneswar

Chief Conservator of Forests (WL)
O/o the PCCF(WL) & CWLW
Odisha, Bhubaneswar

227 811

Annexure-I

ATTENDANCE SHEET

Inception Workshop on Comprehensive Action Plan for Conservation of Elephant and mitigation of Human-Elephant conflict in Odisha at the Conference Hall of Office of Principal CCF (WL) & CWLW, Odisha, Prakruti Bhawan, Bhubaneswar on 09.03.2023 at 11.00 A.M.

Sl. No.	Name	Designation	Signature
1	Shri S.K. Popli, IFS	Principal CCF (WL) & CWLW, Odisha	
2	Dr. Manoj V. Nair, IFS	CCF (WL)-cum-Chairman (JTF)	
3	Shri Bikash Ranjan Dash, IFS	Conservator of Forests (Wildlife)	090323
4	Shri Kedar Kumar Swain, IFS	Conservator of Forests (Ecotourism)	09/03/2023
5	Shri Samyak Samantara, OFS (STS)	Dy. Conservator of Forests (Admn.)	
6	Shri Himansu Sekhar Mohanty, OFS (SB)	Dy. Conservator of Forests (JTF)	
7	Shri Jatin Kumar Panda, OPS (SB)	Addl. Superintendent of Police (JTF)	
8	Shri Binod Kumar Acharya, OFS (SB)	WLCO	
9	Shri Srirampada Arbinda Mishra, OFS (JB)	Asst. Conservator of Forests (JTF)	

Sl. No.	Attendance List through VC	Dt. 09.03.2023
1	RCCF Angul (Guest)	Joined
2	RCCF Berhampur (Guest)	Joined
3	RCCF Bhawanipatna (Guest)	Joined
4	RCCF BHUBANESWAR (Guest)	Joined
5	RCCF Koraput (Guest)	Joined
6	RCCF ROURKELA/Sambalpur (Guest)	Joined
7	DD Similipal North (Guest)	Joined
8	DD similipal south (Guest)	Joined
9	DFO Angul (Guest)	Joined
10	DFO Athagarh (Guest)	Joined
11	DFO ATHMALLIK (Guest)	Joined
12	DFO Balliguda (Guest)	Joined
13	DFO BAMRA WL(Guest)	Joined
14	DFO Bargarh (Guest)	Joined
15	DFO Baripada (Guest)	Joined
16	DFO Berhampur (Guest)	Joined
17	DFO BHADRAK (Guest)	Joined
18	DFO BOLANGIR (Guest)	Joined

Chief Conservator of Forests (WL)
O/o the PCCF(WL) & CWLW
Odisha, Bhubaneswar

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19	DFO BONAI (Guest)	Joined
20	DFO BOUDH (Guest)	Joined
21	DFO CHANDAKA (Guest)	Joined
22	DFO Chilika wl (Guest)	Joined
23	DFO City (Guest)	Joined
24	Dfo Cuttack (Guest)	Joined
25	DFO Deogarh (Guest)	Joined
26	DFO DHENKANAL (Guest)	Joined
27	DFO GH SOUTH (Guest)	Joined
28	DFO Hirakud WL (Guest)	Joined
29	DFO Jharsuguda (Guest)	Joined
30	DFO Kalahandi North (Guest)	Joined
31	DFO KARANJIA (Guest)	Joined
32	DFO Keonjhar (Guest)	Joined
33	DFO Khariar (Guest)	Joined
34	DFO KHORDHA (Guest)	Joined
35	DFO KORAPUT (Guest)	Joined
36	DFO MAHANADI WL (Guest)	Joined
37	DFO Nayagarh (Guest)	Joined
38	DFO PARALAKHAMUNDI (Guest)	Joined
39	DFO Phulbani (Guest)	Joined
40	DFO PURI (Guest)	Joined
41	DFO Rajnagar (Guest)	Joined
42	DFO RAYAGADA	Joined
43	DFO Rourkela (Guest)	Joined
44	DFO Sambalpur (Guest)	Joined
45	DFO Satkosia (Guest)	Joined
46	DFO SUBARNAPUR (Guest)	Joined
47	DFO Sundargarh (Guest)	Joined
48	DFO, Balasore WL (Guest)	Joined
49	DFO, Keonjhar WL Division (Guest)	Joined
50	DFO, RAIRANGPUR (Guest)	Joined
51	Anurag Mishra (Guest)	Joined
52	Pravakar Senapati, ACF (Guest)	Joined
53	Redhakhol (Guest)	Joined
54	ACF Bamra WL (Guest)	Joined
55	ACF Bhadrak (Guest)	Joined
56	ACF chilika wl (Guest)	Joined
57	ACF Cuttack (Guest)	Joined
58	ACF Jeypore Division (Guest)	Joined
59	ACF NABARANGPUR (Guest)	Joined
60	ACF, BERHAMPUR (Guest)	Joined
61	ACF, Keonjhar WL,(Guest)	Joined

Chief Conservator of Forests (WL)
O/o the PCCF(WL) & CWLW
Odisha, Bhubaneswar

229-813 ANNEXURE-ZB/1

CF, WL

GOVERNMENT OF ODISHA

FOREST, ENVIRONMENT & CLIMATE CHAMGE DEPARTMRNT

***

NOTIFICATION

Dated Bhubaneswar the 20.01.23

No.FE-WL-WLF-0011-2022/ 1166 /FE&CC, **WHEREAS,** Similipal– Hadgarh – Kuldiha is the Traditional Elephant Corridor linking rich biodiversity of Similipal, Hadgarh and Kuldiha Wildlife Sanctuaries. The traditional corridor allows wildlife movement from one habitat to another to facilitate even gene flow between different populations. This landscape together with such flora and fauna needs further protection measures.

AND WHEREAS, after having consultation with local communities, it is felt necessary to conserve and protect the said flora and faunaof the area within Mayurbhanj and Balasore districts..

NOW THEREFORE, in exercise of the powers conferred under Sub-Section (1) of Section 36- A of the Wild Life (Protection) Act, 1972 (as amended), the State Government do hereby declare an area of 7263.355 Ac. or 2941.363 Ha owned by Government specified below as **Conservation Reserve** to be known as **"Similipal- Hadgarh - Kuldiha Conservation Reserve"** for the purpose of protecting landscapes, flora, fauna and their habitat therein.

AREA STATEMENT

DISTRICT	TAHASIL	Area(In Acre)	(In Ha.)
Balasore	Khaira	999.895	404.643
	Oupada	99.080	39.632
	Sub-total	**1098.975**	**444.275**
Mayurbhanj	Kaptipada	6164.380	2497.088
	Sub-total	**6164.380**	**2497.088**
	Total	**7263.355**	**2941.363**

Chief Conservator of Forests (WL)
O/o the PCCF(WL) & CWLW
Odisha, Bhubaneswar

E-WL-WLF-0011-2022/1/2023

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SCHEDULE 'A'

BOUNDARY DESCRIPTION

The Similipal – Hadagarh – Kuldiha Conservation Reserve boundary starts from Prominent Boundary Point No. 1 over plot No. 636 of village Sukhuapata Hill of Mayurbhanj district. The traverse moves in North direction touches the North-west corner of plot No. 636, then moves in east direction over Plot No. 593, 580 & 581. Then the traverse continues movement over plot No. 582 in North-east direction following the northern boundary line of Plot No. 1688, 874& 876. Then touches Prominent Boundary Point No. 3 at North-east corner of Plot No. 876, moves towards South direction over Plot 876, then the traverse passes through Plot No. 918, 919 & 920 of Sukhuapatahill & crosses the village boundary line of Sukhuapatahill & enter in village Kathachua. Then the traverse moves over plot No. 604 in South- east direction, then the line moves North-east direction over Plot No. 618, 619, 634, 638, 1413, 1405, 1448, 1377, 1469, 1647, 1712, 1749 of village Kathachua. The traverse meet South-west boundary corner of Plot No. 937 i.e. Prominent Boundary Point No. 4 of village Sukhuapatahill, then moves towards West & North direction following southern & western boundary line of Plot No. 933 & 932, then moves East direction along the boundary line of Plot No.968 then touches Prominent Boundary Point No. 5 over Northern boundary line of Plot No. 968, then the traverse moves towards South & East direction following the boundary line of Plot No. 968 & North-east direction of Plot No. 1008 over North Plot boundary then follows the Northern boundary line of Plot No. 1009, then touches Prominent Boundary Point No. 9 over North boundary line of Plot No. 1009 & moves North direction over plot No. 1086, 1134, 1154 & 1156 then touches Prominent Boundary Point No. 10 over North Plot boundary line of 1156. Then the traverse moves in East direction along the north boundary line of Plot No. 1511 & over Plot No. 1489, then moves along the northern boundary line of Plot No. 1489 of village Sukhuapata hill. The traverse moves over Plot No. 1448 in East direction, then moves in North & East direction along the boundary line of Plot No. 1489 & 1514 & touches Prominent Boundary Point No. 13 over inter-district boundary line of Mayurbhanj & Balasore districts. Then the traverse moves in South-west direction following the inter-district boundary of Mayurbhanj & Balasore districts & also Northern boundary line of Kuldiha Wildlife Sanctuary of Balasore district and touches Prominent Boundary Point No. 17. Then along the Sanctuary boundary line, the traverse moves in south & west direction in zigzag manner and emerges at Prominent Boundary Point No. 19. The Conservation Reserve boundary then co-terminus with Eco-Sensitive Zone boundary line in village Sarisuakapliajharibandhanata, touches Prominent Boundary Point No. 26. Then the traverse moves in North direction along the inter-district boundary line of Keonjhar & Balasore and Keonjhar & Mayurbhanj districts, then touches Prominent Boundary Point No. 35. The traverse moves in North -east direction along the north plot boundary line of plot No. 42, 43 & touches Prominent Boundary Point No. 40. Then the line moves in south direction along the Eastern boundary line of Plot No.47, 42 and Northern boundary line of Plot No. 54, 55, 65, 70, 180, 217 and touches Prominent Boundary Point No. 50. Then moves along the East boundary line of Plot No. 242, 306 & touches Prominent Boundary Point No. 55. Following the Northern boundary line of plot no. 330, 331, 367, 352, 366,

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O/o the PCCF(WL) & CWLW
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375 & 394 traverse moves in south & South-east direction and touches Prominent Boundary Point No. 58. Following the East boundary line of Plot No. 394, 375 and North boundary line of plot No. 446, 569 & 571, the traverse moves in East direction to close the polygon and finally touches Prominent Boundary Point No. 1.

SCHEDULE 'B'

BOUNDARY INFORMATION

North: Village Sukhuapata Hill, Kalamgadia, Dugdha, Gokulpur, Baghapada & Sripadamanjari of Kaptipada Tahasil including Similipal Wildlife Sanctuary under Mayurbhanj District.

West: Hadagarh Wildlife Sanctuary in Keonjhar District.

South: Hadagarh Wildlife Sanctuary in Keonjhar District.

East: Kuldiha Wildlife Sanctuary in Balasore District.

Further, the land schedule of the governmental plots comprised within the Conservation Reserve is given in **Annexure – I.** List of prominent boundary points of the said Reserve is given in **Annexure – II** where as details of boundary pillars is given in **Annexure – III.** And, the map of the Conservation Reserve is appended as **Annexure- IV** and the land schedule of private plots falling within the outer boundaries of the Conservation reserve but excluded from the said Reserve is given in **Annexure – V.**

This Notification will come into effect from the date of publication in Odisha Gazzette.

Order: - Ordered that this Notification will be published in extra ordinary issue of Odisha Gazette.

By order of the Governor

Additional Chief Secretary to Government

Chief Conservator of Forests (WL)
O/o the PCCF(WL) & CWLW
Odisha, Bhubaneswar

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DR No. 512 /PS

Dt. 20.02.2023

Annexure-ZC/1

To

The Addl. Supdt. Of Police,
Joint Task Force, O/o the PCCF(WL) & CWLW,
Odisha, Bhubaneswar.

Ref:- Letter No 780/WL Dated 19.01.2023 in connection with WPC(PIL) No 14706 of 2022 filed by Gita Rout Vrs State of Odisha and others in Jashipur PS Case No 320 Dt. 21.12.2022 U/s- 302/34 IPC.

Sub:- Submission of investigation status report in Jashipur PS Case No 320 Dated 21.12.2022 U/s 302/34 IPC.

Sir,

With reference to the letter on the subject cited above, I am to submit that on 21.12.2022 at 04.15 PM Complt. Chelam Purty (28) W/o-Lt.Turam Purty of village Bakua, PO-Gudgudia, PS- Jashipur, Dist-Mayurbhanj appeared at Jashipur PS and presented a written report alleging therein that her husband Turam Party was an eye witness to the death of an elephant by burning at Garandia (Jenabil Range) in Similipal jungle. He was warned by Sibashankar Samal (Ranger, Jenabil), Chandrabhanu Behera (Forestor, Garandia Beat) and Binod Das (STPF) not to disclose the matter before anybody. But when the matter was disclosed, the above noted persons assaulted her husband and forcibly administered him poison, as a result her husband received severe injury in his body. Then her husband was shifted to CHC, Jashipur for treatment but the doctor referred him to SDH Karanjia and then to Cuttack medical. Aftergetting sense, her husband said to her that the people of Forest Department assaulted him and gave poison. During treatment, doctor declared him dead. When the complt. was returning to her house along with the dead body of her husband, at Thakurmunda jungle they had tried to throw the dead body and when she opposed, they abused her in obscene languages and also misbehaved her. Hence, she reported the matter at PS for taking legal action against the culprits.

Basing on the written report of the complt., in my absence, SI Jaylalita Swain of Jashipur PS registered Jashipur PS Case No 320dt 21.10.2022 U/s 302/34 IPC and took up the investigation. Subsequently, Inspr. P. Mohanty took charge of the investigation of the case from SI J.L. Swain.

During course of investigation, it is ascertained that the deceased Turam Purty (32) S/o Dubraj Purty of village Bakua, PS- Jashipur, Dist-Mayurbhanj was working as Sabuja Bahini on daily wages basis at Gurandia Beat House under Jenabil Forest Range since April, 2020 and was staying at Manasi Camp. On 02.12.2022, during foot patrolling by Binod Das (STPF) in Jenabil WL. Range, Gurandia Section in the core area of Similipal, South W/L Division along with Sitaram Singh, Brahma Marandi, Motilal Nayak and deceased Turam Purty, they detected an elephant carcass near Bagiadhar Water fall near to Manasi camp. The carcass was 5 to 7 days old and it was in partly putrified condition. Then accused Binod Das, STPF reported to the accused Chandrabhanu Behera(Forestor, Garandia Beat). Then both reported to the accused Sibashankar Samal (Ranger, Jenabil). Thereafter, all the accused persons including deceased Turam Purty and others burnt the elephant carcass from 04.11.2022 to 07.11.2022 and threw the residual bones of elephant carcass in to the Bagindhar water fall. After burning the carcass of the elephant,

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accused persons Sibashankar Samal, Chandrabhanu Behera and Binod Das warned the deceased Turam Purty not to disclosed the matter before anybody but when the fact was disclosed in media, they became angry on deceased Turam Purty and threatened him by saying that they will send him to jail establishing his involvement in elephant burning. On the day of occurrence i.e on 11.12.2023 morning while the deceased was at Guradia gate on duty, as per order of ACF Bidya Sagar, one Mathy Hansda and Abhijit Prakash Mohanta of Barahakamuda Camp proceeded to Bagiadhar water fall along with deceased to find out the clue from the spot regarding elephant burning and took some photographs from the spot. They left the deceased at Manasi campat about 03.30 PM to 04.00 PM. As the accused persons had threatened him to send to jail, out of fear, the deceased consumed poison which was kept at Manasi Camp for the purpose of cultivation of vegetables. Then he was shifted to CHC, Jashipur for treatment and subsequently referred to SDH Karanjia and then to SCB Medical college, Cuttack. During treatment at SCB, Medical College & Hospital, Cuttack on 15.12.2022 at 11.30 PM, he expired. In this connection, Mangalabag PS UD Case No 2723 Dated 16:12 2022 was registered. After PM examination, the dead body of deceased was handed over to his wife Chelam Purty (complt.) and the corpse was carried in an Ambulance accompanied by Sabujabahini staff Sitaram Sing and being escorted by Shri Nikesh Kumar Mohapatra, ACF, Similipal North, W/L Division, Jashipur, I/C Range officer Biranchinarayan Mohapatra, National Park Range and Pankanj Behera, Forester, Kendumundi Range in another vehicle. From Thakurmunda road, the dead body carrying Ambulance was also escorted by Inspr P. Mohanty, IIC Jashipur PS and staff to his village Bakua. Hence, the allegation made by the complt. That the accused persons tried to throw the dead body near Thakurmunda Jungle and misbehaved the Complt. Is totally false and fabricated.

Taking into account the statement of witnesses and available circumstantial evidence, it is well established that the intimidation of the accused persons as mentioned above frightened the deceased and forced him to commit suicide which is an act of abetment to commit suicide by the accused persons and as such all the accused persons are liable U/s 306 IPC.

During investigation of the case, the IO has taken up the following steps-

1. The IO SI Jaylalita Swain has examined the Complt and other witnesses and recorded their statements U/s 161 Cr.PC.
2. The IO has visited the spot and prepared spot map with indicating all relevant points.
3. The IO has utilized the services of scientific team to inspect the entire spot and collection of physical evidence.
4. He has seized approximately 500 grams urea fertilizer in a plastic bag on 22-12-2022in presence of witnesses from the kitchen room of Manasi Camp during spot visit,
5. He has obtained the CDR and SDR of mobile No6371783360,955696908 9776869656 of accused persons namely Sibashankar Samal (Ranger, Jenabil), Chandrabhanu Behera (Forestor, Garandia Beat) and Binod Das (STPF) in Jenabil W/L.
6. He has got recorded the statement of witnesses namely Biranchi Narayan Mohapatra (41)S/o-Rabindranath Mohapatra of village Sanbisal, PS-Kaptipada, Dist-Mayurbhanj and, Sitaram Sing (48) S/o-LtSukra Sing of village Durdura, PS-Jashipur, Dist-Mayurbhanj U/s 164 CPC by the Hon'ble court of JMFC, Jashipur.
7. He has sent notices U/s 160 CrPC to the accused persons namely 1. Chandrabhanu Behera (43) S/o-Surendranath Behera At-Goily, PO-Matiagarh, PS-Jashipur, Dist- Mayurbhanj 2.Shiba

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Shankar Samal (34)S/o-Bidyadhar Samal At/Po-Badbhalia, PS- Suliapada, Dist-Mayurbhanj and 3.Binod Kumar Das (29) S/o-Pranabandhu Das, At-Godabhanga PO-Satakosia, PS-Mahuldia, Dist-Mayurbhanj.

8. He has seized Bed Head Ticket of deceased Turam Purty who got primary treatment at SDH, Karanjia on 11-12-2022 on production by Salge Majhi, pharmacist of SDH, Karanjia on 27-12-2022 in which the treating MO Dr. Mrutunjay has opined that " **Alleged ingestion of unknown substance since 8 to 9 hrs, Patient tell himself that he was ingestion of Danadar, No external injury found in his body or no history of physical assault"**
9. He has obtained the SCD from Mangalabag PS in Mangalabag PS UD Case No 2723Dt.16.12.2022 along with PM report. On perusal of PM report, it was found that the PM conducting M.O, Dr Deepali Prusty, SCB, Medical college, Cuttack has opined that "**The above findings on the body of deceased are ante mortem in nature and couldhave been caused on ingestion of toxic, noxious, irritant substance."The cause of death is due to poisoning and its complications.** ii. Time since death is within 12-18 hours at the time autopsy.
10. He has seized the Staff Attendance Register of Manasi Camp in Gurandia Section under Jenabil Range on 21-01-2023 in presence of witnesses on production by Subash Sahu, Forester, Gurandia Section in which from the date of 05-12-2022 it was not maintained,
11. He has obtained sketch map of the spot from the Tahasildar, Jashipur.
12. He has seized a photograph of Bagiadhar Water Fall where the remnants of elephant was disposed of on 21-01-2023 in presence of witnesses on production by Abhijit Prakash Mohanta, Forest Guard, UBK(Upper Barahakamuda), W/L Range.
13. He has arrested accused persons namely 1. Chandrabhanu Behera (43) S/o-Surendranath Behera At-Goily, PO-Matiagarh, PS-Jashipur, Dist- Mayurbhanj 2.Shiba Shankar Samal (34) S/o-Bidyadhar Samal At/Po-Badbhalia, PS- Suliapada, Dist-Mayurbhanj and 3.Binod Kumar Das (29) S/o- Pranabandhu Das, At-Godabhanga PO-Satakosia, PS-Mahuldia, Dist-Mayurbhanj and forwarded them to the Hon'ble court of JMFC, Jashipur on 16.02.2023 .

This is for your kind information please.

Yours faithfully

IIC, Jashipur PS 20/2/2

Chief Conservator of Forests (WL)
O/o the PCCF(WL) & CWLW
Odisha, Bhubaneswar

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Annexure - ZD/1

OFFICE OF THE DEPUTY DIRECTOR-CUM-WILDLIFE WARDEN
SIMILIPAL SOUTH WILDLIFE DIVISION, BARIPADA
Phone No- (06792) 259126, Fax-256705 E-mail:ddsimilipal.od@gov.in.

Letter No. 271 /5F
Dated, Baripada the 14th February, 2023.

To

The Sub-Divisional Judicial Magistrate, Udala.

Sub:- Submission of Sanctioned PR against OR Case No.03JN of 2022-23 vide 2(b) CC No.14/2022.

Hon'ble Madam,

The sanction PR case against OR Case No.03 JN of 2022-23 corresponding to 2(b) cc no.14/2022 is submitted herewith for further action at your end.

Encl:- OR Case No.03 JN and other documents

Yours faithfully,

Deputy Director-Cum-Wildlife Warden, SL Division
Similipal South WL Division,
Baripada.

Memo No. 572 / Dt. 14.02.2023

Copy forwarded to the Range officer, Jenabil WL Range for information and necessary action. He is directed to submit the requisite number of copies of the above case records before the Hon'ble Court of Sub-Divisional Judicial Magistrate, Udala and Public Prosecutor, Baripada/ Addl. Public Prosecutor, Udala and produce the acknowledgement receipt of the same to this office for record.

Deputy Director-Cum-Wildlife Warden,
Similipal South WL Division,
Baripada.

Chief Conservator of Forests (WL)
O/o the PCCF(WL) & CWLW
Odisha, Bhubaneswar

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Schedule XVIII- Form No.21

FOREST DEPARTMENT, ORISSA

SIMILIPAL SOUTH WILDLIFE DIVISION, BARIPADA

OFFENCE REPORT No. 03 IN of 2022-23 dated 14.12.2022

IENABIL WL { REVENUE STATION / RANGE

NATURE OF OFFENCE

Date and hour of detection- Date- 08.12.2022 to 08.12.2022 at about 9.00AM-4.00 PM

Place of occurrence- Old Manasi Nullah, Compartment No-KH-23(part-1) inside Similipal Wildlife Sanctuary-cum- Similipal Tiger Reserve, Dist- Mayurbhanj

By whom detected-Sri T. Ashok Kumar IFS, Field Director, Similipal Tiger Reserve-cum-Regional Chief Conservator of Forests, Baripada

REFERENCE TO SECTIONS OF THE FOREST ACT AND INDIAN PENAL CODE
(To be filled in by the Divisional Forest Officer)

Under Section 2, 9, 29, 30 and 52 punishable under Section 51(1-c) of Wild Life (Protection) Act, 1972 amended and Under Section 201 of Indian Penal Code

NAMES OF ACCUSED

Name	Father's name	Place of residence		
		Village / Po./Via	Thana	District
Sri Shiba Sankar Samal, Age-34 yrs	Sri Bidyadhara Samal	Badbhalia/ Badbhalia /Kosta	Suliapada	Mayurbhanj
Sri Chandrabhanu Behera, Age-43 yrs	Sri Surendra Nath Behera	Goily/ Matigarh/ Khairi	Jashipur	Mayurbhanj
Sri Binod Kumar Das, Age-29 yrs	Sri Pranabandhu Das	Godabhanga/ Satkosia/ Thakurmunda	Mahuldiha	Mayurbhanj
Fagu @ Faga Prasad Hansdah, Age-42yrs	Late Ramachandra Hansdah	At/Village- Angarpada	Udala	Mayurbhanj

NAMES OF WITNESSES

Confessional Statement of

1-Shiba Sankar Samal, Age-34 yrs, S/o- Bidyadhara Samal, At/Po-Badbhalia, Via- Kostha, Ps-Suliapada, Dist-Mayubhanj,

2-Sri Chandrabhanu Behera, Age-43 yrs, S/o- Surendra Nath Behera, At-Goily, Po-Matigarh, Via-Khairi Ps-Jashipur, Dist-Mayubhanj

3- Sri Binod Kumar Das, Age-29 yrs, S/o- Pranabandhu Das, At-Godabhanga, Po-Satkosia, Via-Thakurmunda Ps-Mahuldiha, Dist-Mayubhanj

And statement of Shri Motilal Nayak, Protection Assistant, Manasi Camp, Gurandia-III Beat

(Pull report of acts overleaf)

Conservator of Forests (WL)
O/o the PCCF(WL) & CWLW
Odisha, Bhubaneswar

Deputy Director
Similipal South Wildlife Division
Baripada

237 84

IN THE HON'BLE COURT OF SDJM, UDALA

In the matter of OR Case No.03/N of 2022-23 (2(b)cc No.14/2022 in the Court of learned SDJM, Udala)

&

In the matter of State of Odisha

Vs

1) Sri Shiba Sankar Samal, 2) Sri Chandrabhanu Behera, 3) Sri Binod Kumar Das, 4) Fagu @ Faga Prasad Hansdah,

In the above mentioned matter, the undersigned makes the following submission before the learned Court:-

The case was examine by me wherein an Offence Report was drawn on dt.14.12.2022 by Lambodhar patra, Forester, Kulipal section(Addl. Charge- Gurandia Section) against the accused person namely 1) Sri Shiba Sankar Samal, Age-34 yrs, S/o- Bidyadhara Samal, At/P.O-Badbhalia, Via- Kosiha, Ps-Sullapada, Dist-Mayubhanj, 2)Sri Chandrabhanu Behera, Age-43 yrs, S/o- Surendra Nath Behera, At-Golly, PO-Matlagarh, Via-Khairi Ps-Jashipur, Dist- Mayubhanj, 3) Sri Binod Kumar Das, Age-29, yrs, S/o- Pranabandhu Das, At-Godabhanga, Po-Satkosia, Via-Thakurmunda Ps-Mahuldiha, Dist-Mayubhanj, 4) Fagu @ Faga Prasad Hansdah, Age-42yrs, S/o-Late Ramachandra Hansdah, At/Village-Angarpada, PS- Udala, Dist-Mayubhanj.

1.	The Asst. Conservator of Forests, Similipal, South WL Division has been assigned as Investigating Officer into the above case as per Sec-50(8) of Wildlife(Protection) Act-1972 amended and he submitted his enquiry report in detail about the occurrence of the above offence within Similipal Wildlife Sanctuary-cum-Similipal Tiger Reserve near Old Manasi Nullah, Bhagiadhar Waterfall (Place of occurrence, detection and seizure), notified Similipal Wildlife Sanctuary (Declared vide G.O. No.869/dt.06.05.2008) as well as Similipal Tiger Reserve (Declared vide G.O. No.8F(T)9/2007/20801/F&E, Dt.31.12.2007). In the above case, the first three accused persons were arrested by Lambodhar patra, Forester, Kulipal section(Addl. Charge- Gurandia Section) when the above three persons are under suspension and after confirmation of examination report from Center for Wildlife Health, College of Veterinary Science Animal Husbandry, OUAT, Bhubaneswar on dt.12.12.2022 and produced before the Hon'ble Court of SDJM, Udala in 2(b)cc No.14/2022, on dt.14.12.2022 whereas the last accused person namely Fagu @ Faga Prasad Hansdah, Age-42yrs, S/o- Late Ramachandra Hansdah, At/Village-Angarpada, PS- Udala, Dist-Mayubhanj involvement in the ebove mentioned case was discovered during interrogation of one accused namely Dev Kumar Patra apprehended by STF from Lodhasahi, Udala and was subsequently taken on remand on dt.27.12.2022. As per his Enquiry Report the above mentioned four accused persons are in connivance and there was concerted efforts on the part of above mentioned accused to destroy the evidence by burning the elephant carcass and concealing the wild elephant (*Elephas maximus*) Schedule-I animal under Wildlife (Protection) Act.1972 death to higher authority for which they have committed offence.
2.	I agree with the enquiry report of the Assistant Conservator of Forests. There is a primafacie evidence that the offenders has committed offence contravening the provisions of U/s 2, 9, 29, 30 and 52 punishable under Section 51(1-c) of Wild Life (Protection) Act 1972 amended and Under Section 201 of Indian Penal Code.
3.	Rule 49(b) of Wildlife (Protection) Odisha Rules- 1974 authorized the Wildlife Warden to file a complaint U/s-55 of Wild Life (Protection) Act. 1972.
4.	Deputy Director of Similipal South Wildlife Warden has declared as Wildlife Warden vide Notification No. 1F(A)-99/2003 (Pt) 1735/F&E, dt.20.01.2004 of F&E Department, Government of Odisha, copy of which is enclosed in the Prosecution Report.

PRAYER

I would therefore draw your kind attention to take cognizance of the offence U/s-55 of Wildlife (Protection) Act.1972, award punishment to the accused person U/s-51 of the said Act. Investigation is being going on and supplementary P.R is likely to be filed.

Chief Conservator of Forests (WL)
O/o the PCCF(WL) & CWLW
Bhubaneswar

Deputy Director-cum-Wildlife Warden
Similipal South WL Division, Baripada.

238-822

To

The Deputy Director-Cum-Wildlife Warden
Similipal South Wildlife Division, Baripada

Sub: - Submission of final investigation report in OR Case No. 03/N of 2022-23 – 2(b) cc 14 of 2022.

Respected Sir,

As authorized by the Government of Odisha u/s- 50(8) of the Wildlife (Protection) Act, 1972, I have been directed by you to make investigation of offence in the above noted case registered u/s- 52 punishable under u/s 51(1-c) of Wildlife Protection Act, 1972 and U/s-201 of I.P.C turned into Section 2,9,29,30 and 52 punishable under u/s 51(1-c) of Wildlife Protection Act,1972 and u/s-201 of I.P.C 9, 27, 29 and 31 of Wildlife (Protection) Act, 1972 amended and punishable u/s- 51(1)(c) of the said act.

The fact of the case is that basing on the confidential information received on dt.07.12.2022 from one captive elephant(Hatighar) protection assistant Shri Sankha Mahali, the allegation regarding death of one male elephant, field inspection was carried on dt. 08.12.2022 by Shri T. Ashok Kumar, IFS, Field Director, Similipal Tiger Reserve-cum-Regional CCF, Baripada and informed Deputy Director,Similipal South WL Division to conduct detailed enquiry into the matter vide memo 4909 dt.08.12.2022(**Annexure-I/II/III/IV**-Allegation and Statement recorded by FD,STR-cum-RCCF,Baripada) conducted and subsequent inquiry by Deputy Director, Similipal South WL Division, on dt.09.12.2022.

The crux of the matter is that on dated 02.11.2022 during the foot patrolling at about 9.30 AM, Shri Binod Kumar Das,FG(STPF) and 4 PA(Sh. Turam Purty, Sh. Sitaram Singh, Sh. Brahma Marandi, Sh. Motilal Naik) of Manasi Camp, Gurandia-III beat detected the elephant carcass and the information was passed on to Shri. Chandrabhanu Behera, Fr, Gurandia Section at 5.30 PM on the same day in person at Gurandia Camp. On dt. 3.11.2022, Binod Kumar Das, FG(STPF), Shri. Chandrabhanu Behera, Fr, Gurandia Section and 4 above mentioned PA of Manasi Camp revisted the spot at 7.30 AM and informed the incidence to Shri. Shiba Sankar Samal, Fr, I/c Jenabil Range at 10:00AM on the dt.03.11.2022 at Jenabil Range HQ in person. On dt. 3.11.2022, Shri. Shiba Sankar Samal, Fr I/c Jenabil RO along with Shri. Chandrabhanu Behera, Fr,Gurandia Section and Shri. Binod Kumar Das, FG(STPF) along with Sh. Sitaram Singh, PA and Sh. Turam Purty, PA inspected the spot at 8:00 PM and decided to burn the elephant carcass to remove any evidence and returned back to Jenabil Range Headquarter by 10:00 PM. On dt. 4.11.2022, at 09:00 AM, Shri. Chandrabhanu Behera, Fr,Gurandia Section and Shri. Binod Kumar Das, FG(STPF), Manasi Camp, Gurandia-III Beat along with 4 abovementioned PAs of Manasi Camp reached the spot and arranged dried log, lit the carcass as per instruction from I/c Range Officer, Jenabil Range and left the spot by 4:00 PM. The same procedure was carried on dt. 5.11.2022,6.11.2022 and 7.11.2022. On dt. 08.11.2022 at 12:00PM, Shri. Binod Kumar Das, FG(STPF), Manasi Camp, Gurandia-III Beat, Shri. Chandrabhanu Behera, Fr,Gurandia Section and 4 PA of Manasi Camp,

Similipal South WL Division
BARIPADA

Chief Conservator of Forests
O/o the PCCF(WL) & CWLW
Odisha, Bhubaneswar

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Gurandia-III Beat packed the leftover unburnt carcass in plastic bag and disposed in Baghadar nullah.

In the course of investigation, the tissue and bone sample was collected from the spot of incidence (GPS-86° 20' 16" E 21° 46' 08" N) on dt. 09.12.2022 by Shri Abhijit Prakash Mohanta, Forest Guard, UBK Range in presence of Shri Sai Kiran D.N, Deputy Director, Similipal South WL Division, Dr. Samrat Gowda D.S, Deputy Director, Similipal North WL Division, Shri Bimal Jena, Forest Guard, Nawana (N) WL Range, Mathy Hansdah, Forester, UBK WL Range and the undersigned **(Annexure-V/VI)**.

The interrogation was carried out by Dr. Samrat Gowda D.S, Deputy Director, Similipal South WL Division, Shri Sai Kiran D.S, Deputy Director, Similipal North WL Division, Sh. Samaresh Kumar Biswal, ACF, Similipal South WL Division and the undersigned. The samples were sent for forensic analysis to Project Coordinator, Centre for Wildlife Health, College of Veterinary Science and Animal Husbandry, OUAT, Bhubaneswar send on dt. 10.12.2022 by Deputy Director, Similipal South WL Division. As per the report received from Centre for Wildlife Health, College of Veterinary Science and Animal Husbandry, OUAT, Bhubaneswar vide No.627 dt. 12.12.2022, the examination report on the tissue sample send for testing confirmed that the sample species is **elephant** and sex is **male (Annexure-VII/VIII/IX/X/XI/XII/XIII/XIV)**.

After being directed to investigate the case, I received the case record from the office of Deputy Director, Similipal South Wildlife Division, Baripada consisting of offence report, Seizure list, Statement of accused person, Magistrate Intimation, Memo of arrest, Statement of witnesses, Spot map, etc. and thereafter, I took up the investigation of case.

That, the 3 nos of accused namely Binod Kumar Das, FG(STPF), Chandrabhanu Behera, Fr, Shiba Sankar Samal, Fr were forwarded by a team headed by Sh. Pitamber Sethi, RO, Jenabil WL Range, Sh. Prasant Kumar Sahoo, RO, Dukura WL, and Sh. Lambodhar Patra, Forester, Seizing officer to the Hon'ble Court of S.D.J.M, Udala on dt.14.12.2022 by the complainant Deputy Director-Cum-Wildlife Warden, Similipal South WL Division, Baripada for their involvement in commission of wildlife offence u/s-52 (Attempts and abatement) of Wildlife (Protection) Act, 1972 (Amended) and punishable u/s-51(Penalties) of the said act and u/s-201(Causing disappearance of evidence of offence, or giving false information to screen offender) of I.P.C, the above 3nos accused persons were involved in a concerted effort to destroy the evidence by burning the elephant carcass and concealing the elephant death to higher authority.

Further, spot verification of the crime scene in Gurandia Section, Jenabil WL Range was carried out on dt.16.12.2022 in presence of Dr. Samrat Gowda D.S, Deputy Director, Similipal South WL Division, Shri Samaresh Kumar Biswal, ACF, Similipal South WL Division, Shri Bibekananda Pattanaik Honorary Wildlife Warden, Baripada and Shri Akshay Kumar Mohanty, Honorary Wildlife Warden, Rairangpur along with Dr. Piyush Ranjan Soren, VAS,STR, Shri Madan Mohan

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Mohanta, RO, Podadiha WL Range and the undersigned to gather more evidence. Also Seizing officer, Shri Lambodhar Patra, Forester, Shri Mathy Handah, Forester, Shri Abhijit Prakash Mohanta, Forest Guard were also present at the said spot. A supplementary evidence list on the basis of the spot verification and seizure on dt. 16.12.2022 was sent as an interim investigation report, which was submitted to Deputy Director-Cum-Wildlife Warden, Simlipal South WL Division thereby converting the section of law from original record into u/s 2(Definitions),9(Prohibition of hunting),29(Destruction, etc., in a sanctuary prohibited without a permit),30(Causing fire prohibited) and Section 52 Punishable under 51(1-C) of WL(P) Act,1972 and IPC 201. The same was submitted to the Hon'ble Court of S.D.J.M, Udala on dt.19.12.2022 by the complainant Deputy Director-Cum-Wildlife Warden, Simlipal South WL Division, Baripada.

That, on dt.14.12.2022, during the course of inquiry, at the spot on Kaptipada-Nilagiri road, the STF apprehended accused one namely Dev Kumar Patra, S/o-Bhramara Patra At/Po- Khadikasole, Lodhasahi, PS-Udala on interrogation about recent death of one elephant and elephant tusk deal, revealed one Fagu@Fagu Prasad @ Falguni Hansdah @ Faga Prasad Hansdah involvement along with some of his accomplices in shooting of one elephant and taking out tusk. On checking criminal profile dossier, Fagu@Fagu Prasad @ Falguni Hansdah @ Faga Prasad Hansdah has been previously booked in OR 76 U of 2020-21 under Udala Range to 2(b)cc 3/32. The reference document relating to OR 76 U of 2020-21 under Udala Range to 2(b)cc 3/32 was received from DFO Baripada.

Subsequently, on dt.27.12.2022 accused namely Fagu @ Fagu Prasad Hansda @ Falguni Hansda, Age-42 years, S/o- Ramachandra Hansda, Vill-Angarapada, PS-Udala was taken in remand for his involvement in OR Case No. 03^{IN} of 2022-23 corresponding to 2(b)CC No.14/2022. The interrogation was carried by Sh. Jatin Panda, Addl.SP, Joint Task Force, Sh. Ramapada Arvind Mishra,ACF, Joint Task Force, Sh. Sarthak Ray, SDPO,Udala and the undersigned at Podadiha Range office.

That, on dt.22.12.2022 the accused namely Shiba Sankar Samal, aged about 34 years, Son of Bidyadhar Samal, At- Badbhalia, PS-Suliapada, Dist-Mayurbhanj has filed a BLAPL No:890 of 2022 and Chandrabhanu Behera, aged about 29 years, Son of Surendra Nath Behera, Vill-Golly, PS-Jashipur, Dist-Mayurbhanj ; Binod Kumar Das, aged about 29 years, Son of Pranabandhu Das, Vill- Godabhanga, PS- Mahuldiha, Dist-Mayurbhanj have filed a BLAPL No.891 of 2022.

That, the Hon'ble Court has allowed the accused-petitioners to release on Bail by furnishing Bail Bond of Rs.20,000/-only with two local solvent sureties and terms and condition imposed upon by Hon'ble SDJM, Udala such as (i) They shall not leave the Jurisdiction of the Hon'ble Court of SDJM Udala without taking the leave of the court (ii) They shall not temper with evidence. (iii) They shall not threaten the P.R. witnesses. (iv) They shall fully co-operate with I.O. during investigation and accordingly the accused persons were released on bail from the Hon'ble Court of SDJM, Udala on dt.23.12.2022 by the virtue of the order of the Hon'ble Session Judge Court.

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The above three nos. of accused were given notice U/s 50(7) of WPA, 1972 to appear before the undersigned on dt.12.01.2023 at 11PM at the O/o the Deputy Director, Similipal South WL Division vide memo No. 60, No.61 & No. 62 all Dt.07.01.2023, wherein Sri Sarat Kumar Tarei, Deputy Ranger & Sri Trinath Samal, Forester were given to responsibility of special messenger to deliver the letter to the 03nos of accused. As per the communication from the special messengers, letter could only be delivered to wife of Sri Binod Kumar Das at his residence. The houses of other two nos. accused were locked. They were also given notice U/s 50(7) of WPA, 1972 to appear before the undersigned on dt.12.01.2023 at 11PM at the O/o the Deputy Director, Similipal South WL Division vide memo No. 63, No.64 & No. 65 all Dt.07.01.2023 through Registered post with AD. But the 03nos of accused did not appear before the undersigned on dt.12.01.2023 at 11PM **(Annexure-XV/XVI).** A second reminder was served U/s 50(7) of WPA, 1972 to the accused to appear before the undersigned on dt.20.01.2023 at 1PM at the O/o the Deputy Director, Similipal South WL Division vide memo No. 217, No.218 & No.219 all Dt.18.01.2023, wherein Sri Sarat Kumar Tarei, Deputy Ranger & Sri Trinath Samal, Forester were given to responsibility of special messenger to deliver the letter to the 03nos of accused. As per the communication from the special messengers, letter could only be delivered to father of Sri Chandrabhanu Behera and father of Sri Binod Kumar Das at their residence. The house of Sri Shiba Sankar Samal was locked and couldn't be contacted any way possible. But the 03nos of accused did not appear before the undersigned on dt.20.01.2023 at 1PM **(Annexure-XVII).**

That, further evidence, tissue and bone sample (body part) seized during the spot visit and in presence of Joint Task Force members (Sri Rampada Arvind Mishra, ACF) were sent for identification of species, age, sex of the species and any other relevant information to The Project Coordinator, Centre for Wildlife Health, College of Veterinary Science and Animal Husbandry, OUAT, Bhubaneswar on dt.24.01.2023 vide letter no.236 dt.23.01.2023**(Annexure-XIX).** The examination report of the above mentioned sample is yet to be received thereby delaying the course of investigation.

That, on dt. 20.01.2022, letter to Sh Motilal Nayak and Sh. Brahma Marandi, Ex-Protection Assistant was made to appear before the undersigned cum I.O for statement recording on 03.02.2022 **(Annexure-XVII).** But the Sh. Motilal Nayak, refused to come over to Baripada when contacted over phone,out of fear and stated that he would abide by his old statement if called to court. Sh. Brahma Marandi, stated he is out of station at Jamshedpur for his I.T.I apprenticeship, thereby denying to come to Baripada for statement recording.

That, seeing the delay on the part of the Project Coordinator, Centre for Wildlife Health, College of Veterinary Science and Animal Husbandry, OUAT, Bhubaneswar for examination report of the sample sent on dt.23.01.2023, Dr. Piyush Soren, VAS, STR and Dr. Manojit Shit, VAS, MVS-WTI were requested to opine on the vide memo no.387 dt.02.02.2023 and memo no.389 dt.02.02.2023. The body part as per the observation by the Dr. Piyush Soren, VAS, STR and Dr.

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Manojit Shit, VAS, MVS-WTI, seems to be some portion of tail which includes coccygeal vertebrae **(Annexure-XX/XXI)**.

That, The Hon'ble Court of SDJM, Udala have been requested on dt.07.12.2022 to provide Certified Copy of Bail Application No.890, 891 dt.22.12.2022 and Order Sheet No.4 of dt.23.12.2022. The Public Prosecutor, Mayurbhanj, Baripada have been requested to provide certified copy of Bail Application No.890, 891 dt.22.12.2022 and Order Sheet No.4 of dt.23.12.2022 and file application for cancellation of Bail of the above three nos. of accused involved in OR Case No. 03/N of 2022-23 corresponding to 2(b)CC No.14/2022. And subsequently, Bail plea cancellation was filed by the Public Prosecutor, Mayurbhanj, Baripada u/s 439(2) Cr.P.C. 1973.

That, violating the terms & conditions imposed by the Hon'ble court of SDJM, Udala, all the above three accused persons namely Binod Kumar Das, FG(STPF), Chandrabhanu Behera, Fr, Shiba Sankar Samal, Fr have concealed their presence at some unknown place(s). The family members were contacted at their native address as well as present address were visited but neither they could be available nor their family members could be avail to reveal their present whereabouts. That, the accused persons have not appeared before the I.O. after their released from custody, violating the condition set by Hon'ble Court of SDJM, Udala and I.O. has got no scope to examine the accused persons to proceed ahead in investigation for which there is every chance of damage to prosecution case.

That, the accused persons deliberately, intentionally and knowingly violated the condition imposed by the Hon'ble Court of SDJM, Udala and has tried to damage the prosecution case directly and indirectly. Cancellation of Bail of above 3 nos accused has been prayed and is pending in the Hon'ble Court of District Session Judge.

In my opinion, the accused persons namely, 1)Shiba Sankar Samal,Age-34yrs,S/o-BidyadharaSamal, At/P.O- Badbhalia, Via- Kostha, Ps-Suliapada, Dist-Mayubhanj, 2)ChandrabhanuBehera,Age-43yrs,S/o-SurendraNath Behera, At-Goily, PO-Matiagarh, Via-Khairi Ps-Jashipur, Dist-Mayubhanj 3)Binod Kumar Das,Age-29yrs, S/o- PranabandhuDas, At-Godabhanga,, Po-Satkosia, Via-Thakurmunda Ps-Mahuldiha, Dist-Mayubhanj 4) Fagu@Fagu Prasad @ Falguni Hansdah @ Faga Prasad Hansdah, Age- 42yrs, S/o- Late Ramachandra Hansdah, At/Village- Angarpada, PS-Udala, Dist-Mayurbhanj are in connivance and there was concerted efforts on the part of the above mentioned staff to destroy the evidence by burning the elephant carcass and concealing the one wild elephant(*Elephas maximus*) schedule-I species death to higher authority for which they have committed offence u/s 2(Definitions),9(Prohibition of hunting),29(Destruction, etc., in a sanctuary prohibited without a permit),30(Causing fire prohibited) and Section 52 Punishable under 51(1-C) of WL(P) Act,1972 and IPC 201.

Since, more evidence in the above mentioned 2(b) cc 14/2022 corresponding to 03 JN 2022-23 is are yet to collected, more number of accused

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(including backward linkage and forward linkage) are yet to be established. It is worthy to mention here that the root cause of death of the elephant i.e. poaching, disease; poisoning or any other causes of this case is yet to be ascertained; the type of firearm used if any, the type of shooting distance, the type of Wound Low velocity/High velocity wound, the type of poison used if any, and the presence of tusk of the dead male elephant is yet to be investigated. The examination report sent by Project Coordinator, Centre for Wildlife Health, College of Veterinary Science and Animal Husbandry, OUAT, Bhubaneswar is inconclusive of the age of the dead male elephant and the examination report on species identification and provenance from Wildlife Institute of India, Dehradun **(Annexure-XXII)** is still awaited. In the above context, I submit the prosecution report against the above named 4 nos accused persons, keeping the investigation open u/s 173(8) of Cr.P.C,1973. I am annexing the relevant documents for preparation of P.R.

Yours faithfully

19/10/23

Bidya Sagar, OFS-A (JB)
I.O-cum- Asst. Conservator of Forests,
Similipal South (WL) Division, Baripada

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ANNEXURE-ZE/1

STATE WILDLIFE HEADQUARTERS, ODISHA

OFFICE OF THE PRINCIPAL CCF (WILDLIFE) & CHIEF WILDLIFE WARDEN, ODISHA
PRAKRUTI BHAWAN, PLOT NO.1459, SAHEED NAGAR, BHUBANESWAR-751007,
Website: wildlife.odisha.gov.in, E-mail: odishawildlife@gmail.com

Memo No. 1246 / 10WL-CC-517-A/2022 dated 03 / 02/2023.

To

All Divisional Forest Officers (T) & (WL)
Deputy Director, Nandankanan Zoological Park, Barang
Deputy Director, Similipal South (WL) Division
Deputy Director, Similipal North (WL) Division

Sub:- Instructions to be followed during course of enquiry, investigation and Prosecution.

Ref:- W.P.(C) PIL No.14706 of 2022 filed by Gita Rout Vrs State of Odisha and others.

It is to impress upon you that Hon'ble Chief Justice of High Court of Orissa while passing the orders on 18.01.2023 vide the W.P.(C) under reference has been pleased to emphasize quality and time bound investigation and prosecution in all wildlife cases.

In view of the above observations of the Hon'ble Court, I am directed to request you to follow / implement the following instructions during course of investigation / prosecution of wildlife cases.

1. Soon after a wildlife crime is reported, the spot should be visited promptly and all available evidence should be collected under proper seizure list.
2. All out efforts should be made to bring all cases of wildlife crime to a logical conclusion including tracing of forward and backward linkages.
3. Case records should be prepared with much care without any laxity after due consultation / vetting by legal experts, especially in crime against scheduled species.
4. Final prosecution reports should be submitted within 60 days from the date of arrest of first accused persons.
5. Necessary steps may be taken to include wildlife crime in the agenda of Senior Officers monthly meeting at district level immediately and important cases, issues relating to arrest of absconding accused persons, arrest and prosecution of habitual wildlife criminals etc. should be discussed in the meeting.
6. All wildlife cases involving use of firearms / explosives / poison etc. should be forthwith reported to local police and registration of FIR under appropriate Acts should be ensured.

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7. The JTF should be immediately informed in case of occurrence of a wildlife crime, especially crime against elephant and required assistance / guidance may be sought for better investigation.
8. Judgments in all acquittal cases of wildlife crime to be perused by the DFOs and appeals should be filed in higher courts.
9. It should be ensured to receive examination reports from Wildlife Forensic Science Laboratory (W.L.F.S.L) within a minimum period.
10. The State Forensic Science Laboratory (S.F.S.L) located at Rasulgarh, Bhubaneswar may be used, whenever necessary in specific cases.
11. Day to day investigation / trial of wildlife cases should be monitored by a responsible officer of the Rank of ACF.

Hence, you are requested to follow the above instructions scrupulously in all wildlife crimes with immediate effect.

03/2/23

Addl. Superintendent of Police,
Joint Task Force,
O/o the PCCF (WL) & CWLW,
Odisha, Bhubaneswar

Memo No. 1247 dated 03/02/2023

Copy forwarded to all Regional Chief Conservator of Forests / Director, Nandankanan Biological Park, Bhubaneswar for information and periodic monitoring at their level so that effective prosecution and conviction is achieved in wildlife cases.

03/2/23

Addl. Superintendent of Police,
Joint Task Force,
O/o the PCCF (WL) & CWLW,
Odisha, Bhubaneswar

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ANNEXURE ZF/1

ACTION POINTS DRAWN UP ON THE BASIS OF CAP

I. HUMAN-ELEPHANT CONFLICT MITIGATION

Sl. No.	Activity	Time Line/Periodicity	Nodal Agency/ Level within the Forest department
1	To strengthen ongoing monitoring and coordination with stakeholders/line departments which is being done at various levels, an Advisory and Monitoring Committee on Human Wildlife Conflict chaired by the Chief Secretary, Odisha to be constituted by the Stateto render advice, monitor periodically and enhance inter-departmental co-ordination in the State to address human-wildlife conflict issues.	Within six months Once every six months	Government of Odisha
2	Consolidate efforts at resolving HWC happening now by preparing a Human Elephant Conflict Management Action Plan and strategy where the aim will be to ensure zero conflict-induced casualty of humans, elephants and minimise damage to crops and property. All vulnerable villages to be mapped therein. The conflict mitigation plan for a division should be broadly compatible with the overall goals of elephant conservation in the state and the mitigation plan of the adjoining divisions.	Within six months	DFO
3	The present mechanism of disbursing compassionate grants using the '*Anukampa*' app has resulted in a quick turnaround time. However, the functioning of the app need to be given wide publicity among local people and the existing issues (cases of encroached land, absentee owners, tenant cultivators etc) have to be eliminated to ensure complete user satisfaction.	Within three months	WLHQ/DFO/ORSAC
4	Staff of Jana Seva Kendra of each division to be trained in filling up of *Anukampa* app applications.	Within six months	DFO / Dt.Adm.

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5	The DFOs need to have a revolving fund (like the District Red Cross Fund) from where emergency compassionate payment can be made for emergency compassionate payments resulting from cattle kills, property damage or crop loss as a result of Human-Wildlife Conflict (HWC) along the lines of existing norms for payment in cases of human death.	Within six months	WLHQ
6	Revision of compassionate payment for both Human Death, Crop loss, Human Injury and Property Damage by wild animals. Linking damages sustained due to crop loss to periodic rise in MSPs may be considered.	Within six months	Govt./ PCCF(WL)
7	In case of bona fide destruction of house by elephants, DFO may recommend the owner to be included as a beneficiary under *Biju Pacca Ghar Yojana* of the State Government	Ongoing DFOs to facilitate	Govt. of Odisha / WLHQ
8	Strengthening of existing Early Warning Systems for early detection and warning of elephants' movements using mobile phones, Bulk SMS, Radio Programme, Tower Lights, ANIDERS, Public Announcement for quick communication.	Ongoing	WLHQ/ DFO
9	Strengthening of existing preventive measures such as High Mast Lights, Solar Lights in edges of villages, provision of LED/solar chargeable torch lights to villagers, community grain bins, paddy harvesters, underground grain bins, steel storage bins etc.	Ongoing	DFO
10	Strengthen ongoing efforts by operationalizing a Rapid Response Teams (including staff trained in tranquilization) in all Divisions and at the Circle Level to reduce response time of forest department staff during emergency situations arising due to incursion of elephants into human habitations/cultivation.	Ongoing Within 2-6 months	RCCF/ DFO / Range
11	Identify strategic locations where barriers (trenches/solar fences/stone walls) have to be deployed to prevent incursion of wild elephants to human settlement/cultivations. These have to be planned after due thought, ground-truthing and should not be counter-productive.	Within 1 year	DFO

12	Solar fencing, using the recently launched *Jana Surakhya Gaja Rakhya* to be taken up in all vulnerable areas. This should be compatible with the landscape and zonal approaches of elephant conservation and management and carefully planned to avoid it being counter-productive. The use of portable (removable) solar power fences which has been found to be effective in Sri Lanka can be tried out on a pilot basis in selected areas.	Within 1-2 years	Division Level
13	Innovative ways of using solar fencing ensuring community participation has to be devised by the DFOs. Community-driven solar fencing has given rich dividends in southern states.	Within six months	DFO
14	Strengthening of existing Elephant Rescue Centres at Kumarkhunti (Chandaka) and Kapilash with provision of Tranquilization and Rescue Teamsand engagement of Veterinarians. Establishment of new such facilities at Sambalpur, Rourkela and Baripada circles.	Ongoing Within 1 year Within 2-5 years	State Govt./WLHQ/RCCF
15	Training of existing departmental elephants and mahouts for use as *kunkis* during elephant depredation, patrolling and radio-collaring operations. Technical expertise from other states (W.Bengal, Karnataka, Madhya Pradesh, Assam) etc may be sought. Procurement of *Kunki* elephants from Karnataka.	Ongoing; Within 6 Months Within 6 months	WLHQ/ RCCF/ DFO
16	Every Circle having scattered elephant population should have an Action Plan for capture and translocation (or retention in captivity as may be decided by the CWLW) of problematic elephants from the conflict prone areas including development of necessary logistics, staff roles and clear prior identification of possible release sites.	Within 6 months To be periodically modified and updated.	DFOs / Guided by RCCF
17	To improve existing inter-state co-ordinating mechanisms, RCCF of Circles having inter-state movement of elephants tohave a meeting with his/her counter-part of the neighbouring state before the migratory season to ensure inter-state co-operation and prevent erection of unnecessary obstructions/barriers and	Ongoing Once a year	RCCF

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	indiscriminate driving operations. CWLWs of the adjoining elephant-bearing States of the East-Central landscape to have a consultation meeting once a yearto discuss the interstate movement of elephants and common issues relating to elephant management. Project Elephant to take the lead in this.	Once a year	Project Elephant, MoEF&CC
18	Strengthening of Circle-level Veterinary facilities by having Mobile Veterinary Units in Keonjhar, Angul, Sambalpur and Bhubaneswar Circles to address capture and relocation of elephants and other wildlife.	Ongoing Within one year	WLHQ / Circles

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II. INTER-DEPARTMENTAL CO-ORDINATION

Human Wildlife Conflict Mitigation Committee			
Sl. No.	**Activity**	**Time Line/ Periodicity**	**Nodal Agency/ Level within the Forest department**
1	District level Human Wildlife Conflict Mitigation Committee under chairmanship of Collector to be constituted. Superintendent of Policeand heads of relevant line departments will be represented with concerned DFO being Member Secretary.	Within four months Monthly	WLHQ/DFO Minutes of meetings to be sent through RCCF to HQ
Police Department			
2	Monthly Wildlife Crime Prevention and Enforcement meeting with Superintendent of Police to discuss issues on the topic.	Within three months Monthly	Nodal DFO Minutes of meetings to be sent through RCCF to HQ
3	Strengthen existing mechanisms of crowd control by preparing a mob/crowd control plan to in vulnerable areas with the help of District Administration and Police Department for control of Mob during straying of elephants to human settlement. Use of S/144 under CrPC should be employed wherever required.	Within 3months	DFO/ Collector/ SP
4	Enhance co-ordination with local police officials for apprehending habitual and repeat offenders, request for CDR and TDR, call tracking and cracking down on illegal arms manufacturing units. Booking of offences under Arms Act and Explosive Substances Act.	Ongoing Immediate	Forest Dept./ JTF with Police Dept./ STF

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Railway Department			
5	Regular co-ordination meetings are to be carried out between officials of Forest Department and that of various Zones of Indian Railways (East coast Railway, South Eastern Railway, S.E Central Railway) at appropriate levels and periodicity.	Ongoing Quarterly. Bimonthly Monthly	 PCCF WL. RCCF DFO
6	Strengthen functioning of elephant squads already deployed to track the movement of elephants near railway lines and ensure night patrolling using experienced, well-equipped, trained and skilled staff.	Ongoing	
7	Strengthen the 24x7 Railway Control Rooms functioning in Khordha Road, Sambalpur and Bandhamundawith deployment of trained forest staff to ensure seamless transmission of elephant movement information from the field to prevent accidental train hits.	Ongoing	RCCF/DFO
8	Ensure that Advisoryregarding preventing train accidents involving elephants issued by PCCF(WL) vide Memo No 4978 dated 21.05.2018 is followed scrupulously.	Ongoing	RCCF/DFO
9	Solar fencing to be carried out along railway lines at vulnerable locations to check crossing of railway line by elephants. This has to be done after careful thought, ground-truthing and joint verification with Railways in places where absolutely required and should not be counter-productive. Side barriers should be done in both sides and never on one side alone. Similarly watch-towers to be erected in sites adjoining railway lines where they are absolutely required. Avoid dumping of food waste/municipal wate in forested areas near railway lines.	To be mapped within six months and prioritized To be mapped in six months and prioritized	DFO/Railways

10	Fixing of fluorescent signage along the railway tracks to alert the loco pilots. Total 372 locations have been identified for fixing and 111 nos. of signage have been fixed by railways. The rest has now to be completed. In regularly used crossing points, large reflectors to be fixed for reflecting train headlights to warn elephant herds so that they will avoid crossing the tracks.	Ongoing; to be completed within 6 months Periodically thereafter wherever found necessary	DFO / Railways
11	Ensure reduction of the speed of the train passing through elephant inhabited forests or accident-prone areas as per the caution order issued due to presence of elephant herds near the railway track. Non-compliance to be followed by DFOs to higher officers of Railways	Ongoing As and when such incidents occur	Railways
12	During construction of overpass/under pass, to the extent possible, most of the materials should be prefabricated elsewhere so that the construction process does not hinder animal movement. No construction to be allowed between 6 PM and 6 AM.	Immediate	DFO/Executing Agency
Roads & Highways			
13	Regular co-ordination meetings with National Highways Authority of India (NHAI) are to be carried out to review progress of mitigation projects and discuss prevention of accidents.	Ongoing Six Month Quarterly Monthly	 WLHQ RCCF DFO
14	Fixing signages on additional crossing points and maintenance of 370 signages already in place.Speed-breakers to be made in regular crossing points. Signages in points where no longer elephant use is noticed to be removed and re-posted in suitable locations.	Ongoing Rest within 6 months	DFO / NHAI
15	49 numbers of underpasses have been identified for highway projects (new and expansion projects). The ones yet to be constructed have to be started.	Ongoing. Pursue immediately Monthly reviews	DFO/NHAI

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16	11 numbers of elephant under passes are under progress (Rimuli-Rajamunda, Tileibani-Sambalpur, Talcher-Kamakshya Nagar, Kamakshya Nagar-Duburi and Cuttack-Angul.) and need to be expedited.	Ongoing Immediately	DFO/Executing Agency
17	Monitor use of elephant and wildlife use of mitigation infrastructure already in place including five under passes which have already been completed in Keonjhar Forest Division. Special drive to mitigate impact of canals by ramps/bridges and wherever present, examine their efficacy. Eg.Rengali Canal, overpasses over Manjore Canal etc. In case of inappropriate design leading to non-use, the same has to be rectified /modified.	Within a year Periodically	DFO / User Agency / Irrigation Dept.
18	Regular patrolling on highways by Highway Squads at vulnerable elephant crossing locations, to alert the commuters on elephant movement as well as facilitate crossing of the road by the elephants.	Ongoing Regularly	DFO
Agriculture Department, Animal Husbandry Department, Fisheries Dept and other line departments for livelihood development			
19	Explore the possibility of change in crops/cropping pattern in order to reduce elephant conflict in pilot projects in select localities. (Short duration crops such as millets/ Elephant-repellent crops such as Chilly, Ginger etc)	Pilots can be tried soon; if successful to be replicated and continued long-term.	DFO/ Agriculture Existing Officer
20	Promotion of innovative agro-horticulture, high yielding stall-fed livestock rearing, poultry, pisciculture to promote livelihood of local people and offset their losses due to traditional paddy cultivation.	Can be started soon to continue for long-term	Dept of Agriculture / Animal Husbandry / Fisheries / DFO
SPECIAL FOCUS ON PREVENTING ACCIDENTAL & DELIBERATE ELECTROCUTION OF ELEPHANTS			
INTER-DEPARTMENTAL COORDINATION			
21	Regular co-ordination meetings are to be conducted with Energy Dept./DISCOMs to regularly monitor the progress of the above as well as ironing out other issues.	Monthly. Monthly. Monthly. Quarterly	RO/JEE RO/DFO/SDO/EXECUTIVE ENG. EXECUTIVE ENG./ RCCF/DFO DISCOM Authority/ PCCF WL.

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PREVENTIVE MEASURES AND ENFORCEMENT			
22	DISCOMs to ensure frequent patrolling in vulnerable locations to check illegal looking and should also take necessary legal action against such offenders	Within 6 months	DISCOM
23	The exercise already covered to identify and map vulnerable points of electrocution in each Division (Sagging lines/ tilted poles/ interposing poles where required/ habitual hooking villages) is to be updated and periodically monitored. Accordingly appropriate mitigation measures have to be undertaken. DFOs should ensure cabling by the DISCOMs of 4444 km of bare conductors and 31,000 of vulnerable points which have been identified in elephant movement areas. These have to periodically updated after joint verification.	Every 6 Months	DISCOMs/ DFO
24	Ensure insulation of 11KV & LT lines passing through forest areas. In particularly vulnerable areas such as inside PAs with dense elephant movement, the feasibility of underground transmission lines to be explored.	Within one year	DISCOM
25	Dismantling of defunct solar power fencing to be ensured by individuals/community to eliminate charging by unscrupulous elements. DFO to take a special drive on this.	Immediate	RO/DFO/DISCOM.
26	Ensure fitting of spikes on electric poles and barricading of substations/unprotected transformers, lift irrigation points in forest and forest fringe and other vulnerable areas.	Within Six months	RO/DFO/DISCOM.
27	Joint patrolling of Forest and Energy Department staff along vulnerable stretches of transmission lines in elephant movement areas and villages prone to illegal hooking by GPS mounted vehicles to be done regularly. DFO to undertake monthly review on this.	Ongoing Periodically	DFO/RO / DISCOM
28	Ensure sharing of trip record immediately by electricity department to forest department by WhatsApp.	Immediate	JEE/Forester/RO

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29	Most of the electrocution deaths of elephants happen due to accidentally while coming into contact with charged wires kept for wild pigs, either for crop protection or poaching, whose population has grown in many areas. Scientific and legal ways of controlling the population of wild pigs to be explored and implemented in a site-specific and transparent manner drawing from similar examples in other states. Local villagers also to be sensitized to not deploy such traps.	Within six months	WLHQ
PROSECUTION			
30	Under Electricity Act.2003 cases shall be booked by electricity department against offenders where electrocution death of wildlife has occurred due to illegal hooking.	Immediate	RO/JEE/SDO/Executive Engineer.
31	The Energy Dept. officials should be present in all electrocution cases and such cases should be investigated by electrical inspector.	Immediate	IO/DFO/JEE/SDO/ Executive Engineer.
32	Filing of police case by Energy Department in the local police station.	Immediate	JEE/SDO/Executive Engineer.
TECHNICAL UPGRADATION			
33	Upgradation of electrical infrastructure and use of technology to prevent death due to electrocution. For LT distribution, fuse wires of standard rating to be used for circuit breaker. Further, (Miniature Circuit Breaker) MCB to be used in the sub-stations of all forest fringe and other vulnerable villages for tripping electricity.	Within 6 Months	DISCOM
34	Ensure working of primary substations (PS) in all electrical control rooms of 11 KV. Lines. In case of any illegal hooking from 11 KV line, cut off power instantaneously.	Immediate	R.O/JEE/SDO, Electrical.
CAPACITY BUILDING			
35	Capacity Building training should be organized at Range level for identification of wildlife deaths due to electrocution. The details in the next page in Annexure-1.	Within one month.	DFO/RO/JTF/ DISCOM.
36	Capacity Building for front line staff of DISCOM to prevent illegal hooking.	Within 6 Months.	DISCOM

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III. PROTECTION, ENFORCEMENT AND PROSECUTION

Sl. No.	Activity	Timeline/ Periodicity	Nodal agency/ Within the level of forest Department.
1	Ongoing filling up of vacancy positions at all levels of regular frontline and supervisory staff to be expedited as to ensure man in position in all field level positions.	Highest priority Regularly thereafter	State Govt.
2	Formation of dedicated, trained and physically fit 'Elephant Tracking Teams' to be raised in conflict and poaching-prone divisions to closely follow, track, monitor and photograph elephants. They should be ideally drawn from local tribal villagers who have an innate sense of jungle craft. These ETTs should be separate from routine protection squads. Training in elephant tracking may be provided from experienced elephant trackers in Southern States.	Within one year	DFO
3	Augment the number of Protection Squads in particularly vulnerable areas after careful analysis in each division. Protection squads should be drawn from local villages, physically fit, motivated and given adequate training, periodic drills and equipment. Their movement and output should be carefully monitored and findings acted upon.	Ongoing Immediately Saturate within 1-2 years phase-wise	DFO/RCCF/WLHQ
4	Strengthen the functioning of the Elephant Protection and Wildlife Crime Control Cell at Wildlife HQ. Wherever not present in Circle and Division level, put in place for close monitoring of elephants. Activities will include daily monitoring of adult tuskers, inter-divisional movement and predictive early warning for crop depredation, wildlife crime prevention, investigation and prosecution with special emphasis on developing	Ongoing Immediate to be completed within a month	RCCF/DFO

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	intelligence networks, arresting habitual offenders and timely prosecution of ongoing cases aiming to achieve significant proportion of conviction.		
5	Develop independent, diffused and effective intelligence networks at all levels and even at the level of individual officers. Allotment of secret funds made for this to be closely monitored. **Actionable intelligence from the field leading to crime prevention should be the key aim.**	Ongoing but need to be made effective with immediate priority. To be completed within 6 months To be maintained thereafter	All levels
6	Ensure strengthening of functioning of 24x7 Control Room at HQ, Circle and Division levels	Ongoing Within one month	WLHQ / RCCF/DFO
7	Ensure Strengthening of functioning of Toll-free number at Circle and WLHQ and give wide publicity regarding the same.	Ongoing Immediate	WLHQ / Circle
8	Preparation of Criminal Data base and CriminalDossier at State HQ /Circle HQ.	Ongoing Within Six Months To be regularly updated.	WLHQ /RCCF
9	Preparation of Wildlife Crime dossier and Maintenance of Surveillance register (phone / presence) of habitual/repeat offenders.	Ongoing Within 3 Months To be regularly updated.	DFO/ Range Office
10	Wildlife & Forest Offence Meeting (Discuss & review pending investigation and trialcase special efforts should be made to arrest absconder and monitor the activity of habitual offenders).	Immediately Monthly Quarterly	Range Level/ Division Level RCCF Level

11	Meeting with Police and DISCOMs about suspected wildlife criminals/ illegal hooking/ Management of Man-animal Conflict in HEC area. Pursuing of cases under Arms Act to be booked by police and under Electricity Act by DISCOM staff.	Within 2 months Monthly	DFO/Police/DISCOM
12	Joint Enforcement (Combined patrolling) with DISCOM field staff for checking illegal hooking in suspected areas.	Ongoing Once a week	Range Level/DISCOM
13	Ensure preparation of Wildlife Crime Risk Maps and Wildlife Protection Plan covering spatial and temporal extent of wildlife crime within the division. *Inter alia*, it shall contain details of habitual villages, village *haats*, entryroutes of poachers and vulnerable areas prone to poaching (hotspots)by various techniques such as snaring, foothold traps, illegal hooking, illicit liquor brewing, poisoning, illegal machan over water bodies, artificial salt licks prepared by poachers etc. Movement/temporary camping of any outsiders including wandering tribes/snake-charmers should also be closely monitored. Similarly unprotected dug wells, unprotected transformers, lift irrigation points, defunct solar fences, other vulnerable points for illegal hooking should also be mapped. This Plan along with details of periodic meetings and reporting framework should mandatorily form part of the handing over note of the DFO to his successor.	Within six months	Range/Division Level
14	Ensure regular foot patrolling and night patrolling (Random and Surprise) by staff, RO, ACF & DFO along afore-mentioned poaching/crime hotspots.	Ongoing but requires strengthening and close monitoring.	Supervising Officers & DFO

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15	Extensive touring and night halts covering all vulnerable areas of poaching by supervising officers in the field.	Ongoing but requires strengthening and close monitoring.	HQ officers – 5 days/month RCCF- 10 days/ Month DFO-12 days / Month ACF-15 days / Month RO-15 days / Month
16	RCCFs to ensure inter-divisional and joint-divisional patrolling in vulnerable areas and also have joint Protection Camps in bordering areas of divisions.	Ongoing in some Circles but to be put in place immediately in others. Saturate within 2-5years	RCCF
Infrastructure Development.			
17	A comprehensive plan should be prepared about availability of protection infrastructure such as Protection Camps/Anti-Poaching Barrack/ Staff Quarter/ Watch tower etc. in each division, especially in 'no-man's land' along divisional boundaries. These should be taken up and saturated.	Within one year Can go on for 5-10 years	Division Level
18	Elephant Proof Barriers (Elephant Proof Trench/ Stone Wall Guard/ Solar fencing) to be erected as per Site Specific Action Plan. Existing ones to be renovated for efficacy and wherever defunct and not required to be filled or removed. To be carefully deployed after proper ground-truthing and should not be counter-productive. While selecting sites, special attention to be given to ensure that traditional movement paths, paths to water sources etc are not blocked or elephants diverted to nearby areas. RCCFs to carefully analyse and monitor.	Ongoing Within 1-5 years Can continue as a long-term measure too.	Division Level/RCCF

19	Solar power fencing using the recently launched *Jana Surakhya Gaja Rakhya* should be taken up in all vulnerable areas after due diligence of its utility and efficacy. The use of portable (removable) solar power fences which has been found to be effective in Sri Lanka can be tried out on a pilot basis in selected areas. Same caveats as above to apply.	Just launched and need to be scaled up. Within one year	Division Level
20	Monitoring of effective deployment of Vehicles (including GPS Mounted) for protection and anti-depredation duty. Specialised customised RRT vehicles may be introduced on a pilot basis.	Ongoing	Division Level
21	Effective use of VHF network with maintenance of VHF register in the Circle, Division and Range HQs.	Ongoing. To be revived immediately where defunct.	Division Level
22	In case of electrocution case of elephants due to illegal hooking, DISCOM staff to be present and also book cases under the relevant Act. In case of human death, due to illegal hooking in forest areas, Police to book cases promptly and inform the Forest Dept.	Immediate	DISCOMs/Police Dept/Forest Dept
23	Deployment of Drones (including night vision and IR-camera mounted) in vulnerable areas and also on routes used by criminals. CCTV cameras to be installed in check gates and vulnerable entry gates.	Ongoing Immediate To be saturated in 1-2 years and maintained therefter	Division Level
24	Close monitoring of use of Apps like OFMS/ M-Stripes and iWLMS for detection of Wildlife offence cases	Ongoing but major improvement required. Immediate	Division Level/Circle Level/WLHQ
25	Ensure use of concealed Trap Cameras (including IR-enabled ones) along suspected routes used by poachers	Within one year	Division Level

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26	Explore proposal for insurance coverage for members of Anti-poaching Squads and other frontline staff in case of any eventualities during patrolling.	Immediately	DFO/WLHQ
Crime detection, enquiry and prosecution.			
27	Effective site investigation and collection of evidence following detection of wildlife crime.	Ongoing but requires major improvement Immediate	Range and Division level
28	Investigating Officer should ensure preparation of fool-proof case records in case of all wildlife cases, especially for scheduled species. DFO to cross check and forward all PRs with supervision note.	Ongoing but to be made effective Immediate	DFO/JTF
29	DFO must be empowered to collect CDR of Wildlife Criminals relevant to the wildlife offence case directly from service provider under 65-B Indian Evidence Act	Within 6 months	State Govt / Home Dept.
30	Meeting between Forest Department and STF for sharing of information on wildlife crime	Immediately Monthly	WLHQ /JTF/STF
31	To ensure submission of final Prosecution Report within a stipulated period of 60 days from the date of arrest of accused.	Immediate.	Division level.
32	Wildlife crime control should be mandatorily included in the agenda in the Senior Officers meeting of the district	Immediate Monthly	DFO
33	Ensure booking of cases in the local police station where arms / explosives /poison is involved in wildlife cases.	Immediate.	RO/DFO
34	Establishment of Fast track court with Special Public Prosecutor/APP to ensure speedy trial of wildlife offences cases	Within one year	Govt. of Odisha / State Wildlife HQ.
35	Engagement of Legal Expert at Circle level to hand hold preparation of case records in Wildlife Offence cases.	Within 3 months	RCCF
36	Guide I.Os in effective investigation and prosecution of wildlife cases and ensure inter-agency co-ordination.	Ongoing but to be scaled up. Immediate.	JTF/Legal expert in Circles.

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37	Perusal of judgment in acquittal cases and prefer appeal inthe higher courts. Oppose bail applications strongly whenever moved by the accused.	Not followed everywhere. Immediate.	DFO / JTF
38	Explore provision of financial incentive in case of wildlife offence detection to informer/ Sources by amendment of the Act (Odisha Reward for detection of) Forest Offence Rule, 2004	Within six months	WLHQ
39	Effective use of Secret Fund to maintain a wide and effective intelligence network.	Ongoing with limited success. Major improvement required.	DFO/RCCF/ Wildlife HQ.
40	Establish close co-ordination with the Wildlife Forensic Laboratory of the Wildlife Institute of India soas to decrease the turn-around time for receiving reports on samples sent as part of evidence in wildlife crimes.	Ongoing but needs improvement Immediate	DFO/Hand-holding by JTF
41	Facilities of State Forensic Science Laboratory to be used in helping collect scientific evidence in wildlife crime cases. An MoU may be signed.	Within six months	DFO/WLHQ
42	Establishment of a Wildlife Crime Forensic Laboratory at Nandankanan with technical aid from Wildlife Institute of India. Once certified, this will be a major asset for quickly obtaining test reports which will aid prosecution.	Within 3 years	State Govt. / WLHQ

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IV. ELEPHANT HABITAT, CORRIDORS AND CONNECTIVITY

Sl. No.	Activity	Timeline/ Periodicity	Nodal agency
	A. Rationalizing and securing Elephant Habitats		
1	Adopt a zonation approach of the state based on habitat quality and viability, elephant use and movement, spatial configuration of forest fragments and corridors, human population, developmental imperatives, pattern and degree of human-elephant conflict. **Zone 1: Elephant Conservation Zone** **Zone2: Elephant-human Co-existence Zone** **Zone 3: Conflict mitigation Zone** **Zone4: Elephant Removal (or Exclusion) Zone** A draft list of divisions/ranges in each zone have been listed and has to be fine-tuned after due ground truthing and finalisation of corridor study. Meanwhile indicative management action points can be initiated forthwith as suggested.	Within 1-2 years	WLHQ
	B. Connectivity between habitats		
3	Each division should have a Connectivity Map where wildlife crossing points and crucial cross-over sites between forest patches are mapped and earmarked for mitigation. Wherever linear infrastructure projects (railways, roads, canals, slurry and water pipelines etc) have fragmented habitats, mitigation measures have to be provided. This will also include overhead electric lines. All new linear infrastructure projects will necessarily incorporate a animal passage plan.	To be completed within one year Provision exists but must be enforced.	DFO User Agency/DFO

4	Ensure compliance of all stipulated points as mentioned in the SSWLPs, for those projects in place and currently operational. DFO to verify and report to RCCF who then will report to the WLHQ.	Can be started immediately and completed within a year.	DFO/RCCF
5	Provision for pre-project consultation to be done to factor in appropriate mitigation plans/alternative alignments etc in case of major infrastructure projects, especially linear infrastructure to avoid '*fait accompli*' situations	Within six months	Nodal Wing of FHQ/WLHQ, DFO
6	In highways in mining districts, parking of trucks in vulnerable elephant crossing areas during night time hampers smooth crossing of elephants. Such spots should be designated as no-parking zones and signages erected to that effect.	Within 3 months	DFO/RCCF
7	Ensure completion of ongoing Overpass construction on the three crossing points identified by the State Forest Department on the distribution canal of Manjore dam for movement of elephants between Mahanadi and Sambalpur Elephant Reserves.	Immediately	DFO Athamalik, Angul RRB Division
8	Provision of underpasses/overpasses to be made in the Site-Specific Wildlife Conservation Plans on the crossing points that pose as a barrier for movement of elephants in all developmental projects involving linear infrastructure.	Ongoing To be saturated within 5-10 years	NHAI, Railways, SFDs / Irrigation Dept
Identification and protection of elephant corridors			
9	Commissioning of at least a year-long (1-2 years) study covering all seasons by a national institution to assess the functionality and feasibility of the 14 identified elephant corridors and the additional corridors mentioned in the ANCF report of 2018.	Within six months To be completed within 1-2 years	State Govt. / WLHQ

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10	Proposal for notification of Hadgarh-KuldihaElephant Corridor as a Conservation Reserve to be expedited.	Immediately	State Govt., MoEF&CC
11	Once identified, each corridor should have a Corridor Management Plan to chalk out and implement interventions. The same agency who has carried out the study can be given the responsibility or can be part of the original ToR.	Within one year of identification of corridors.	RCCF / DFOs
Spreading of awareness among stakeholders in elephant corridor areas			
12	Awareness programs should be carried out for various stakeholders to create awareness and garner public support. Details given in Chapter V.	Ongoing Periodically	Division
13	Signages on elephant corridors should be erected after identification of elephant corridors.	Within 1 year	DFO
14	Involving children from schools and colleges located in the fringe villages in awareness activities	Ongoing Every 3-6 months	DFO, Civil Society Organisations
Removal of encroachment in corridors& consolidation			
15	Illegal settlements/land-use in elephant corridor areas to be identified and removed. Wildlife-friendly land-use to be promoted in case of private lands.	To be initiated soon where evident. Long Term	DFO/RCCF
16	Land purchase wherever feasible.Voluntary relocation of people to whom rights/individual titles have been granted under FRA,2006.	To be initiated once corridor study completed To go on for 10-15 years	CAMPA funds of MoEF&CC
Regular monitoring of elephant corridors			
17	Involve local people in monitoring of use of elephant corridors.	Immediately	SFD and local community

18	Road/rail traffic passing through elephant corridors should be regulated, especially at night.	Ongoing In identified stretches	SFD and NHAI and Railways
Inter-state consultative meetings			
19	State level consultative meetings should be organized to discuss issues pertaining to movement of elephants across inter-state elephant corridors.	Ongoing Yearly	SFDs of Odisha, West Bengal, Jharkhand, Andhra Pradesh, Chhattisgarh
Work closely with other agencies			
20	Work with NTCA to identify elephant corridors that overlap with tiger corridors to jointly secure these corridors	Within I year Secure within 5-10 years	WLHQ and NTCA

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V. PEOPLE'S PARTICIPATION, EDUCATION & AWARENESS

Sl No	Activity	Time Line/ Periodicity	Nodal Agency/ Level within the Forest department
1	A Core Committee to enhance people's participation in wildlife conservation to be formed in every division consisting of Honorary Wildlife Warden, NGOs, PRI Members, EDC & VSS members, Local influential people, Local MLAs& MP.	Within 3 Months Bimonthly (Once every 6 months)	DFO Minutes of meetings to be sent through RCCF to the WLHQ
2	Framing of precautionary measures (Do's & Don'ts) to be adopted by local people during incursion of elephants into villages/ Crop Fields and to be widely circulated among the community for awareness in vulnerable areas.A list of indicative Do's & Don'ts is depicted in the poster appended in the relevant Chapter.	Ongoing	RCCF/ DFO
3	For spreading such awareness campaigns, vernacular language to be used in both audio-and audio-visual mode involving local villages, PRI members, VSS & EDC members. Gaja Sathi volunteers shall spear-head this activity.	Ongoing Monthly	Forest Guard & Forester in each range to be supervised by DFO
4	Conduct formal meetings emphasizing attempt to achieve 'zero accidental death of elephant and human beings' in conflict prone ranges.	Ongoing Quarterly	Forest Guard, Forester, RO & DFO
5	Film shows: short duration film should be prepared narrating need for protection and conservation of elephant along with mitigation methods of human-elephant conflict and be screened in vulnerable villages frequently.	Ongoing Periodically	RCCF/DFO

6	Rural Folk song / Religious song / Street plays – *Daskhatia, Palla, Goti pua nacha* etc should be exhibited emphasizing on the concept of aforesaid theme in problematic villages.	Ongoing in many divisions. To be replicated in others. Within 2-3 months Once in a fortnight during crop depredation season.	Division/Range/Section Forest Guard & Forester
7	Awareness Campaign by social media – To be used in peri-urban, urban and other areas having internet penetration.	Ongoing Regularly	HQ/RCCF/DFO/RO
8	Poster / Signage / wall painting – This should be done at places of people's congregation within villages.	Ongoing	DFO/RO
9	Radio and T.V Shows- Awareness campaigns / Alerts should be made in AIR and popular electronic media preferably local channels.	Ongoing Regularly	DFO
10	Brand Ambassadors – Celebrities from film industry / cricket & other sports / athletes should be involved to spread the message for protection of elephants in electronic media for better impact and larger outreach.	Within 6 months	RCCF/DFO
11	Professional agencies should be hired to prepare films, signages, posters, wall paintings etc for successful campaigns.	Within 6 months to one year	RCCF/DFO
12	DFOs to prepare a panel of NGOs/ NGIs to help them execute such activities	Within 6 months	DFO/RO
13	A volunteer group of villagers to be formed in villages acutely affected by Human-Elephant conflict. This should be spear-headed by *Gaja Sathis.* Roping in community / individuals to participate in the *Jan Surakhya Gaja Rakhya* scheme	Within six months – one year	Forest Guard, Forester & ROs

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14	*Mo Jungle-Mo Parivesh*: The district administration should take up massive awareness programs on wildlife conservation in schools and colleges	Within one year	District Administration
15	Document all good practices and successful case studies in human-elephant conflict mitigation and replicate them in other divisions. A compilation of these should find a place in the Annual Report of the State Wildlife HQ.	Ongoing but to be strengthened to enable completion of an exhaustive repository.	DFO / RCCF / WLHQ
16	Promote/Incentivise toilets to be built in all households under '*Swachh Bharat*' programme, especially in areas frequented by elephants to sensitize people to use their toilets instead of going to the fields to attend call of nature.	To be pursued in 2-6 months in pilot areas.	WLHQ/DFOs
17	Use of innovative eco-tourism practices to watch and photograph elephants may be tried at a pilot level to aid income generation among local villagers and also foster a sense of ownership among them.	Within 2-10 years	Local people / Tourism Dept / DFO

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VI. HABITAT MANAGEMENT FOR INCREASED PRODUCTIVITY

Sl. No.	Activity	Timeline/Periodicity	Nodal agency / Level within FD
Stratifying elephant habitats			
1	In each elephant-bearing division, stratify beats into Good, Medium and Poor elephant habitats based on forage, water, cover and disturbance and identify areas that are intact elephant habitats. A map to be prepared showing all prominent habitat features including water bodies, dense and open forests, meadows and grassland etc. so that key elephant habitats may be delineated.	Within Six months	Division Level
Improving Elephant Habitat			
2	Instead of a piece-meal approach to habitat 'improvement', a holistic habitat 'restoration' approach to be followed, wherein clearly identified degraded patches (5-25 hectares or more) to be continuously managed in the long-term. Experts in this field to be invited for a Workshop and their advice sought for forming an Action Plan on this, especially in PAs.	Consultations to be initiated immediately for the Workshop. Long-term	WLHQ/RCCF/DFO
3	Map extensive weed-infested areas [emphasizing on most nefarious species such as *Chromolaena odorata, Mikania micrantha, Cassia tora, Lantana camara*] in all divisions and ear mark area for weed eradication.	Within 1-2 years	Division Level
4	A 5-year action plan to be developed for weed eradication in such identified areas. Extensive and persistent weed removal to be done along with planting up with palatable species of grasses, herbs/forbs, shrubs, and fruit/fodder trees. Suggested list appended.	Within one year To be implemented thereafter for 5-10 years	Division Level

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5	In all Regional Wildlife Management Plans, Site Specific Wildlife Management Plans, at least 25% funds to be ear-marked for habitat improvement.	Policy to be formulated within six months Regularly	Forest HQ / WLHQ
6	In all plantation drives within elephant rich RFs (Zone I&II), at least 50% of planting material will have to be from a list of elephant food plants and nursery stock to be accordingly developed. In other elephant movement areas at least 20% to be planted.	Policy to be formulated within six months	WLHQ/Division
7	Follow wildlife-friendly norms specified in the Wildlife Conservation (Overlapping) Working Circles prescribed in the Working Plans while undertaking forestry operations.Routine climber-cutting, bush-clearance, roadside clearance etc to be avoided. Working Plans for divisions with high elephant populations should necessarily include a chapter for elephant conservation and management	Ongoing To be enforced Immediately	Division Level PCCF, Working Plan Officers
8	Restoration of degraded/blank patches by enrichment plantations of fodder/food species.	Ongoing but more focus required. Should go on for 10 years at the least	Division Level
9	Restoration of degraded meadows by site-specific strategies.	Ongoing but enhance focus and should go on for 10 years at the least	Division Level
10	Mining area restoration plan should focus on wildlife and habitat restoration including planting of bamboo and elephant food plants and also appropriate water conservation and harvesting methods.	Ongoing but needs focus. Within 1-2 years but go on for 10-20 years Regularly	Division level

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Plantation of Bamboo, Ficus and preferred elephant food plants			
11	Raise Bamboo plantations of *Dendrocalamusstrictus*[rhizome/seed ball] wherever possible.	Ongoing but requires massive scaling up. Short-term/Medium term& Long-term.	Division Level
12	Ensure improvement of degraded bamboo forests using accepted silvicultural practices.	Ongoing but requires massive scaling up. Short-term/Medium term& Long-term	Division / OFDC
13	Enforce prevention of bamboo shoot (*karadi*) collection by local people in elephant bearing areas. Ensure adequate supply of bamboo rhizomes and encourage them to plant for self-sufficiency. Alternative livelihood to be planned for habitual *karadi* collectors.	Short-term Medium-term	Division Level
14	Planting of Ficus species especially *Ficus bengalensis* in all suitable areas with due protection. In addition, preferred elephant food trees (fruits/leaves/bark) to be planted extensively. Assisted planting of Ficus species on standing snags/dying trees so as to enhance their survival percentage.	Ongoing but requires massive scaling up. Immediately Short-term/Medium term& Long-term	Division Level
15	Develop captive fodder farms near elephant rescue centres as well as in divisions having captive elephants	Ongoing in some areas and needs replication. Within 1-5 years	Division
Water Sources and other habitat improvement measures			
16	Development of water resources in carefully chosen areas by catchment treatment plans and SMC works including WHS, LBS, BWCDs, SSDs and also digging of waterbodies to ensure pinch period water availability. Saturation to be achieved over time.	Ongoing but requires rationalisation. Short-term and medium-term till saturation over the long run.	Division Level

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17	Reduce the presence of scrub cattle and livestock in elephant areas, and contamination of waterholes by wallowing buffaloes. Supply of high-yielding stall-fed cattle can be tried in pilot basis with support from V&AH Dept.	Medium-term	Division Level
Forest fire managementand control			
18	Fire management / control measures which are already in place to be followed meticulously. Special care to be taken to manage fire in key elephant habitat areas and where plantation of elephant fodder species have been taken up.	Ongoing Fire season	DFO/RCCF

Short-term: <1 year / Medium term: 1-5 years / Long-term: > 5 years

VII. HUMAN RESOURCE MANAGEMENT & CAPACITY BUILDING

SL No.	Recommended activity	Time line / periodicity	Nodal Agency / level within Forest Department
1	Ongoing filling up of vacancy positions at all levels of regular frontline and supervisory staff to be expedited as to ensure man in position in all field level positions.	Highest priority Regularly thereafter	Govt. of Odisha
2	Designation of a Prosecution Range Officer in each Division for constant liasoning with the Courts, effective prosecution and timely filing of PRs.	Within 6 months	DFO
3	**Capacity building of frontline staff:** Frontline staff of Forest Department should be trained on the following subjects: - a. Managing straying of elephants to Human habitation and mitigation of Human Elephant Conflict. b. Intelligence collection, Detection, enquiry, interrogation techniques, case record preparation, and prosecution of Wildlife Offence cases to the designated court. c. Tranquilization Techniques and Rescue and rehabilitation of problematic elephants. d. Elephant behaviour e. Habitat Management, weed eradication and propagation of high-quality grassland, nursery techniques of food and fodder species. f. Use of new technology and apps in wildlife monitoring Every elephant-bearing division should have a Core Group of 10-15 young staff trained in rescue, emergency anti-depredation activities, tranquilization, shifting and management of conflict situations.	Ongoing but to be improved/strengthened Quarterly Existing in few circles but should be enhanced. Within six months	WLHQ/RCCF/ DFO DFO
4	Create adequate number of posts of Veterinarians within the Forest Department considering their crucial role in wildlife health management, rescue and rehabilitation. Fill up existing vacancies forthwith.	Existing but to be enhanced Within six months	Govt. of Odisha / WLHQ

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5	**Capacity building of *Gaja Sathis*, Civil Society (VSS members/ Community Groups):** Training on preliminary operational methods for managing the depredation should be given to the *Gaja Sathis*, VSS members/ Community Groups. They should be equipped with knowledge and technique for operation and maintenance of depredation devices and deterrent methods. Knowledge of elephant behaviour and appropriate response should also be a key component of such training.	Ongoing but to be strengthened. Within sixmonths Periodically	DFO
6	**Capacity building of Veterinarians**: On rescue, treatment and rehabilitation of problematic/ injured elephant/ PM of elephant and treatment of Captive Elephants and also on control of wildlife diseases.Veterinary Officers' Training Institute may be roped in for this.	Ongoing but to be strengthened. Within sixmonths to 1 year Periodically	WLHQ
7	**Capacity building of officers of the rank of RO, ACF and DCF** To be scheduled with the support of WCCB, BPSPA, WWF, WTI utilising the services of eminent resource personson themes such as intelligence gathering, surveillance, modern methods such as CDR tracking, cyber-crime; crime scene investigation, case-record preparation, and prosecution.	Ongoing but needs strengthening. Within sixmonths Periodically	RCCF/WLHQ
8	**Capacity building of mahouts**: Enhance training on husbandry, care and management of captive elephants and kunki training so that they can effectively function during Human Elephant Conflict situations.	Within 6 Months to one year Periodically	WLHQ/DFO
9	Include Wildlife Management, Wildlife Health Monitoring and Human-Elephant Conflict (HEC) mitigation in the syllabus for IFS and OFS officers and also in curriculum of the Forester and Forest Guard training and refresher courses in Nicholson Forester Training School, Champua, Forester Training School, G.Udayagiri, Forester Training School, Ghatikia, Bhubaneswar, Mooney Forest Guards School, Angul	Existing but can be more focussed on field practicality and efficacy. Within six months to one year	CCF Training and Development

10	Conduct thematic short-term training programme on HEC mitigation for Forester and Forest Guards in the aforesaid schools.	Ongoing Every year	CCF Training and Development
11	Handpick and nominate ROs for 3-month certificate diploma course in WL management course in the Wildlife Institute of India (WII)	Ongoing Every year	PCCF (WL)
12	Handpick and nominate ACFs /DCFs in 10-month certificate diploma course in WL management course in the Wildlife Institute of India (WII)	Ongoing Every year	PCCF (WL)
13	Organizing Awareness-cum-Animal Health Camps in forest fringe areas for clinical examination, screening against diseases, deworming and treatment of any specific diseases of domesticated animals and birds.	Ongoing Yearly	Chief District Veterinary Officer / Divisional Forest Officers
14	Training of Veterinarians on Tranquilization / sedation, treatment of sick and injured wild animals, conducting post-mortem examination of carcass and scientific collection, preservation and dispatch of morbid samples to laboratories. Forest field staff to be trained to Assist Veterinarians.	Ongoing Once in a year	Director, AH&VS, Cuttack / PCCF (WL) & CWLW, Odisha
15	Give recommendations to include Wildlife Health, Rescue and Rehabilitation as a Special Paper in the syllabus of the degree course in Veterinary Sciences in CVS, OUAT, Bhubaneswar.	Within one year	WLHQ / CVS, OUAT
16	Training and awareness of sub-divisional and district level judicial officers on the gravity of wildlife crime, illegal wildlife trade and role of Forest Department in tackling these.	Ongoing Periodically	OJA, Cuttack in collaboration with WLHQ
17	Training and awareness of sub-divisional and district level police officers on the gravity of wildlife crime, illegal wildlife trade and their role in supporting Forest Dept in apprehending habitual wildlife criminals, tackling menace of illegal fire-arms etc.	Within one year Periodically	BPPA, Bhubaneswar in collaboration with WLHQ
18	Training and awareness of Loco Pilots, linemen and Level-Crossing staff to prevent accidents involving elephants.	Within six months Periodically	RCCF/DFO

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19	Training and awareness of Medical Officers, Tahsildars and IICs for quick processing of compassionate payment claims for human death to be done.	Within six months Periodically	RCCF/DFO
20	Institute division level prizes for acknowledging/rewarding meritorious frontline staff/squad members in mitigating conflict, protection of wildlife, crime control and enforcement or awareness and education. Special prizes for exceptional work to be put in place.	Within six months Periodically	DFO
21	Similar ways of recognising exceptional services of civil society members also to be put in place.	Ongoing	WLHQ/RCCF/ DFO

VIII. WILDLIFE HEALTH MANAGEMENT AND DISEASE CONTROL

SL No.	Activity	Time line / periodicity	Nodal Agency / level within Forest Department
1	Preventive vaccination of domesticated animals in forest fringe area against vaccine preventable diseases such as Hemorrhagic septicemia (HS), Black Quarter (BQ), Anthrax and Foot and Mouth Disease (FMD).	Ongoing Biannual except in case of anthrax where annual vaccination will be done.	Chief District Veterinary Officer / Divisional Forest Officers
2	Animal Disease Surveillance on commonly occurring diseases of domesticated animals and birds and physical surveillance on wild elephants.	Ongoing Continuous programme	Director, AH&VS, Cuttack / Divisional Forest Officers
3	Strengthening of Centre for Wildlife Health with modern diagnostic facilities and adoption of new technologies for easy and quick diagnosis of disease of wild animals. Enable its recognition as a recognized Forensic Laboratory.	Ongoing Continuous programme	Project Coordinator, CWH / PCCF (WL) & CWLW, Odisha
4	Disinfection of water bodies within forest areas preferably before and after monsoon	Ongoing Twice in a year	Engineers of RWSS / Divisional Forest Officers
5	Treatment of sick / injured wild elephants: the field staff of forest department will follow the Standard Operating Procedure (SOP) already circulated by State WLHQ.	Ongoing but needs to be more effective As and when required	Chief District Veterinary Officer / Divisional Forest Officers
6	Conducting Post Mortem (PM) examination of dead wild elephants and scientific collection of morbid materials for laboratory examinationbya team of local Veterinarians.	Ongoing but needs to be more effective As and when required	Chief District Veterinary Officer / Divisional Forest Officers
7	Preparation of a new SOP for PM and circulation to all field officers in the Divisions and Circle	Within 1 Month	ADVO, WLHQ
8	Control of Emerging Diseases in wild elephants	In case of occurrence.	Chief District Veterinary Officer / Divisional Forest Officers

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IX. RESEARCH & APPLICATION OF TECHNOLOGY

Sl. No.	Activity	Timeline/ Periodicity	Nodal agency / Level within FD
1	Fill up the existing vacancies of Research Officers in the State Wildlife Headquarters.	Within six months	WLHQ/GOO
2	Each Circle should have a Research & Monitoring Cell having at least two Research Scholars.	Within one year	RCCF
3	GIS Cell of each Division and Circle should be strengthenedand detailed land-use, land cover maps prepared and updated regularly.	Ongoing Immediately	
4	Undertake periodic elephant population estimation following standard protocols. [Collaboration with Project Elephant and a National Institution of repute]	Within one year	WLHQ
5	Strengthen close monitoring of elephant herds by trackers, supplemented by photographs/videos by them to realistically estimate sex/age-class distribution so as to decipher demographic parameters and trajectory of population change.	Ongoing Within 3 months / Continuous	Division / Circle / WLHQ
6	Commission a study covering both the wet and the dry seasons to assess the status of identified corridors including new corridors listed by ANCF to be completed within two years.	Within 2 months	WLHQ
7	Radio-collaring studies should be carried out in select localities of the State to elucidate habitat use, ranging and patterns of crop depredation. Candidate animals could be Matriarchs, Adult bulls, Lone bulls.	Within 6 months To be continued at regular intervals	WLHQ / Circle
8	Employ drones for detecting, tracking and monitoring elephants, and assess sex and age-class breakup of herds.	Ongoing but needs to be extended to all divisions. Immediately	Division

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9	Pilot project to assess efficacy of various types of barriers on a pilot basis (community solar fences, rubble walls, steel channel/rail bars etc.)	Within 1-2 years	Division
10	Use of camera traps also to be made for understanding elephant presence and habitat use and individual identification of tuskers.	Ongoing in some divisions. To be extended to all. Immediately / Continuous	Division
11	Take up pilot project on the use of emergent technology including ground impact detection sensor technology/temperature and movement sensors etc to detect and give early warning of presence of elephants, especially on identified crossing points across railway tracks.	Within 1-2 years	RCCF/DFO
12	Take up pilot projects on the use and efficacy of low-cost bio-deterrents such as chilly bombs, use of bee-boxes, elephant-repelling crops, lure crops as well as acoustic deterrents (bee-sound, tiger roars) etc. which have been tried across the country.	Within a year	RCCF/DFO
13	Study of peoples' perceptions on HEC and people's participation involving social scientists / organisations.	Within three months	WLHQ/Circles
14	Commission study on the use of linear infrastructure mitigation measures such as Elephant Underpasses and Overpasses in select divisions.	Within one year Can be extended to other areas phase-wise.	WLHQ/Circles
15	Studies to understand social carrying capacity and also the changing trends in human tolerance and traditional co-existence between elephants and local people in select landscapes involving reputed local universities.	Within a year To be continued and extended to other areas	WLHQ / RCCF/DFO
16	Study on elephant habitat quality with special reference to palatable tree, shrub, climber and grass species andalso meadow management practices with an aim to improve these. [One each in Mayurbhanj, Mahanadi and Sambalpur Elephant Reserves]	Within two years	WLHQ/Circles

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17	Disease surveillance and monitoring in all elephant reserves and PAs with elephants	Ongoing At regular intervals	Divisions with hand-holding from Veterinary Dept. and Universities.
18	Long-term ecological monitoring stations to assess bioclimatic variables using automatic data loggers should be installed in all PAs. Similarly, assessment of stream flow, soil profiles etc to assess ecosystem services evaluation.	Within 1-2 years	WLHQ
19	AI-based Intrusion Detection System (IDS) already deployed by Northern Frontier Railway (NFR) in Lumding and Alipurduar divisions to be extended to select stretches in Odisha. Similar other technologies such as Intelligent Seismic Sensing System for Elephant Movement Detection (ele Seis Alert) being developed by CSIR-Central Scientific Instruments Organisation (CSIO), Chandigarh and open-source sensor warning system Ele Sense-IoT to be explored for pilot-level implementation.	Within 6 months	Railways

X. MONITORING

Sl No	Activity	Time Line/ Periodicity	Nodal Agency/ Level within the Forest department
1	Strengthen daily monitoring and regular analysis of iWLMS/OFMS/mSTRIPES data at Division and Circle levels for effective protection / patrolling strategy for preventing elephant deaths. This should be ensured by the Elephant Protection and Wildlife Crime Control Cell of the Division and Circles respectively. Movement of elephant herds/solitary tuskers should be regularly mapped at division and circle level so that proactive steps can be taken for their protection. Monthly report in prescribed format should be sentby all Divisions to the Circles and RCCFs should compile and send to WL HQs with their specific observations/comments.	Ongoing but to be enhanced Immediately Monthly	DFO, RCCF/WLHQ
2	Ensure monitoring of smaller and scattered population by the circle-levelCommittees constituted under the chairmanship of Chief Wildlife Warden and to suggest steps for safety and security of those elephants vide Office order No. 7223 dated 02.08.2021	Immediately Monthly	RCCF
3	MOU has been signed between PCCF (WL) & CWLW, Odisha of Indian Institute of Science, Bangalore for radio-collaring of 3 nos of elephants in Angul, Dhenkanal, Keonjhar, Rairakhol, Athagarh, Athamallik&Chandaka WL divisions for monitoring of their movement. This may be expedited. Further radio collaring of identified and	Within 6 Months Maybe initiated	WLHQ WLHQ/DFO

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	candidate animal (adult tusker, matriarchs, solitary males, captured individuals to be released back) to be carried out in select localities of the State.	within a year's time and continued thereafter	
4	Focus on the recently initiated efforts to prepare a photographic profile of tuskers in all elephant bearing divisions and vetting to be done at the Circle level. Adult tuskers to be identified and regularly monitored to provide protection and prevent poaching. This effort needs to be continued and refined regularly over time.	Preliminary efforts in some divisions but need to be intensified. Within 6 months Updation and analysis at regular intervals	DFO / RCCF/WLHQ
5	Analysis of sex/age-class break-up of elephantherds through periodic monitoring so as to arrive at indicative growth rates and demographic trajectory.	Within 2 Years Updation and analysis at regular intervals	Divisions / Circle / WLHQ