

A tiger is the central focus of the image, looking directly at the camera. The background shows a natural habitat with green plants and water. The text is overlaid on the image in a semi-transparent manner.

# Protection Issues in Corbett Tiger Reserve

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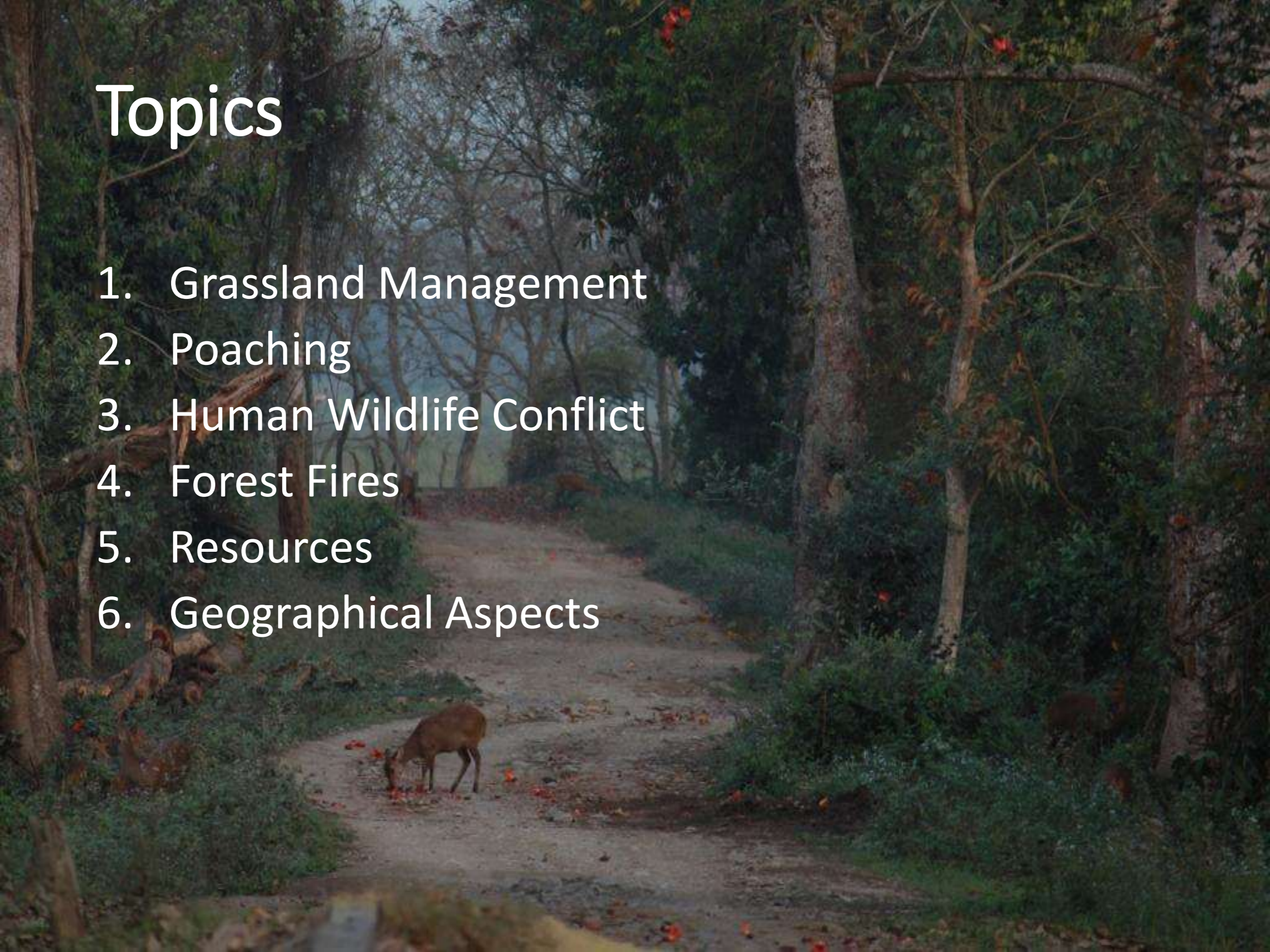
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# Topics

1. Grassland Management
2. Poaching
3. Human Wildlife Conflict
4. Forest Fires
5. Resources
6. Geographical Aspects



# 1. Issue - Grassland Management

- Importance of Grassland
- Concerns
- Steps taken



## 2. Issue - Poaching

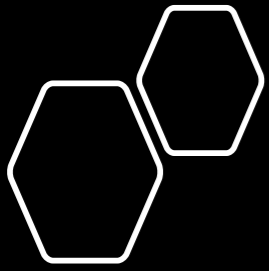


**Around 20 tigers poached in Corbett national park in last two years: wildlife warden**

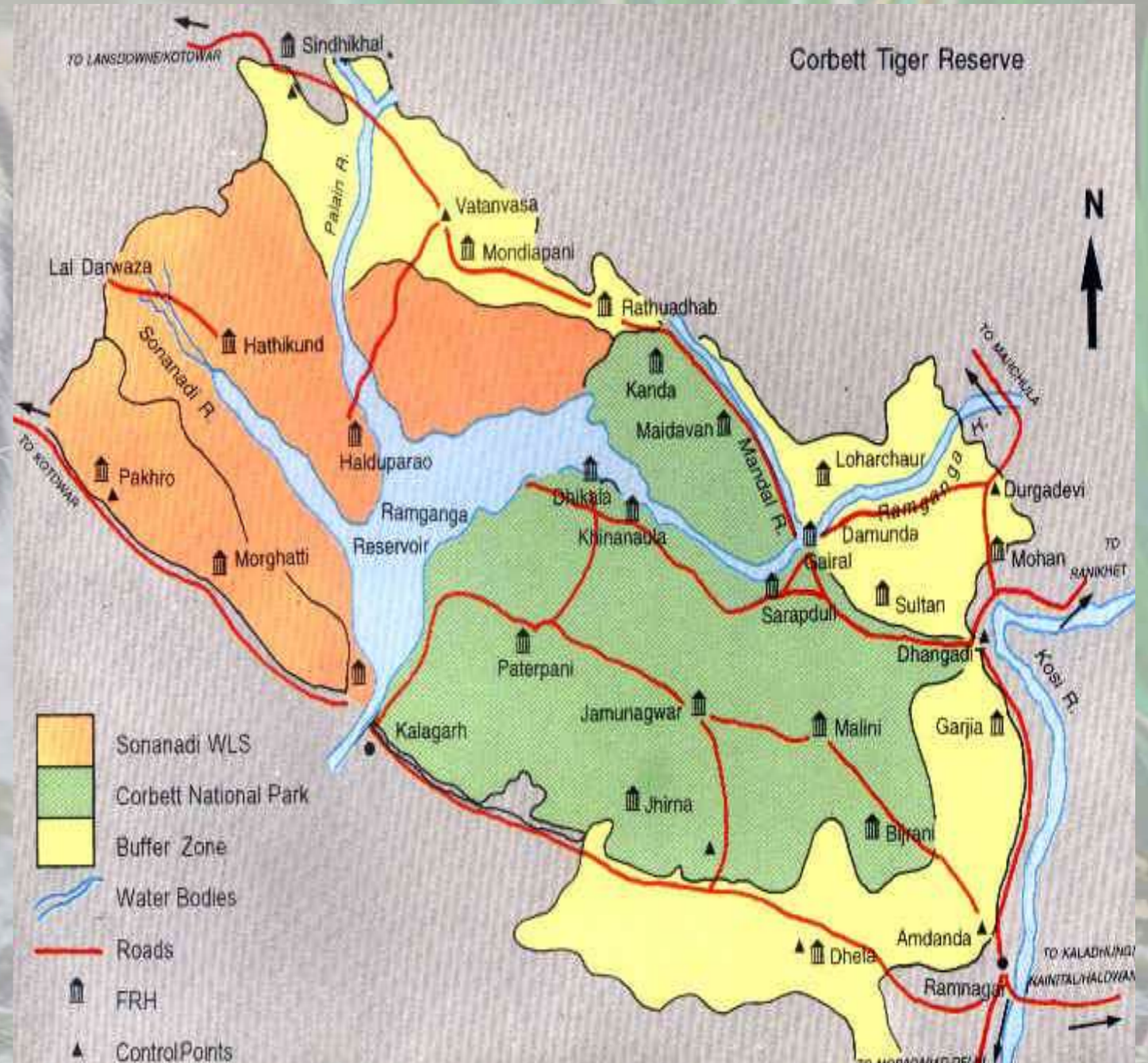
The number of confirmed cases of tiger poaching in Uttarakhand has been the highest in the country



REASONS



# Issues in SOUTHERN BOUNDARY of CTR with Uttar Pradesh



**Anthropogenic**



**Villages around CTR**



**Bawariya Community**

# Geographical



**Vast area 1288 square Km**



**Diverse landscape- a hiding place for poachers**



**Lying en-route for smuggling of drugs between India and Nepal.**





STEPS TAKEN

## Drone based surveillance/patrolling



## Foot Patrolling at beat level



## Night Patrolling and ambush



- GPS based foot patrolling daily
- Long distance patrolling of 80 Km (in 5-6 days)
- Night patrolling and ambush
- Drone based surveillance

## Other Steps-

- Installation of thermal cameras on watch towers.
- Inter State joint patrolling with CTR and Amangarh Tiger reserve staff.
- Dogs squad and elephant based surveillance (inaccessible areas)

## Suggestions-

- 2Cs approach- Coordination and Co-operation- UP-UK, India-Nepal, Forest department and police/armed forces, Forest department and NGOs- WWF, WCS, TRAFFIC etc.
- Better intelligence through WCCB and local people use.
- Public outreach programs.
- Better arms and equipment. Regular training and mock drills.

# 3. Issue – Human Wildlife Conflict

- Humans Entering Animal Habitat
  - Firewood Collection
  - Constriction of Corridors - Illegal Settlements (Sunderkhal)
  - Eco-Tourism
- Animals Entering Human Habitations
  - Kalagarh Dam – Ramganga Reservoir
  - Fragmentation of Habitat
  - Sugarcane loving Elephants and Maneaters

A tiger is standing in a shallow stream, looking towards the camera. The water is clear, and there are green plants and rocks in the background. The overall scene is a natural habitat.

- **Steps Taken by CTR**

- **Technology**

- Drone, Camera Trap, E-eye

- **Habitat Management**

- Grassland, Water Resources

- **Eco-tourism**

- **Village Relocation - Dhara**

- **Steps to be Taken**

- Targeted Delivery of Ujjwala Scheme

- WWF India's interim relief scheme

- Community managed insurance – NCF

# Integrated Management of HWC



# 4. Issue - Forest Fire

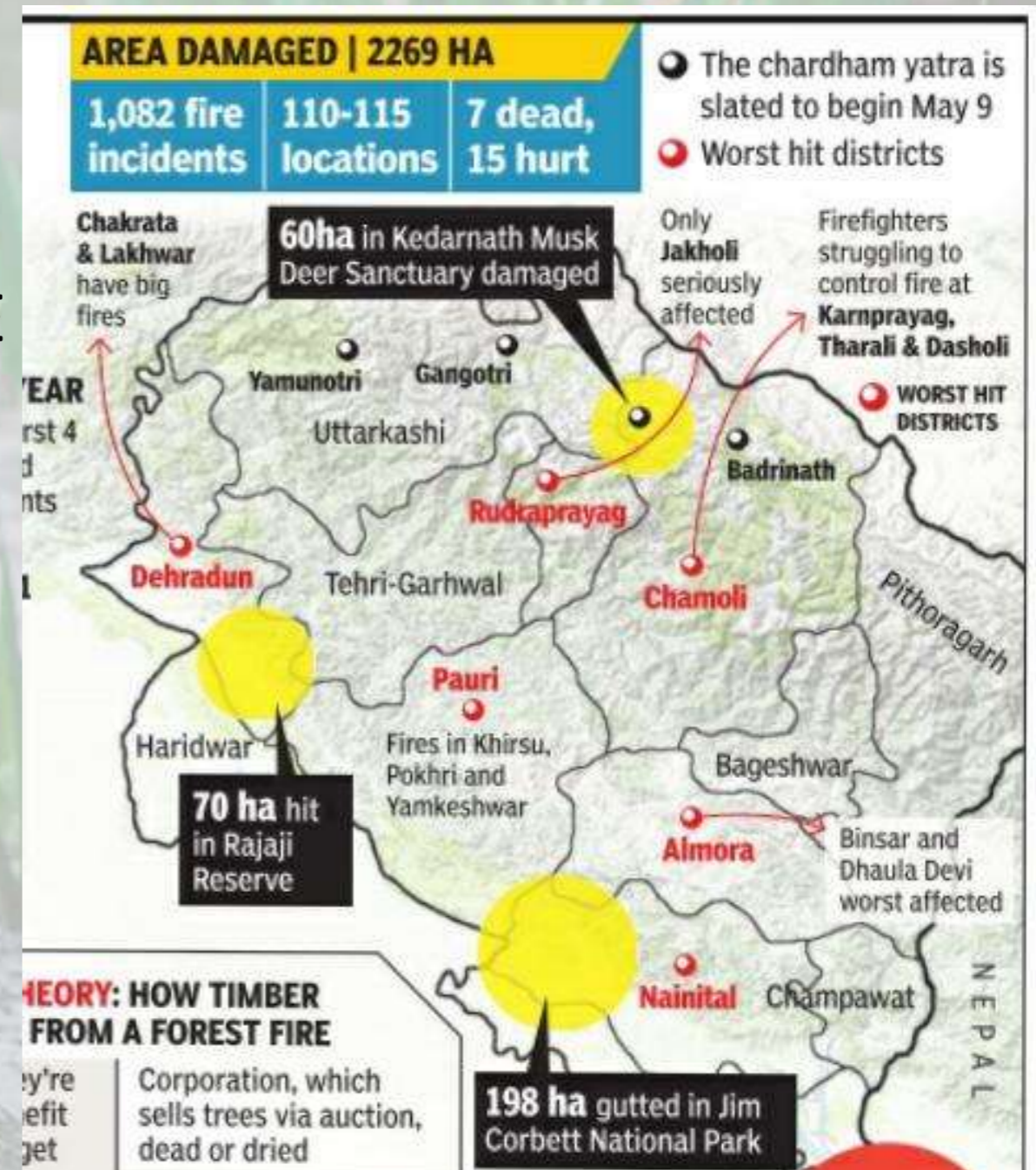
## Areas prone to forest fire in Corbett Tiger Reserve

1. Highly Sensitive Areas : DHELA RANGE  
ZIRNA RANGE

2. Moderately Sensitive Areas:  
KALAGARH RANGE

3. Sensitive Areas : BIJRANI RANGE

**MONTHS MOST SENSITIVE : FEBRUARY TO JUNE**



# Factors causing Forest Fires

1. CLIMATE : Extreme dryness due to high temperature and low rainfall. Lack of April Showers
2. Burning by locals to get fresh grass
3. CHIR PINE FOREST : High resin content causing flammable material accumulation





## Factors causing Forest Fires cont.

4. Migration reducing livestock rearing hence reduced demand for grass causing less cutting of grass
5. TIMBER MAFIA : Dried and dead trees permitted for sale.
6. Mismanagement by forest department.

# Consequences of Forest fires

- 1. Biodiversity loss
- 2. Adds carbon to atmosphere and enhances global warming



- 3. Soil Erosion.
- 4. Flora and Fauna Vulnerability increase.

# Solution

- 1. Controlled Burning
- 2. Fire Lines



- 3.DRONE SURVEILLANCE



- 4.CAMERAS
- 5.PATROLLING AND CONTROL ROOM
- 6. INVOLVEMENT OF LOCALS.



# 5. ISSUE - RESOURCES

# Financial

## Main Sources



# Issues

- CTR used to receives only 20% of the revenue generated from tourism activities which has been increased to 50% in last two years.
- Budget allocation erratic.
- NTCA funds decreasing.
- Need for new tech , effective protection



# Human

- Hierarchy

Field  
Director

Deputy  
Director

ACF

Range  
Officers

Lower  
staff



# Challenges

- Paucity of staff
- Not adequately trained
- Not adequately armed
- Difficult working conditions

Name of rank	Total sanctioned	In position	Vacancy
ACF	5	3	2
Range Officers	19	13	6
Forestors	65	69	+4
Forest Guard	229	101	128

# Management

- Proper Planning
- Technology
- Contract Labour



A tiger is the central focus of the image, standing in a shallow stream. The tiger's fur is a mix of orange, black, and white, with its characteristic stripes clearly visible. It has a white chest and belly. The tiger is looking directly at the camera with a calm expression. The stream is shallow, with water reflecting the light. In the background, there are several green plants with long, narrow leaves, possibly irises, growing from the bank. The overall scene is a natural, outdoor setting.

## 6. Issue - Geographical aspects

# Geographical aspects : Intro

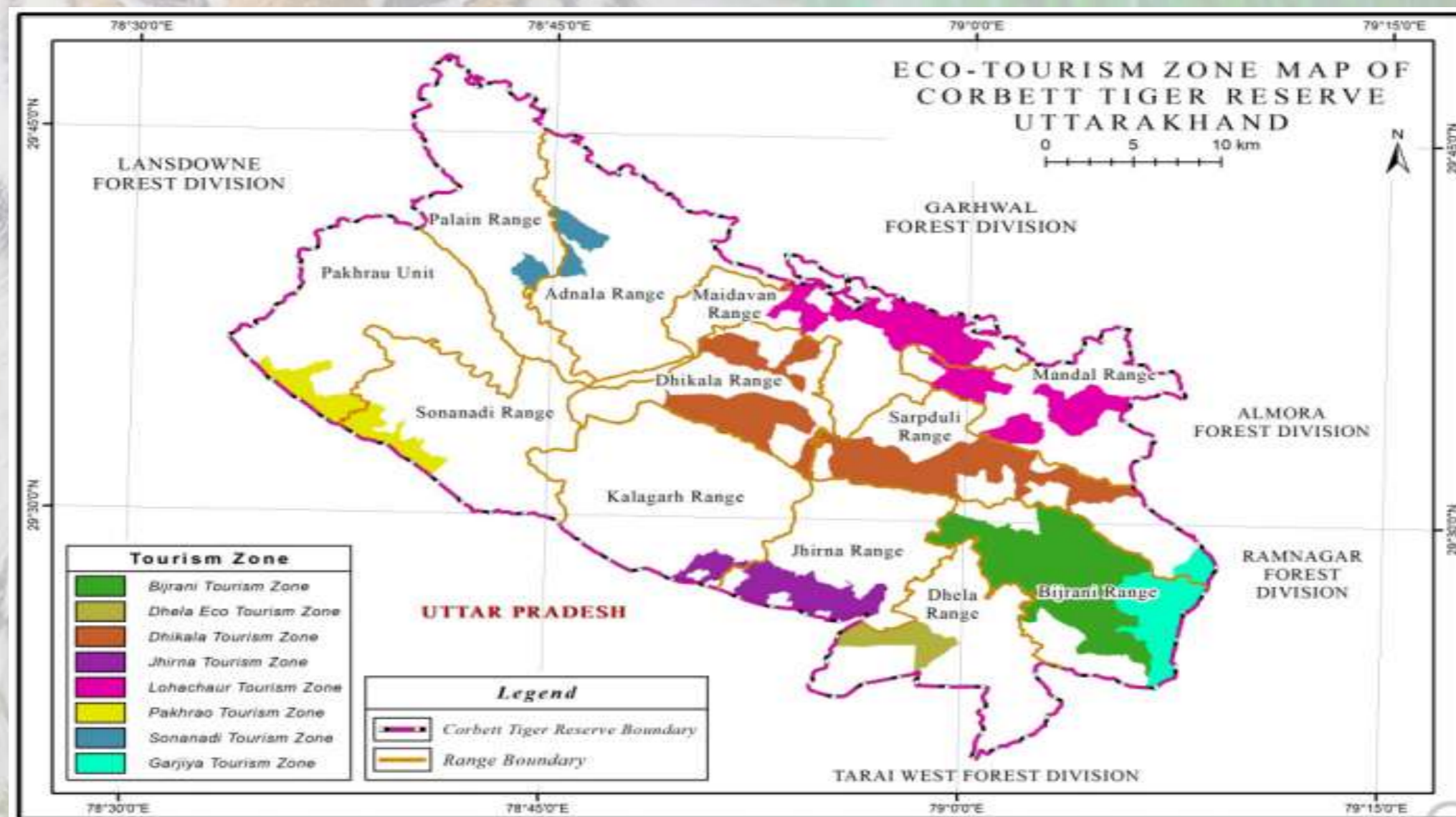
- Corbett National Park is located between 29°25' to 29°39'N latitude and 78°44' to 79°07'E longitude.
- The average height of the region ranges between 360 m (1,181 ft) and 1,040 m (3,412 ft).
- It has various ravines, ridges, minor streams and small plateaus with degrees of slopes and changeable aspects.
- The park covers the Patli Dun valley formed by the Ramganga river.
- The reserve, situated factually along a valley between the minor Himalaya in the north and the Siwaliks in the south, has a sub-Himalayan belt shape.

**Dhikala zone** – Situated on the edges of the valley Patli Dun, Dhikala Zone is dotted with picturesque natural vistas and is considered a good site to spot herds of elephants, chitals and deer as well as Bengal Tiger.

**Jhirna zone** – The zone is mainly noted for its bamboo vegetation and wonderful bird watching experiences.

**Durga Devi Zone** – The hilly topography and deep dark woody vegetation of Durga Devi Zone is quite favorable for witnessing several distinct species of birds

**Sonanadi Zone , Bijrani zone**



## Protection issue : Terrain

- The lesser Himalayas are made up of crystalline rocks.
- The Ramganga River forms the most prominent hydrological resource, supplemented by tributaries, most prominent of which are the Sonanadi, Mandal and Palain rivers. The river Kosi runs proximate to the Park and is also a significant water resource for nearby areas.
- Mountain habitats reflect definite character of flora and fauna in terms of altitude. The downstream areas of the Corbett consist of Saal forest while we go up we find progressive belts of mixed forests of Chir Pine, Oak and Rhododendron.

## Protection issue : Terrain (Contd)

- Kalagarh Dam – Submergence of low lying areas affecting herbivores
- Protection systems have weakened, and poachers have infiltrated into this park.
- Monitoring of wild animals in the prescribed format has not been followed .
- Elephant based patrolling ,Dog Squad based patrolling
- Sensitive southern boundary: Corridors facing threat due growth of resorts, traffic on highways

# Protection issue : Climate

- **Temperature: Maximum – 42o C**
- **Minimum – 4o C**
- **Rainfall – 1200 to 2800 mm**
- **It has humid subtropical and raised ground weather.**
- **The habitat of the reserve faces threats from invasive species such as the exotic weeds , lantana, Parthenium, Cassia, cannabis, Marijuana.**
- **fire control**
- **Drone surveillance/ Unmanned aerial vehicles**
- **E-eye surveillance**
- **Flooding and erosion- is replete with water bodies and gets inundated by the flood waters every year, due to incessant rains and upwelling of the water streams**



# Protection issue : Demography

- **The overwhelming popularity of Jim Corbett National Park is indeed its biggest threat. Excessive tourist influx in this area leaves an adverse impact on the ecosystem. Noise pollution is also a major cause of concern for the national park**
- **Rising incidents of poaching.**
- **Rising incidents of man-animal (tiger & elephant mainly) conflicts.**
- **The increase in tourist activities, among other problems, continues to present a serious challenge to the park's ecological balance.**

# Protection issue : Anthropogenetic

- Encroachment by local people.
- Diversion of land was started just to accelerate the development activities like irrigation, hydro-electric projects, road/rail construction.
- Natural resources like trees and grasses are exploited by the local population while encroachment of at least of 13.62 ha (0.05 sq mi) by 74 families has been recorded
- Constantly increasing vehicle traffic on this road is affecting the wildlife of crucial ranges like Jhirna, Kotirau and Dhara

## Protection issue : Anthropogenetic (Contd)

- The issue of 'relocation'
- The 'grazing' dilemma
- Road and rail kills
- The villages in the interior of the forest affected the forest less than villages present at the periphery.

## LAND USE/ LAND COVER OF JIM CORBETT NATIONAL PARK, UTTARAKHAND (2000)



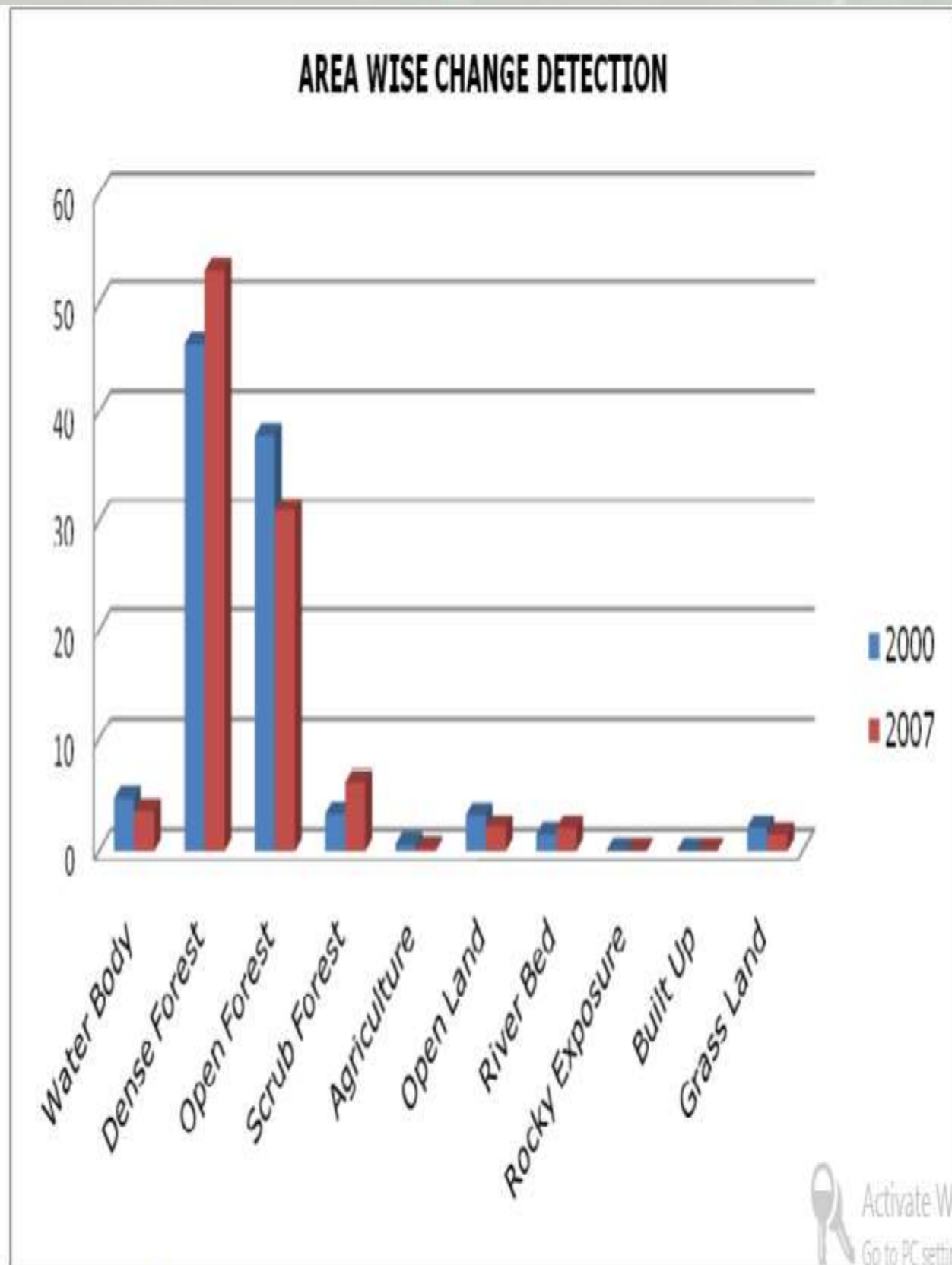
## LAND USE/ LAND COVER OF JIM CORBETT NATIONAL PARK, UTTARAKHAND (2007)



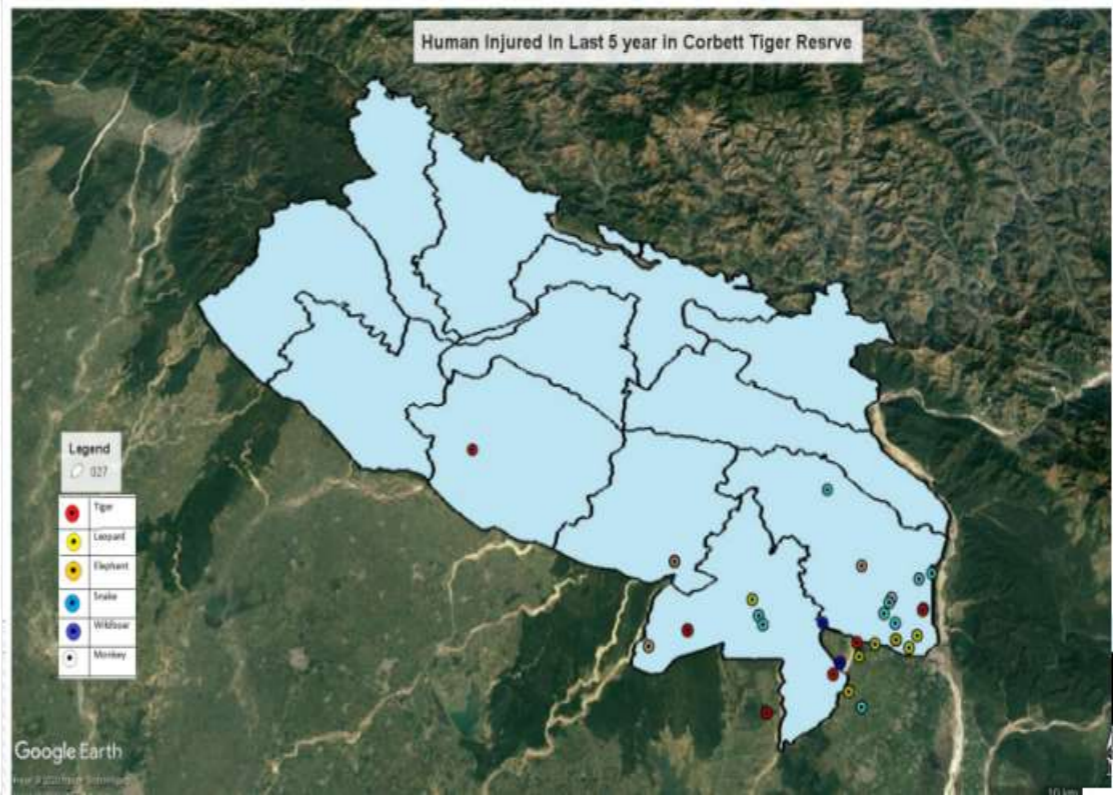
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CLASS NAMES	NET CHANGE (sq.km)	Gain/ Loss
Water Body	-14.79	Loss
Dense Forest	90.35	Gain
Open Forest	-90.55	Loss
Scrub Forest	36.26	Gain
Agriculture	-4.49	Loss
Open Land	-15.52	Loss
River Bed	7.24	Gain
Rocky Exposure	-0.22	Loss
Built Up	0.15	Gain
Grass Land	-8.34	Loss



**Fig: 5- Area Wise Change Detection**



A tiger with orange and black stripes is standing in a shallow stream. The water is clear, and there are green plants and rocks in the background. The tiger is looking directly at the camera.

**CONCLUSION**