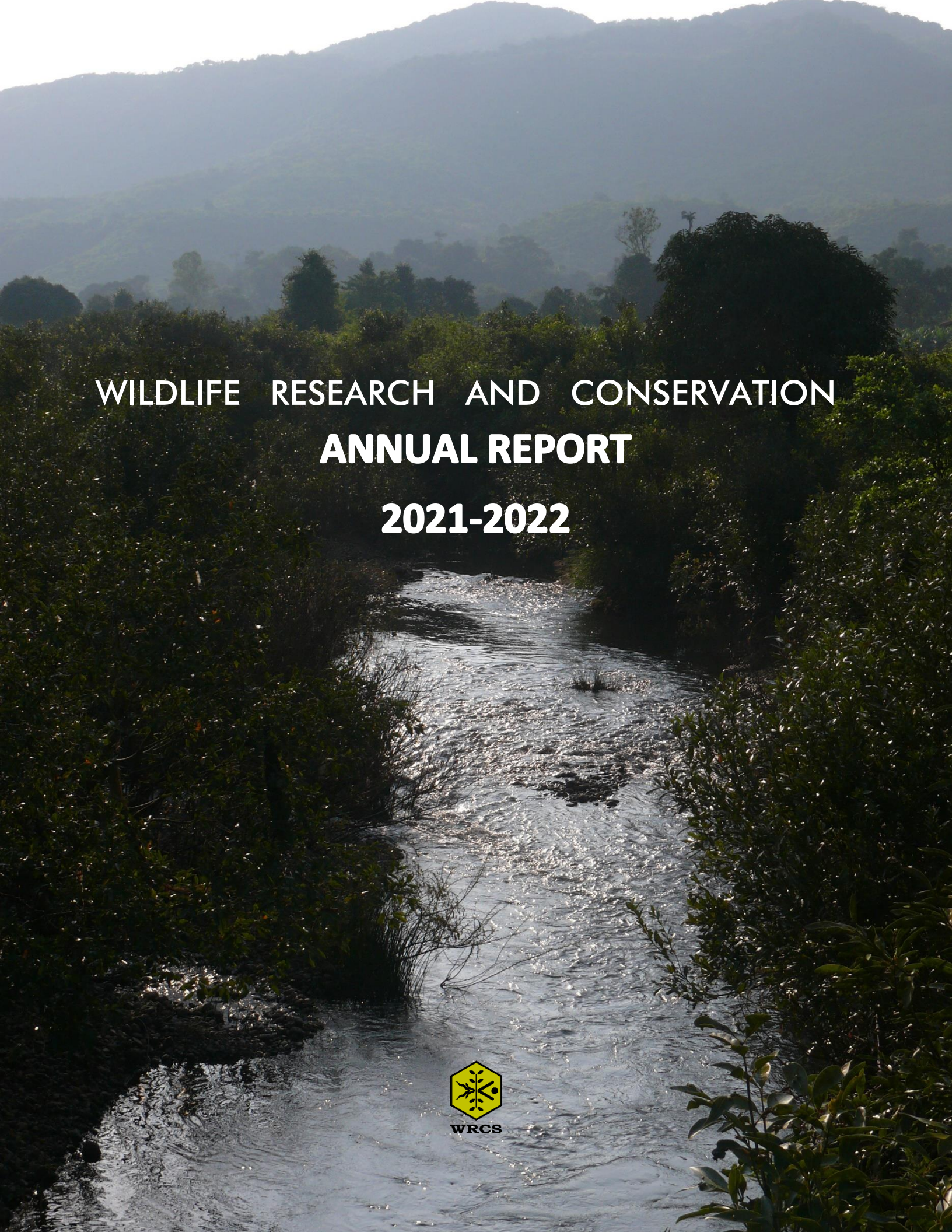

WILDLIFE RESEARCH AND CONSERVATION

ANNUAL REPORT

2021-2022

WRCS

WILDLIFE RESEARCH AND CONSERVATION SOCIETY

ANNUAL REPORT

2021-22

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ACKNOWLEDGEMENT

Protection of Environment, Species and their Habitat is an ongoing process. Each year brings new questions and challenges. It is essential to keep up the efforts and work with renewed zeal towards achieving the goals. Wildlife Research and Conservation Society is working single-mindedly towards our goal year after year. We have received tremendous support from several organizations and individuals in realizing this mission. We would like to express our gratitude to all them.

Our trustees are a pillar of strength and support for our work. Mr. V.B. Sawarkar, the President of WRCS, has been a rock of support to us. We continue to learn under his mentorship. Our other trustees, Mr. Raghunath Iyer, Dr. CP Mammen, Dr. R.M. Sharma, Mr. K Joy, Dr. Ashok Sreenivas, and Prof. Prasad Pathak have also provided valuable support. We thank all of them.

We thank the Asian Elephant Conservation Fund of the US Fish and Wildlife Service (USFWS) for their long-term support for our elephant conservation project in Karnataka, for recognising the importance of Community-based Conflict Management (CBCM) Model, and supporting us to strengthen it. We are grateful to Mrs. Cory Brown, and Mr. Forrest Miller for their support.

Our long-term project in protecting the valuable forests of Koyna region is supported by several organisations and individuals. We thank KPIT, Tata Motors, Persistent Foundation and Praj Foundation for their generous support for this project.

The Raptor Research and Conservation Foundation (RRCF) has been our primary support for our long-term Owl Research programs now entering in to its first decade. Our deepest gratitude to Mr. Kiran Srivastava and RRCF Board members for their continued support.

We thank Ruffords Foundation for supporting the elephant conservation project in Andhra Pradesh and M/s Greenko and Mohamed Bin Zayed Species Conservation Fund for supporting the GIB-Grassland project at Rollapadu Sanctuary.

Our long-term association with MoEFCC, Project Elephant, Department of Science and Technology has been very fruitful. We have been working in close association with the Maharashtra Forest Department, Melghat Tiger Reserve, Madhya Pradesh Forest Department, Madhya Pradesh Biodiversity Board, Karnataka Forest Department, Kali Tiger Reserve and Andhra Pradesh Forest Department. We are grateful to all the Forest officers for their wonderful support.

We are grateful to our sister NGOs including WWF-India, WII, WTI, Ruffords Foundation, IIFM, AMU, IISER Pune, IISER Tirupati, IISER Bhopal, NCF, SACON, BVIEER, ZSI, and WTI for their support in various ways.

We are very fortunate to be working with a young, enthusiastic and dedicated team at WRCS. It is because of this team, we have been able to progress positively on each of our project. A special shout out to all of them for their wonderful contribution.

Jayant Kulkarni and Prachi Mehta
Directors

CONTENTS

Conservation of Endangered Forest Owlet through Integration of Ecological Research, Sustainable Forest Management and Local Community Participation in Khandwa, Burhanpur, and Betul Districts, Madhya Pradesh

INTRODUCTION

The Forest Owlet *Athene blewitti* (Hume 1873) is a small-sized, diurnal owl that is endemic to India. The Forest Owlet is protected under Schedule I of the Indian Wildlife Protection Act of 1972 and is listed as "critically endangered" on the IUCN list. It has a discontinuous distribution in Central India. There are twelve confirmed locations of Forest Owlet in the country. Of these, three sites are in Madhya Pradesh, three are in Gujarat and the remaining six sites are in Maharashtra.

Spotted Owlet (Athene brama)

Melghat Forest is a stronghold of the Forest Owlet population from among the twelve confirmed locations. Previous surveys on the Forest Owlet in the Melghat region. A long-term study on the ecology of Forest Owlet in Khandwa district, Madhya Pradesh has been carried out by WRCS (Mehta *et. al.* 2017). WRCS has been working on Forest Owlet in Kalibhit Forest since 2012.

AIMS AND OBJECTIVES

Phase 1: To study the ecological aspect of Forest Owlet.

Phase 2: Ecology of Forest Owlet, Identification of suitable area for Forest Owlet Conservation Reserve and establish a protection model for the Forest Owlet population with the help of the Forest Department and local community.

STUDY AREA

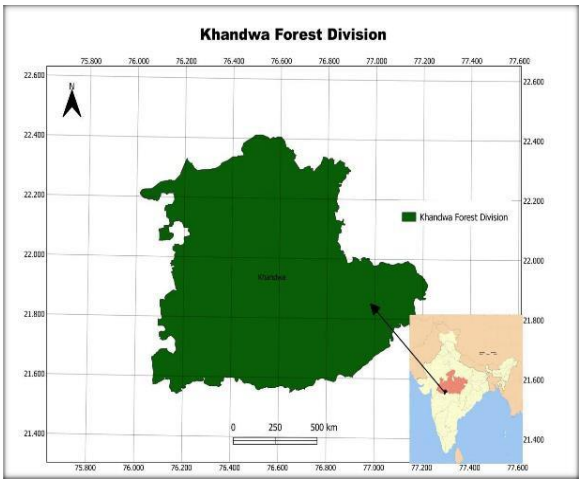


Fig. 1. Location of Khandwa District in Madhya Pradesh

Occupancy of Forest Owlet in the Study Area

An occupancy survey was conducted in Kalibhit Range. Call Playback and visual scanning were used to locate Forest Owlet. Contact call was played for two minutes and three minutes of silence to listen for a response by the species. If we do not get any response, we repeat the procedure.

Socio-Economic Survey

We conducted a socio-economic survey in Awaliya village to assess the dependency of local people on forest products. 30% households of in the village were chosen for the survey. 33 households have been surveyed between February to April.

RESULTS

- 23 Forest Owlets were found between the periods of February to April
- Forest Owlets were detected in two new locations - Bagda Village I and Bagda Village II

Four pairs with five juveniles were also detected during the survey. One juvenile in Jhinjari, Bagda Balla, and Bagda Village II and two juveniles in Tecklesh Patti were found

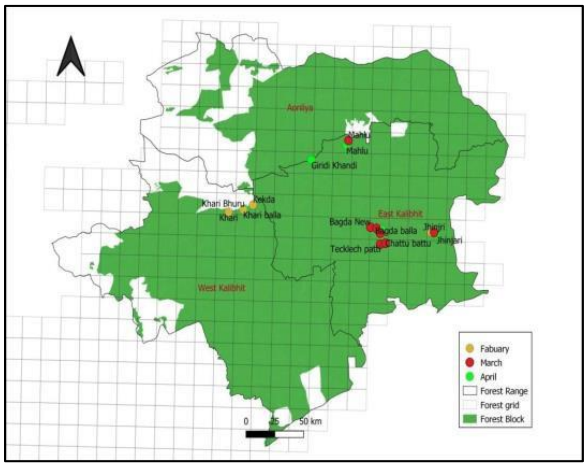


Fig.2.Forest Owlet locations in East Kalibhit Range

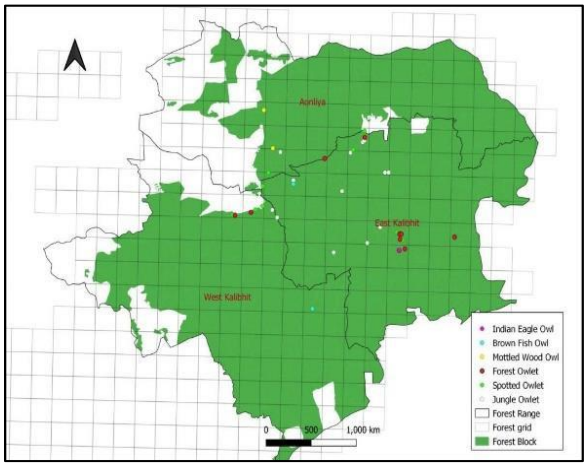


Fig.3. Locations of other owl species in East Kalibhit

Consumption of fuelwood in Awaliya

On average 352.61 kg of wood was used by one house in one month. 45% of houses own a valid gas connection but due to a lack of knowledge and lack of proper training they did not use the gas

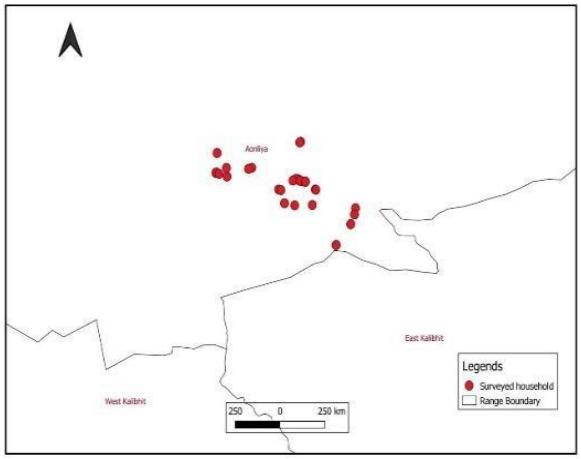
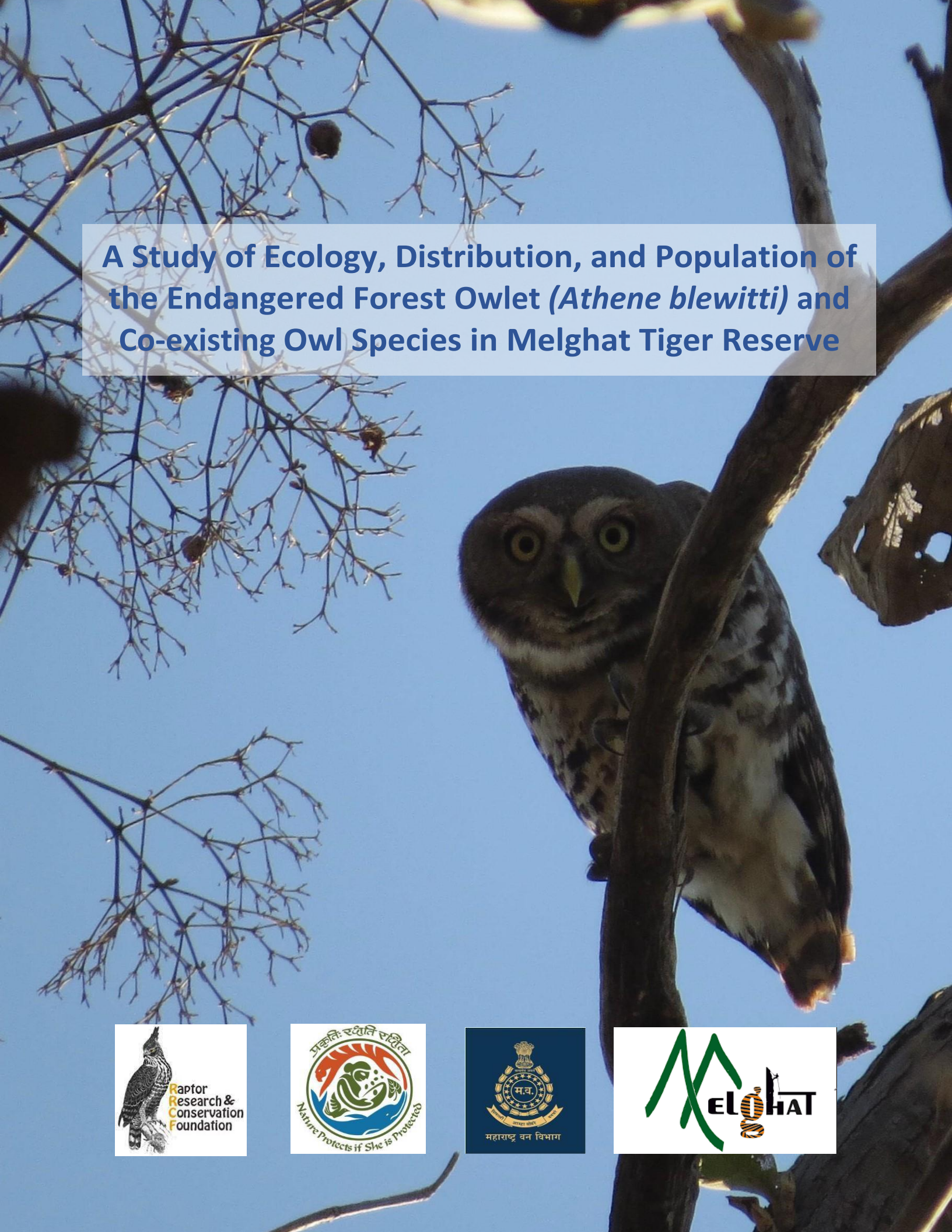


Fig.4. Surveyed households in Awaliya Village

Table 1. Locations of Forest Owlet in East Kalibhit

Location	No	Juveniles
Bagda balla	3	1
Jhinjari	3	1
Khari	2	
Khari balla	2	
Chattu battu	1	
Tecklech patti	4	2
Mahlu	2	
Bagda Village II	3	1
Bagda Village I	2	
Giridi Khandi	1	

The Forest Owlet conservation project in Madhya Pradesh is helping to conserve the habitat of the species while providing the local communities with an alternate source of energy and introducing wildlife friendly management



A Study of Ecology, Distribution, and Population of the Endangered Forest Owlet *(Athene blewitti)* and Co-existing Owl Species in Melghat Tiger Reserve

Raptor Research & Conservation Foundation

Nature Protects if She is Protected

महाराष्ट्र वन विभाग

Melghat

INTRODUCTION

Owls belong to the order Strigiformes and are classified under two families Tytonidae and Strigidae, there are 245 species of owls in the world (Gill and Donsker 2019). Of these, 34 species of owls are found in India (Ali and Ripley 1987, Grimmett et al. 2011). Of the 34 species, four species belong to the Tytonidae family and the remaining species are from the Strigidae family. Owls provide a great service to us by feeding on rodents and insects, thereby acting as a natural pest controller.

AIMS AND OBJECTIVES

Objective 1: To identify the habitat parameters associated with the successful breeding of forest owlets and other owls in the study area

Objective 2: To identify the ecological parameters associated with nest site selection by the forest owlet and other owls in the study area

Objective 3: To suggest guidelines for the management of forest owlet populations in central India

Owls of Melghat Tiger Reserve

Brown Hawk Owl

Oriental Scops Owl

Indian Scops Owl

Jungle Owlet

Indian Eagle Owl

Forest Owlet

Mottled Wood Owl

Barn Owl

Brown Fish Owl

Spotted Owlet

Project activities

Monitoring the breeding success of owls in Melghat Tiger Reserve

Monitoring the presence of a species requires a systematic survey and a compact study site. We selected Chourakund Range for monitoring the presence of Forest owlets and other large and small owls.

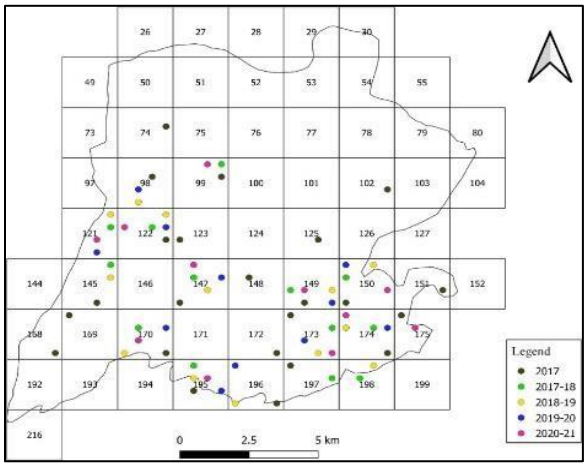


Fig.1. Grids having Presence of Forest Owlet in the Study Area (2017-2021)

Breeding Success of the Forest Owlet and Co-existing Owls

The survival of a species is linked to its breeding success, therefore, selecting a safe and suitable nest is vital for its continued existence. Nest and nest-site selection is a crucial factor for the breeding survival of birds.

Methodology

i. Survey for the Pairs
ii. Establishing the Status of the Breeding Pair
iii. Search for the Cavity
iv. Monitor the Nest

Nest Site Assessment

A 20m x 20m square plot was marked with the nest tree at the center. In addition to that four 20m x 20m plots were laid in four different directions at an average distance of 150m from the nest tree

Inside 20 x 20 m plot, we counted the following:

i. Number of trees logged
ii. Nest Cavity Assessment

Habitat assessment by the Research team

Description of Forest Owlet Nest Sites

The Forest Owlet nests were from various locations in the study area. We located a total of 17 nest trees.

The majority of the nests **(88%) were on the main trunk** while a few **(12%) nests were on the branch of the tree**

Vegetation Parameters at the Forest Owlet Nest Sites

Table 1. Tree species selected for nesting by the Forest Owlet

Tree species	Percentage
Tectona grandis (n=14)	76.47
Bridelia retusa (n=2)	11.76
Boswellia serrata (n=1)	5.88
Lagerstroemia parviflora (n=1)	5.88

Assessment of Nest Sites of Large Owls

We located 4 nests of Indian Eagle Owl, 3 nests of the Barn Owl, and one nest each of the Brown Fish Owl and Mottled Wood Owl.

Diet of the Forest Owlet and Other Owls:

Introduction

Dietary studies of predators have immense ecological importance, as they help to understand the relationship between predators and their prey. Information on the diet of a species is useful in learning what the predator is eating, how and where it is hunting its prey, and also about prey vulnerability and prey energetics.

Forest Owlet regurgitating a Pellet

Methodology

i. We collected the regurgitated pellets of the Forest Owlet from below its roost sites.

ii. Pellets were sundrised. The weight, length, and width of the pellet were measured.

iii. Pellets were dissected to study the prey remains

Pellet Analysis

Mark and Re-sighting of the Forest Owlet in the Study Area

Introduction

Color-banding of individual birds is a widely used method in avian ecology. Color-banded birds are useful for monitoring the movement, behavior, and ecology of the individual birds seen. Also, using color bands one can identify individual birds in the field.

Methodology

For capturing the Forest Owlet, we used the **bamboo trap**. On capturing the bird, we weigh the bird and take biometry measurements, fix the color bands and release the bird

Colour banded forest Owlets

Awareness and capacity building in Owl Conservation

Introduction

Conservation awareness programs are essential in ensuring the protection and survival of wildlife and their habitats. To build positive attitudes, it is important to engage with local people in a suitable manner in which they start to identify the species and habitats which need protection.

Workshop on Owls of Melghat Tiger reserve (28 Oct 2022)

Installation of Owl perch in a crop field

Know your Owl Workshop

Bird watching training for the field staff

Training in Owl-themed handicraft

Bamboo craft training imparted to the local people

Nest boxes

Ecological Co-variates of the Forest Owlet and Other Owls

Monitoring the Territories of Color- banded Forest Owlets and other Owls.

We color-banded 18 individuals of the Forest Owlet. We have color-banded six Spotted Owlet, 4 Jungle Owlets and 2 Indian Scops Owl.

Nest box monitoring

WRCS Handicraft products

Ecological factors impacting survival

i. Large cavity opening
ii. Small cavity opening
iii. Unsuitable nest tree
iv. Predation of Parent
v. Decline in prey abundance
vi. Damage to the nest trees
vii. Disturbance during nesting season

Resource Partitioning among the Forest Owlet and Other Co-existing owls

Handicraft products by the locals

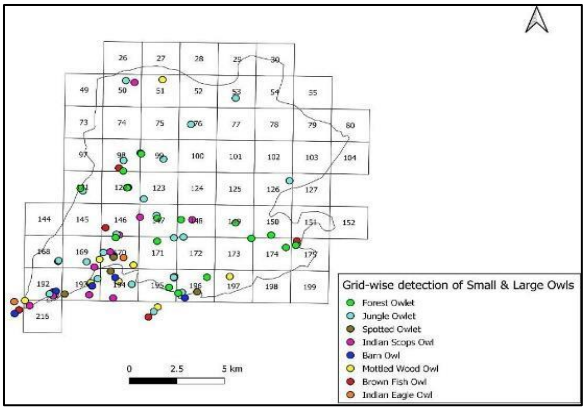


Fig.2. Detection of eight species of owl in the study area

Habitat Factors in the Grids occupied by the Owls

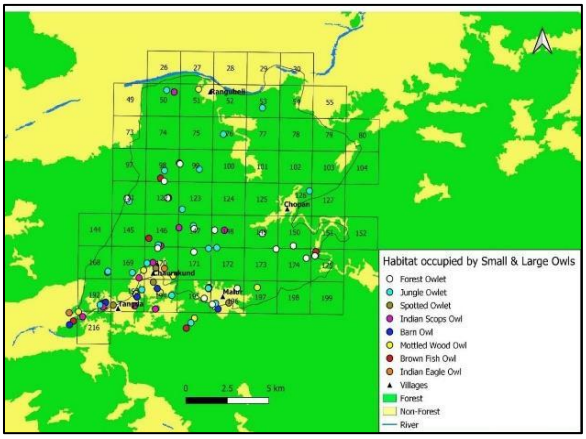


Fig.3. Habitat occupied by large and small owls

Landscape of Melghat tiger reserve

Management of the Forest Owlet and Other Owls in the Study Area

Introduction

We studied the distribution, site occupancy, diet, demography, nest-site selection, and breeding success of the Forest Owlet and other co-existing small and large owl species in the study area.

We have mentioned management actions that need to be implemented for the conservation of the Forest Owlet and other owls in the study area

Population monitoring of Forest Owlet

i. Continuous Monitoring of Forest Owlet
ii. Protection of nesting trees.
iii. Break the cement housing scheme as an alternative to teak.
iv. Reducing the dependency on firewood. Proving more efficient cooking stoves.
v. Regular patrolling and monitoring of the area by the field staff will help in reducing the intensity of tree cutting
vi. Involving local farmers to protect nests

Prevention of forest fire

i. Distribution of Mahua net to reduce the incidences of fire.
ii. Distribution of Mahua saplings to farmers in order to reduce the dependency on the forest.
iii. Controlling the number of livestock

Stream through the Melghat Tiger Reserve

Teak tree damaged due to forest fire

Barn Owl visiting the owl perch

Mottled Wood Owl

Media coverage of work done by WRCS, Owl-project

INTERNATIONAL OWL CENTER
Making the world a better place for owls

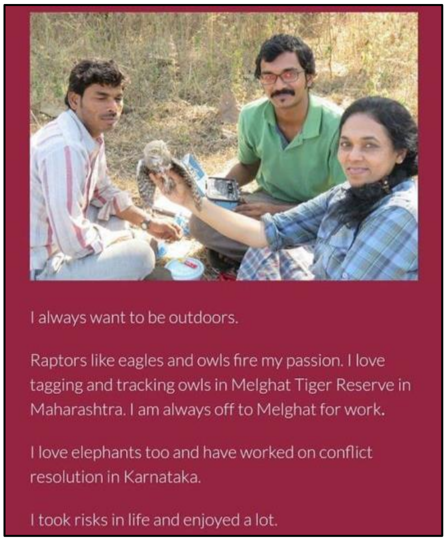
Dr. Prachi Mehta got the award from the Owl International Centre

Dr. Prachi Mehta with award by International Owl Center

Dr. Prachi Mehta at the special achievement award ceremony

The Times of India-Nagpur

Lokmat newspaper-Pune



Story on Dr. Prachi Mehta in the media

Award to Dr. Prachi Mehta by Westend Rotary Club

सकाळ | पुणे

पुणे, गुरुवार, २४ फेब्रुवारी २०२२

TODAY

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पुणे शहर

डॉ. प्राची मेहता यांना 'आऊल हॉल ऑफ फेम'

पुणे, ता. २३ : वाइल्डलाइफ रिसर्च अँण्ड कन्झर्वेशन सोसायटीच्या (डब्ल्यूआरसीएस) संचालिका डॉ. प्राची मेहता यांना अमेरिकेतील ह्युस्टन (मिनेसोटा) येथील इंटरनॅशनल आऊल सेंटरतर्फे घुबड संशोधनातील उत्कृष्ट योगदानाबद्दल 'वर्ल्ड आऊल हॉल ऑफ फेम २०२२' पुरस्कार जाहीर झाला आहे. एप्रिल महिन्यात होणाऱ्या आंतरराष्ट्रीय घुबड महोत्सवात त्यांना हा पुरस्कार प्रदान केला जाणार आहे.

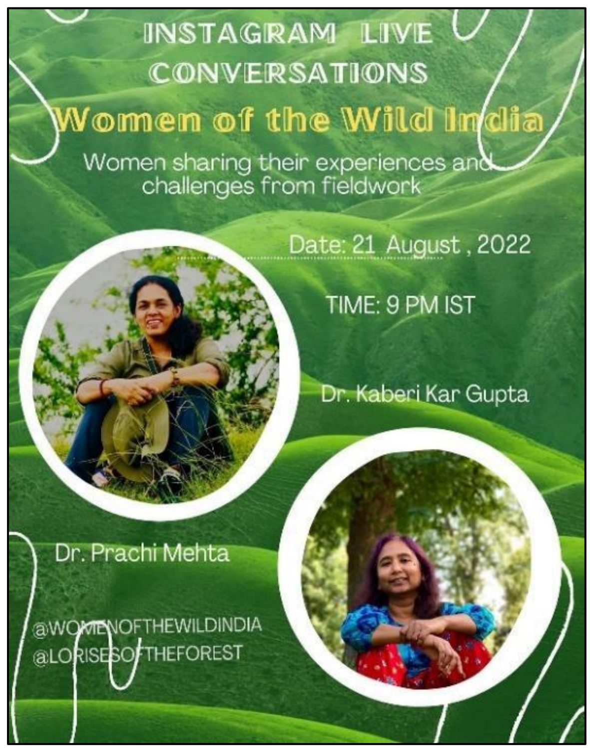
डॉ. प्राची मेहता

डॉ. मेहता या वन्यजीव शास्त्रज्ञ असून मध्य प्रदेश आणि महाराष्ट्रातील दुर्मिळ वन घुबडांच्या पर्यावरणशास्त्राचा अभ्यास करत आहेत. त्यांच्या नेतृत्वाखाली २००५ पासून डब्ल्यूआरसीएस संस्था रानपिंगळ्यावर संशोधन करत आहे. डॉ. मेहता यांच्या कार्याला व संशोधनाला राष्ट्रीय आणि आंतरराष्ट्रीय स्तरावर मान्यता मिळाली आहे. घुबडांचा अभ्यास करण्यासाठी व संशोधनासाठी डॉ. मेहता यांनी देशात प्रथमच अनेक आधुनिक संशोधन तंत्रांचा वापर केला. त्यामुळे त्यांना रानपिंगळा आणि इतर घुबडांच्या प्रजातींबद्दल महत्त्वाची वैज्ञानिक माहिती मिळाली. पर्यावरणीय संशोधनासोबतच (डब्ल्यूआरसीएस) संस्था घुबड आणि त्यांच्या अधिवासाचे संरक्षण करण्यासाठी स्थानिक नागरिकांसोबत जनजागृती कार्यक्रम राबविते.

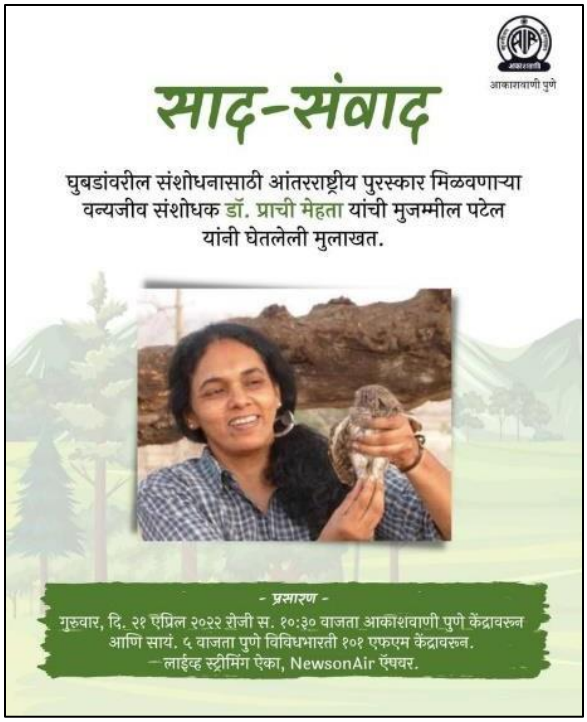
डॉ. मेहता व 'डब्ल्यूआरसीएस' यांचे संशोधन

- ओडिशा, छत्तीसगड, मध्य प्रदेश, महाराष्ट्र आणि गुजरात राज्यांमध्ये २००५ ते २००८ दरम्यान रानपिंगळ्याचे सर्वेक्षण कार्य. मध्य प्रदेशातील खंडवा जिल्ह्यात रानपिंगळ्याचे दोन नवीन ठिकाणे शोधण्यात यशस्वी.
- रानपिंगळ्याचा अधिवास, त्यांचा अधिवासाचा वापर, आहार पद्धती आणि प्रजनन याबद्दल अधिक माहितीसाठी २०१३ ते २०१७ मध्ये खंडवा जिल्ह्यात रानपिंगळ्यावर दीर्घकालीन अभ्यास.
- नंदुरबार जिल्हा, यावल वन्यजीव अभयारण्य आणि तानसा अभयारण्यात २०१५ ते २०१६ मध्ये रानपिंगळ्याचे सर्वेक्षण.
- मेळघाट व्याघ्र प्रकल्पातील घुबडांच्या अधिवासाच्या गरजांचा अभ्यास करण्यासाठी २०१७ ते २०२१ मध्ये रानपिंगळा आणि इतर सात घुबड प्रजातींचा पर्यावरणीय अभ्यास.

Article in Sakal, Pune



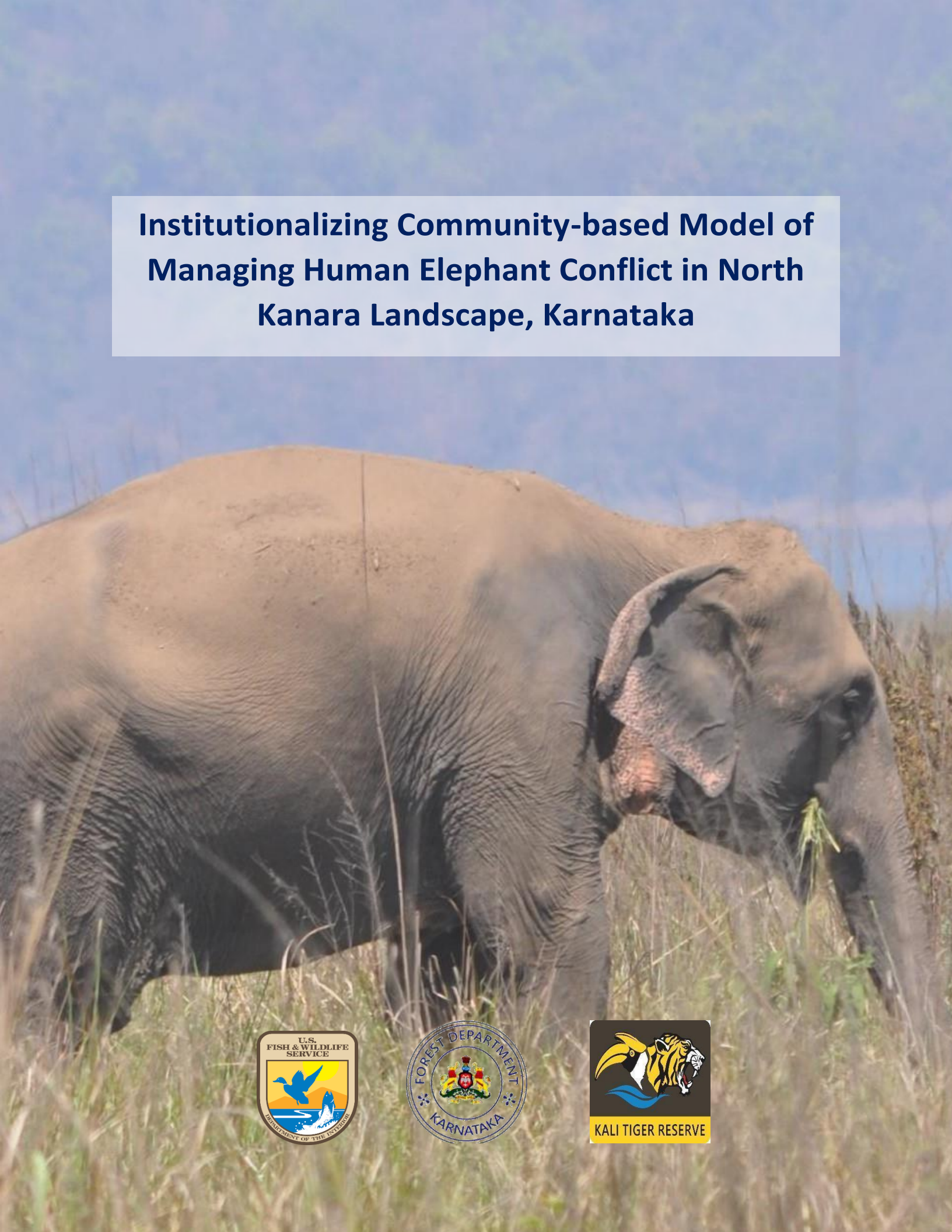
Interview of Dr. Prachi Mehta by Dr. Kaberi Kar Gupta



Dr. Prachi Mehta delivered a talk on Akashwani Radio, Pune

The Owl ecology project in Melghat Tiger Reserve is helping develop our understanding of the distribution pattern of different owl species, their ecological requirements and their interactions with on another.

Institutionalizing Community-based Model of Managing Human Elephant Conflict in North Kanara Landscape, Karnataka



INTRODUCTION

The North Kanara District (15.957N,74.706E) is located in the Karnataka State of India. There are about 70 to 100 wild elephants in this landscape.

North Kanara landscape

From February to July, the elephants reside inside the forests of Kali Tiger Reserve. From August onwards, the elephants visit the crop fields in Yellapur and Haliyal divisions. The farmers in the region cultivate paddy, sugarcane, corn, millet, banana, areca nut, and other vegetables. Damage to crops by elephants causes serious economic loss to the farmers.

Since 2010, WRCS is working with the local farmers to implement the Community-based Crop Protection Model (CBCM) with the help of the Asian Elephant Conservation Fund (AECF), USFWS. The overall project goal is to institutionalize the model of participatory management of human-elephant conflict in the North Kanara Landscape and strengthen it through technological innovations and livelihood interventions.

AIMS AND OBJECTIVES

Objective 1: Institutionalization of community-level implementation of HEC mitigation measures

Objective 2: Developing Innovative Technology based solutions for HEC mitigation

Objective 3: Scientific assessment, effectiveness of CBCM techniques

Objective 4: Incentivize the Conservation of elephants in the project area by providing alternative livelihoods to the community

STUDY AREA

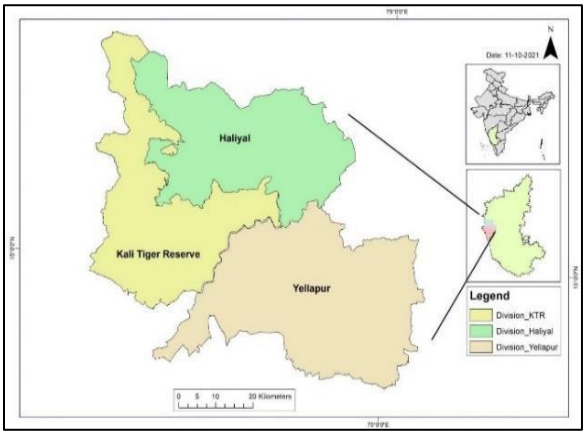


Fig.1. Map of project area

The North Kanara District an important biodiversity hotspot, which covers an area of 10,200 km^2, has various types of forest including evergreen, semi-evergreen and dry deciduous forest. The population is rural and mostly follows agricultural practices. It is home to tigers, leopards, elephants, and 416 bird species.

Activity 1.1: Implementation of HEC mitigation measures in collaboration with Village Forest Committees (VFCs)

Intensive implementation of the project being done in 17 villages with Village Forest Committees (VFCs), 7 villages were from Kali Tiger Reserve Division and 5 villages each from Haliyal and Yellapur divisions.

PRA exercise: in 17 villages to seek the farmer's consent and identify elephant entry points

PRA Meeting

Trip alarm installation

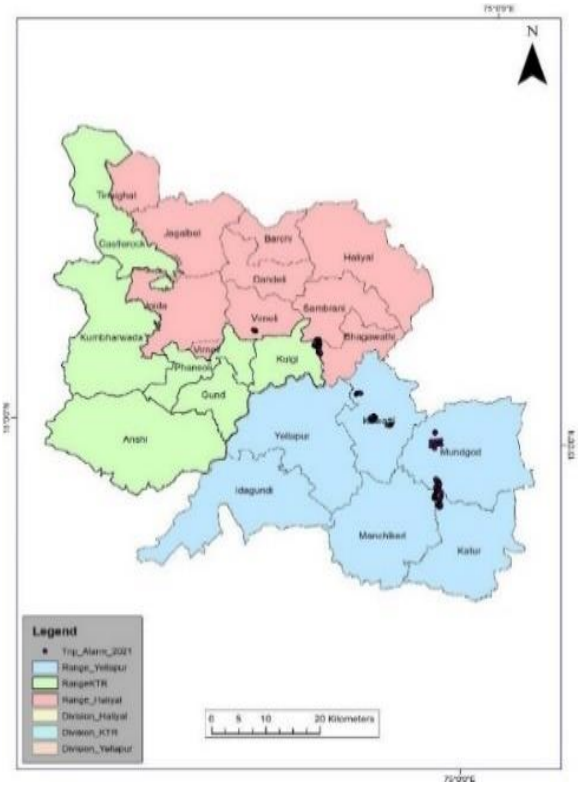


Fig.2. Map showing the installation of Trip Alarms in 3 Divisions

Torch distribution

Distribution of Torches: Torches were distributed to the farmers of 17 VFC and 5 non-VFC villages.

Distribution of Flicker Lights: A Total of 166 lights were distributed to deter elephants

Flicker Light Distribution in Jogikoppa

Construction of Watch Towers for Night Guarding: A total of 158 watch towers in VFC and 138 in non-VFC villages were built.

Construction of watch towers

Dog chains: 208 chains were distributed

Dog chain distribution

Bee Fencing: As elephants are scared of bees and this is also an alternate income source, the fencing was carried out in 3 VFC villages and 2 non-VFC villages. All villages were not done as there was no natural colonization of bees in those areas.

Bee Fencing in Hulimundage

Chilly-based Deterrents: Chilly chudis, chilly bricks, and chilly dung cakes are prepared and used during the summer and winter seasons when rainfall doesn't occur. In rainy seasons, Chilly tin smoke is used.

Chilly tin smoke

Night Guarding/Patrolling: Night guarding is a very important aspect of protecting crops from elephants. The WRCS team members also go on night patrols and night guarding done by villagers and forest staff.

Night Patrolling in Jogikoppa

Activity 2.1: Android app for monitoring elephant location and movement

Developing App-based tracking system: WRCS used the Epicollect5 application which is free to gather information. A questionnaire was created to gather info on location, landscape details, and elephant sign information.

Training the Forest Department to use the app: 5 Forest subdivisions were trained with on-field training.

Training conducted in Dandeli sub-division

Analysis and mapping of the data obtained from Epicollect5: 39 observations from 23 forest staff and 16 from the WRCS team. Based on secondary data, 48 observations were added manually, and mapping of elephant distribution was done.

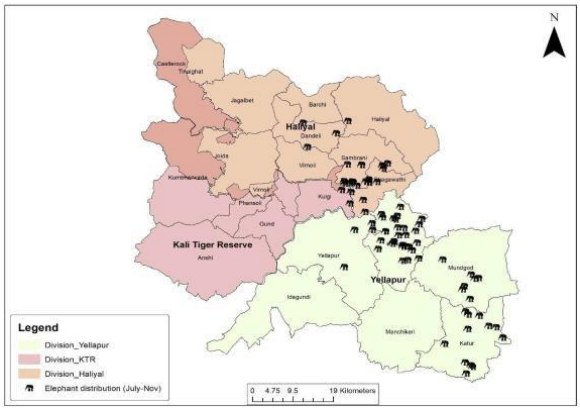


Fig.3. Mapping elephant movement routes

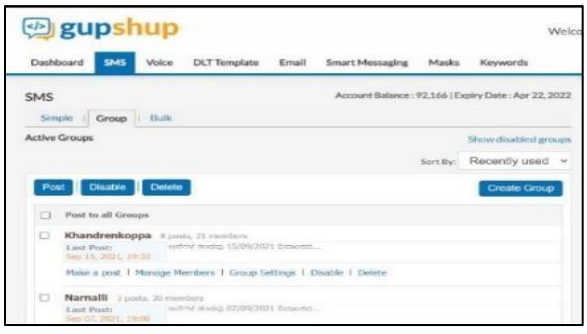
Activity 2.2: Camera trap exercise for monitoring elephant movement

Kali Tiger Reserve provided the camera traps for

Camera trap on a tree trunk

Activity 2.3: Implementation of a real-time alert system based on a mobile network to warn people about the presence of elephants in their vicinity

SMS-based alert system: with Airtel telecoms and Gupshup business, WRCS created an alert system. Phone numbers from 32 villages were collected to get real-time data from frontline personnel.



Gupshup interface

Activity 2.4: Installation of Solar Blinking Lights as a deterrent measure

Two solar-powered blinking lights were installed on trial basis. These lights were provided by Green Energy Pyramid. The farmers where the blinking lights were installed reported that the lights were effective.

Installation of solar blinking lights

Activity 2.5: Installation of Sensor-based Alarm System

Infrared sensor

Laser-based sensor

Elephant alert system using Laser technology: Deployed at Bhagavathi village.

Activity 2.5: Designing Trip Alarms

Trip alarm

Impact trip alarms were developed that are compact, sturdy, and long-lasting. Magnetic switches were developed for improving the

functionality. The trip alarms (525 nos) were distributed in three divisions, with funding from Kali Tiger Reserve Foundation.

Activity 2.6: Individual identification of elephants by photo capture for estimating their population size

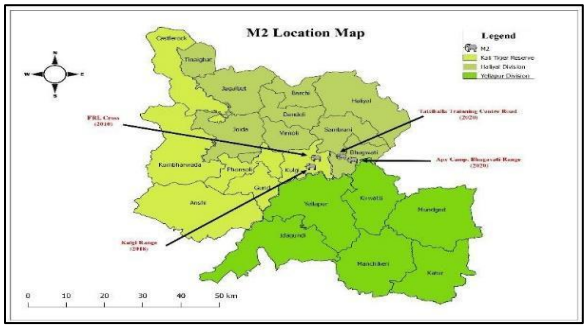


Fig.4. M2 Elephant ID

WRCS was able to identify 41 individuals (26 females and 15 males).


Male elephant M2 seen in 2010 and 2020

Activity 3.1: Scientific assessment of the effectiveness of various CBCM techniques in preventing crop damage

Survey in Jogikoppa

Surveys were carried out in the project villages to estimate the decrease in crop damage due to the project interventions. Focus group discussions were conducted in each and the data on quantum of crop damage was recorded based on feedback of the participants.

Activity 4.1: Providing work to the Women SHGs in preparation of handicrafts on the theme of elephants

Women SHG members in village Gadgera are being trained to make handicrafts on the theme in order to provide them with sustainable income to them and to develop affinity with elephants.



Products by SHG

Activity 4.2: Outreach program

Several visitors came to the project site to observe the project interventions and the benefits to the farmers.

Meeting with Agriculture University Professors

Prof. Mallapur and Prof. Chavan met the team to discuss evolving better design to reduce conflict in the coming years

Main issues discussed:

i. Alternative crops
ii. Bio-fencing
iii. Use of different types of chilly Seeds for making smoke

Engagement with local school children

WRCS team with school children

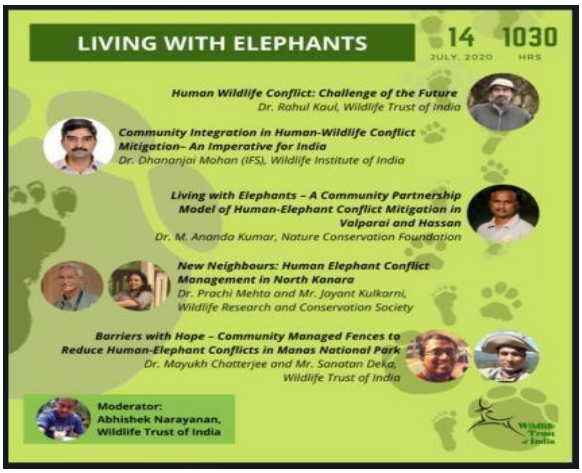
Poster competition organised by WRCS team

MEDIA COVERAGE

Udayayaani paper

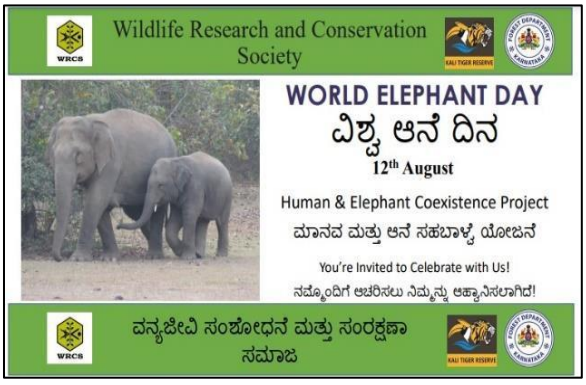
Prajayani paper

Goan connection



Expert talk on "Living with the Elephants"

Expert talk on "Human-Elephant Co-existence"



World Elephant Day poster

Elephant and a calf

27

Being Humane to the Elephants

Prachi Mehta
Wildlife Research
and Conservation Society

Conflict is Costly...

We have always been awed by the elephants and they feature prominently in our life, right from the cave paintings to nursery rhymes, history, epics, religion and culture. However, since last few decades, elephants have got a new identity: they top the list of 'Problem Animals' in all its range countries, posing serious challenge for its conservation. Like all other wildlife, elephants are facing the brunt of fragmentation and habitat loss. Living in the transformed landscapes brings them closer to the human habitation, and thus begins the challenge of sharing of resources between people and elephants, leading to the inevitable altercation between the two.

Human-elephant co-existence, in simple terms is a conflict of interest between the two species. Local communities have to pay a huge price for living in proximity to the elephant habitat. A close encounter with elephants can result in any of this: death, injury, crop damage, destruction of property and a scare for life. Either way, there is a loss of social and economic security for the people. On the other hand, elephants face the grave consequences of trespassing in to "now what is human-dominated habitat". It is not uncommon to witness elephant herds passing through towns, railway tracks and highways to reach their original habitat. However, situation often turn hostile when elephants get teased and chased by the mob and then the elephants retaliate in self-defence resulting in unfortunate outcomes on human lives. As a consequence, elephants are either killed or declared rogue and kept in captivity for life.

Cause of the Conflict ...

The main reason for increasing HEC is attributed to fragmentation of the forests. The forests that the elephants once frequented are lost but the movement paths are retained in their memory so the elephants visit the same area and get in to close proximity to the people. Also, elephants weigh over 4 tonnes and to maintain their large body, elephants need to feed through the day. Each elephant requires about 150 kg of food in the form of herbs, shrubs, grass, tree leaves, bark, roots and fruits. They obtain this by travelling through the forests over an expanse of 500 to 1000 km2 in their home range. While traveling they come across crop fields with attractive crops like paddy, sugarcane, maize, banana where they get ample food without spending much energy. Being intelligent animals, elephants are known to carry out a rapid survey to check the status of crops in the area so they know when to return! However, each visit by the elephant invites economic and social implications to the farmers, which ultimately gets reflected in retaliatory killing or capture of the elephants.

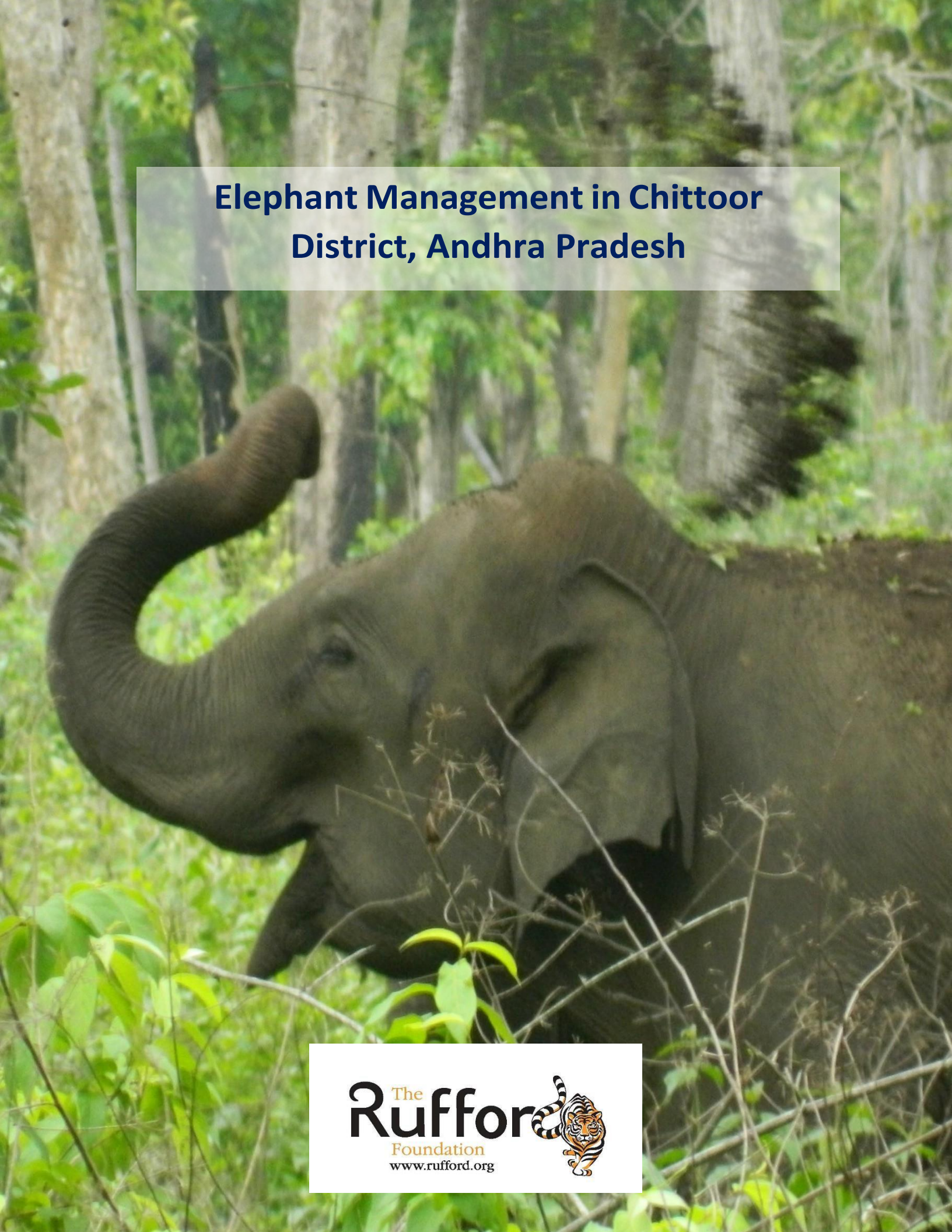
What is the solution to deal with the HEC? Many feel that a permanent solution would be to capture and domesticate the elephants from high intensity HEC region. This has been tried and has not solved the issue. Also capturing elephants from their native habitat is not justified. The forests are there because elephants are there. Elephants are landscape animals and traverse through vast stretches of forests, feeding and dispersing the seeds. The seeds dispersed through elephants regenerates the forests naturally and thereby support the rich biodiversity. Anyone who has experienced the efforts and resources in raising the forests by artificial regeneration, would appreciate that elephants can achieve this feat effortlessly and at no cost! Elephants have a pivotal role in conservation of biodiversity thus survival of elephant population in wild and in its range countries is very crucial.

Article "Being humane to the Elephants"

Featured film in National Geography
https://www.youtube.com/watch?v=qBJX1EVHrl

The project helped to create safer shared spaces between the mega-herbivore and the local farming communities through co-existence practices.

Elephant Management in Chittoor District, Andhra Pradesh



The Rufford Foundation
www.rufford.org

INTRODUCTION

Elephants have started re-colonizing Andhra Pradesh in the past 30-40 years. Various anthropogenic and ecological factors have caused this range expansion of the species. This landscape has still a lot of unfragmented forest areas and elephants have started colonizing them. But there are constant proposals trying to divert these lands for various development projects. We feel it's only a matter of time before elephants make this landscape part of their range and we hope to work towards ensuring that these areas are well connected and secured for the future.

An all-male herd of 7 elephants that came into Koundinya WLS

There are an estimated 60 elephants in this landscape at present, with constant individuals being added both from within the resident population and at the same time individuals being added in from the neighbouring areas. These individuals that are coming in from two ends, towards the south of Andhra Pradesh are the elephants coming in from the Hosur-Dharmapuri forest and towards the north of Andhra Pradesh are the elephants coming in from Orissa. From the south, the elephants are coming in due to the loss and fragmentation of their habitat at the same time the population in that landscape has increased resulting in young males dispersing in search of new habitats.

Towards the north the elephants are moving into Srikakulam district, Andhra Pradesh primarily because of the ever- expanding iron ore mining activities in the state of Jharkhand and Orissa.

AIMS AND OBJECTIVES

Objective 1: Establishment and improvement of the functional corridor between Koundinya wildlife Sanctuary and Sri Venkateswara National Park (SVNP).

Objective 2: Work with the Forest Department and the government in identifying and getting approval for the construction of an underpass

Objective 3: Identity and priorities landscape in terms of priority areas and conflict hot spots through a map

Objective 4: Implementation of low-cost conflict mitigation methods in the villages which are prone to Human- elephant conflict.

Objective 5: Start a dialogue between the other two bordering states of Karnataka and Tamil Nadu to have a tri- state strategy to deal with the elephant population in this landscape.

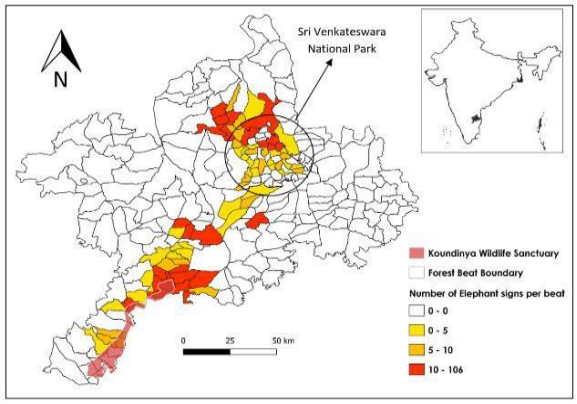


Fig.1. The map shows beats/area regularly used by elephants and the area in between KWS and SVNP. The area in between consists of some forest department reserve forest (RF) area and some agriculture fields. This we identified as a potential corridor between KWS and SVNP.

Activity 1: Capacity building for the Forest Department

Support of the local Forest Department and working in tandem with them towards the conservation of the species and the landscape was far more effective.

Capacity building with the Forest Department

Meeting with the Forest Department

Activity 2: Extensive Sign Survey

In the protected areas (PA) of Koundinya Wildlife Sanctuary (KWS) & Sri Venkateswara National Park (SVNP). We also conducted a survey between the two PAs to identify the area between the two sanctuaries used by elephants. A total of 976 signs (Dung, direct sighting, feeding signs, tracks, etc.) of elephants were recorded in the trial survey.

Elephant sign survey

Taking the Forest Department beat as a sample unit we used the number of signs as a proxy for the intensity of use. We broadly divided the area into 4 categories (Fig. 2).

Activity 3: Tracking of two herds

Through the sign surveys, we could track two elephant herds.

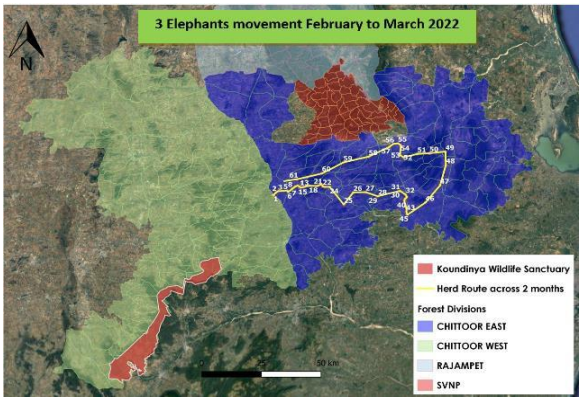


Fig.2. Herd movement from Feb to March 2022

Both these herds happened to be all male groups of 3 individual elephants. This was crucial to understanding elephant movement between the two PAs.

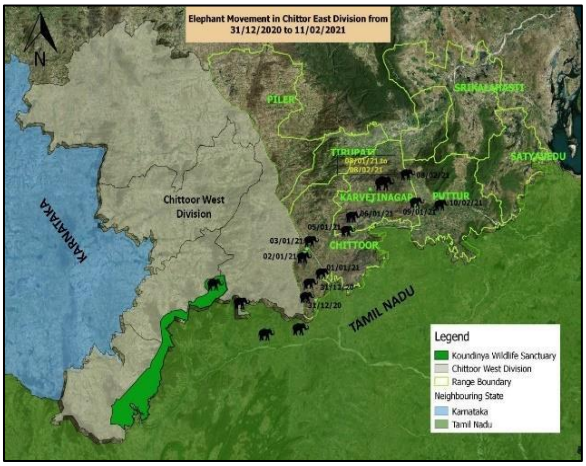


Fig.3. Elephant movement in Chittoor East

Activity 5: Awareness programs

Capacity building and awareness programs with the local farmers were done.

Capacity building with locals

Awareness program

Key outcomes

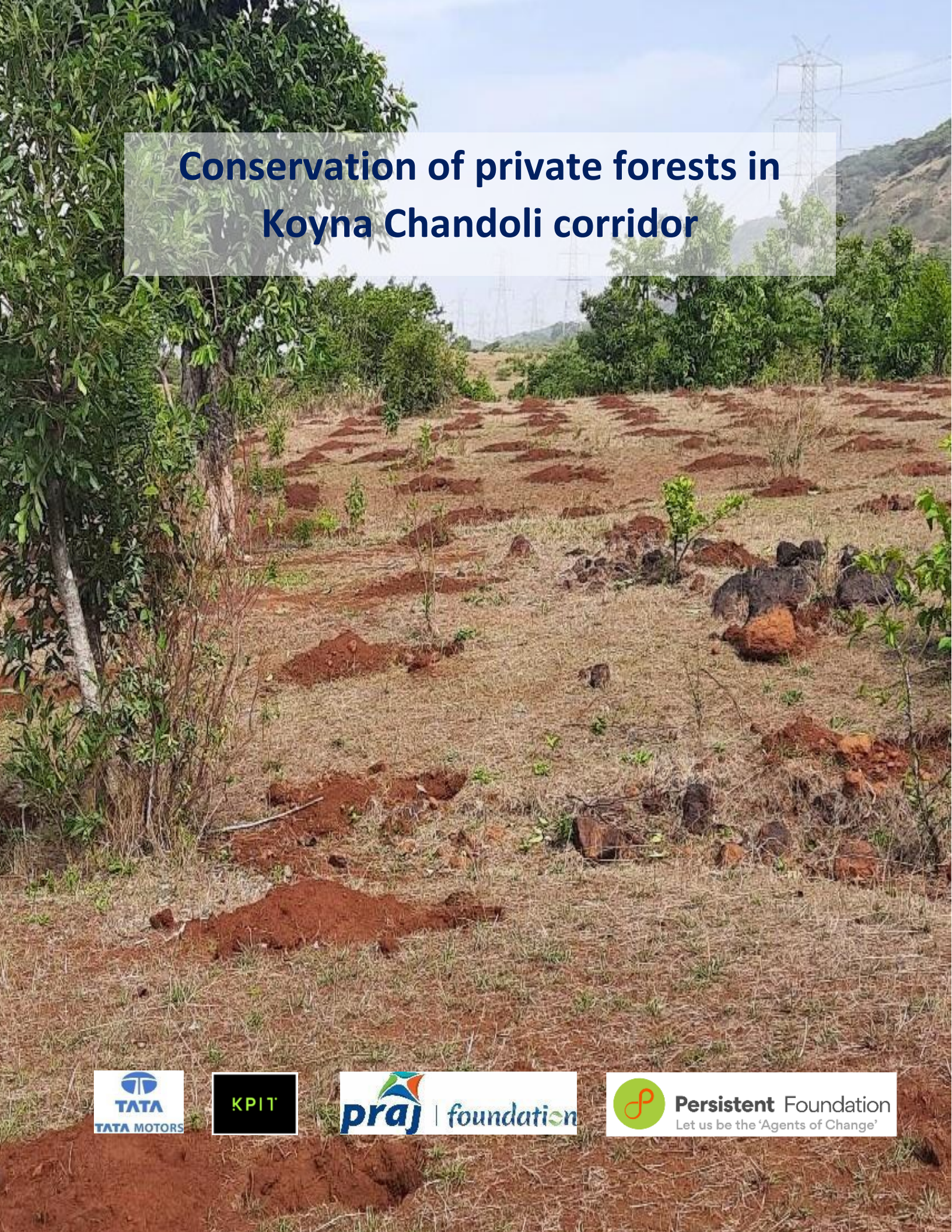
1. Recognition of elephant corridor and a report submitted to the Forest Department about the proposed expressway and mitigation measures to be taken
2. Capacity building of forest department and farmers to deal with conflict
3. Establishing that the population in Koundinya is not an isolated population and there is a constant movement of elephants from the west into Koundinya WLS.

In this phase of the project, we were able to build a good connection with the local forest department and local communities. We have proven that there is a constant movement of elephants into Koundinya and further movement was recorded towards the north-eastern side of the sanctuary. We wish to make crop protection by farmers as a general practice so that they are not completely dependent on the forest department and work towards establishing a cooperative society. The next phase of the project will be more towards working with the local communities.

Rakesh Kalva with the Forest Department staff

The Elephant conservation project in Andhra Pradesh is strengthening knowledge about the habitat connectivity of the elephants along with the migration pattern of the species. The local community is closely involved to devise better mitigation strategies.

Conservation of private forests in Koyna Chandoli corridor



TATA TATA MOTORS

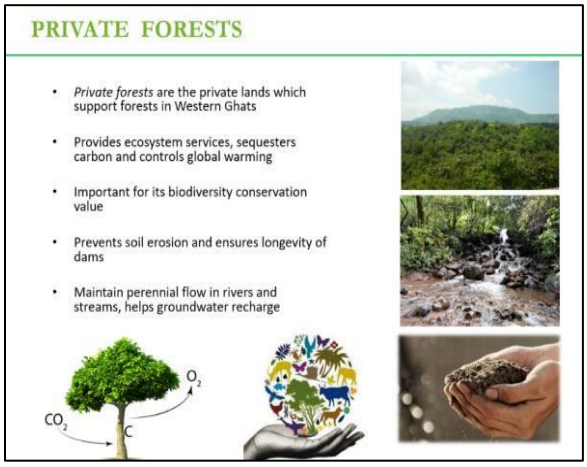
KPIT

praj | foundation

Persistent Foundation
Let us be the 'Agents of Change'

INTRODUCTION

The Western Ghats is one of the world's biodiversity hotspots and are being considered a UNESCO World Heritage Site. It supports several rare and endangered species. Private forests are extensively found in the Western Ghats and they provide an important link in the landscape that helps to maintain the biodiversity of the region. Conservation of forests on private land can help to provide several valuable environmental services and improve the environment of the region. It can help to achieve the national goal of 33% forest cover which has proved unachievable so far. In spite of the fact that there is so much potential, it has proved difficult to conserve private forests and they are often found in a degraded state. The expectation of the owners is that they should get reasonable economic returns. The main obstacle has been a lack of a model for sustainable management of these forests. However, by applying scientific principles it is possible to get sustainable returns from the forests and also conserve these forests.



Private forest description

To address this issue WRCS developed a package of practices for sustainable management of private forests. The package of practices is centered on scientific forestry. It is capable of providing economic benefits to the owners from bamboo, NTFP, medicinal plants, spices, fruits, and honey. It will improve forest cover, help in soil and water conservation and strengthen wildlife corridors.

AIMS AND OBJECTIVES

The goal of the project is "to strengthen the Koyna-Chandoli corridor by restoration of private forests, and establish a model for sustainable management and utilization of private forests".

Objective 1: To restore forests on private land of the local community by tree plantation.

Objective 2: To provide economic benefits to the local community by capacity building in alternative livelihoods, including food products, handicrafts, and ecotourism

Objective 3: To promote environmentally friendly livelihoods such as beekeeping and organic farming

Objective 4: To establish a model for sustainable management of private forests

Objective 5: To help improve forest cover and provide economic benefits to the owners and the community

PROJECT AREA

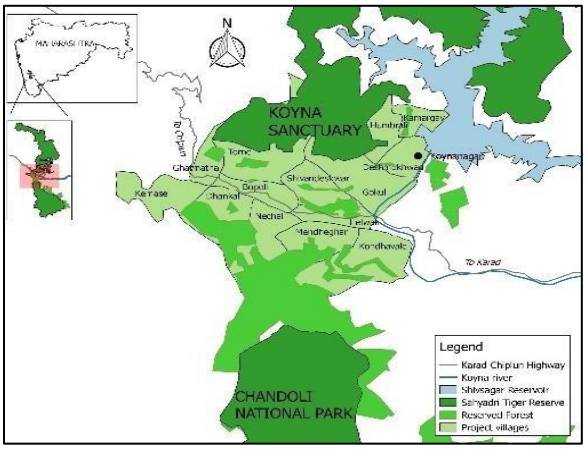


Fig.1. Map of Project Area

WRCS works in 16 villages in the corridor region between Koyna Sanctuary and Chandoli National Park. The extent of the project area is about 6700 ha of which nearly 3000 ha is private forests. The area located in the Patan block of Satara district of Maharashtra (India).

Project Highlights:

i. The target groups of the project are the private forest owners whose private forests are in a degraded state.
ii. They were convinced through individual interaction and group meetings to participate in tree plantation activity and conservation of their private forests.
iii. This year, Assisted Natural Regeneration (ANR) method was used for eco-restoration.
iv. Around **181.49 ha** of land is restored by planting **1,15,530** native plants in **12 villages** of the project area. The total plant survival rate is **76.4 %.** Around **288** private forest owners are beneficiaries.
v. Maintenance of plantations is a crucial aspect of restoration to ensure the survival of the plants. We are carrying out maintenance of all tree plantations to date. We encourage the community and volunteers to participate in plantation maintenance.
vi. Locally **30,800 man-days** employment were generated from June 2015 to March 2021. The project directly contributed around **Rs. 92,40,000** to the local economy.

Activity 1: Tree Plantation

Plantation in 75.22 ha of land with native trees. Local nurseries were set up with the help of the local youth. Species like Phanas *(Artocarpus heterophylla)*, Bamboo (*Dendrocalamus strictus)*, Behda (*T. bellerica)*, Mango (*Mangifera indica)*, Khair (*Acacia catechu)*, Sawar(*Bombax ceiba)*, etc. were planted.

Plantation drive with the locals

Table 1. Details of June 2021 Plantation

S. No.	Funding Agency	No. of beneficiary	No. of plants	Area (Ha)
1	KPIT	4	3000	3.64
2	Tata Motors	10	5050	17.14
3	Praj Foundation	6	4000	11.71
4	Persistent Foundation	65	57700	42.73
	Total	**85**	**69750**	**75.22**

Selection of plantation site

Six sites were selected at Torane, Shivandeshwar, Deshmukhwadi (Humbrali), Mendeghar, Karate, and Taloshi (Govare) village.

Inspection of a plantation site

Pit digging

The pits of 1.5*1.5*1.5 ft were dug and fertilizers were added

Pit ready for plantation at Torne

Seedlings procedure

Acquired from private and government nurseries. Some were procured from local youth.

Seedlings

Tree plantation inauguration

Done in the presence of land owners and villagers.

Plantation inauguration

Activity 2: Post plantation maintenance

Weeding, watering, control of forest fires, and fencing were completed with the help of locals

Fencing

Fire line

Fertilizer application

Grass cutting

Activity 3: Watering arrangement

Water was channeled from a source that was 1500m away and was stored in a huge overhead tank at the site.

Watering arrangements at Karate

Highlights of Eco-Restoration till date:

Table. 2. Year-wise tree plantation

Year	No. of villages	No. of beneficiaries	Area (Ha)	No. of plants
2014	1	8	10.12	2500
2015	2	7	15.79	5000
2016	1	1	3.24	2500
2017	4	15	9.1	4250
2018	2	10	8.69	3500
2019	5	30	47.77	23020
2020	1	9	12.15	5000
2021	4	208	74.61	69760
Total		**288**	**181.49**	**115530**

Activity 4: Assisted Natural Regeneration (ANR):

The technique aims to accelerate, rather than replace, natural successional processes by removing or reducing barriers to natural regeneration such as soil degradation, and recurring disturbances (e.g., fire, grazing, and wood harvesting)

Grown plant

Activity 5: Silage Training Program

It was conducted in Karate village with help of Persistent Foundation and BAIF. To encourage and incentivize cattle owners to control cattle grazing in the plantation areas. Fodder seeds and Napier were distributed among 40 cattle owners

Silage training at Karate village

Silage bag distribution

Fodder seed distribution

Napier stump distribution

Activity 6: Field Visit by Persistent Foundation

A team comprising Mr. Jayant Konde (CAO, Persistent Systems), and Mrs. Yogita Apte (Lead, Persistent Foundation) visited the field site on 18th Sept 2021.

Snapshots of Field visit

Activity 7: Vegetation assessment

The plantation site was divided into 50X50 meter blocks and all the planted seedlings and ANR seedlings were counted in each block

Challenges faced

i. Lockdown due to the Covid pandemic created difficulties in tree plantation.
ii. Landslides and heavy rainfall in July 2021 halted tree plantation activity for a week.
iii. Road to the plantation was damaged

Achievements

i. Seedlings planted on the 75.22 ha land of 85 beneficiaries from the six villages.
ii. Survival rate 85.23% till March 2022
iii. 40 beneficiaries of silage training in karate village

Media coverage

कराटे गावात १०० एकरावर वृक्षलागवड

कोयना परिसरात ५० हजार वृक्षलागवड व संवर्धन करण्याचा प्रकल्प

लोकमत

'डब्ल्यूआरसीएस पार्सिस्टंट' संस्थांचा पुढाकार : कराटे, तळोलीतील १२५ एकरांत ५० हजार देशी रोपांची लागवड

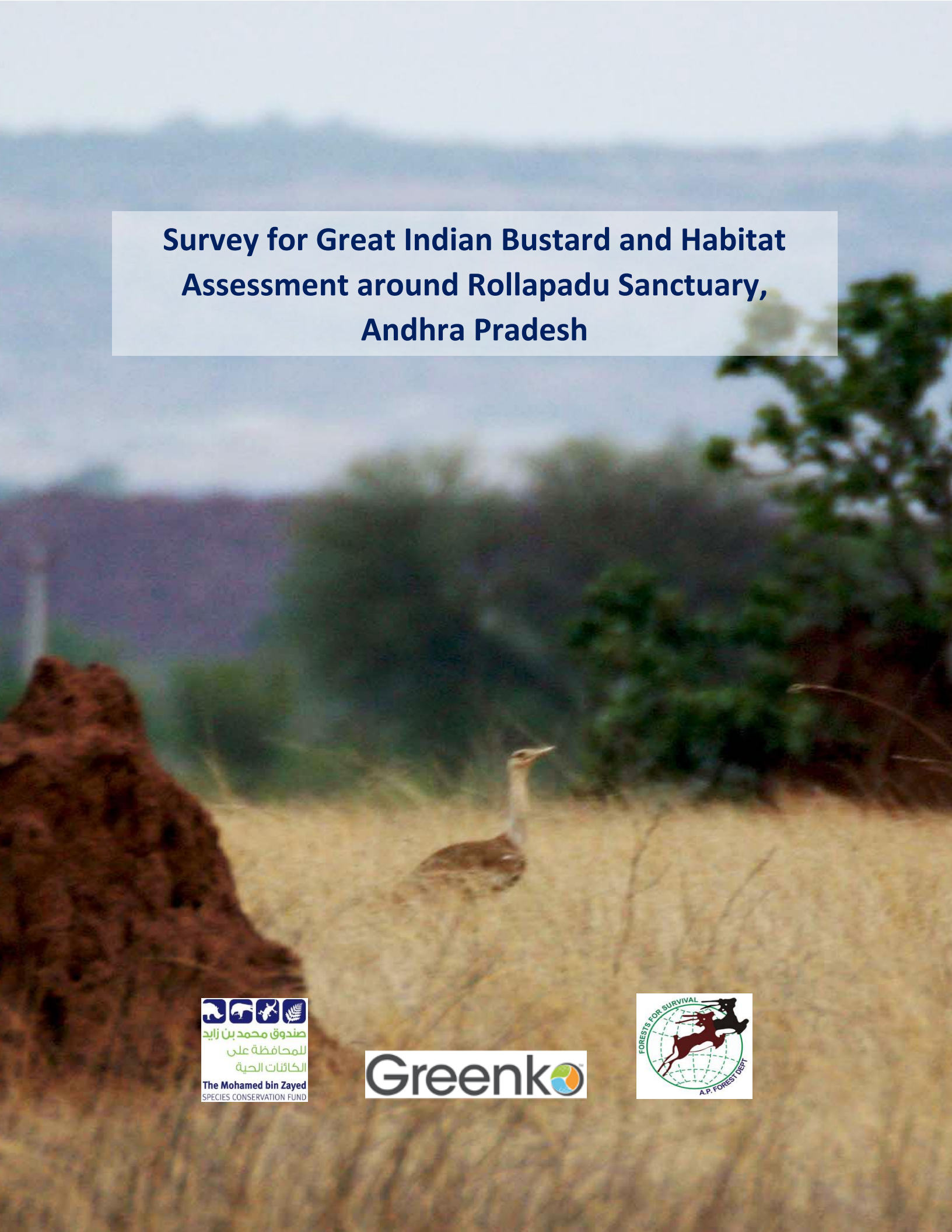
कोयना विभागातील दोन गावांमध्ये साकारतेय 'ऑक्सिजन पार्क'

Newspaper articles

The Koyna project is helping to improve the forest cover in the Koyna-Chandoli corridor, and will provide economic benefits from sustainable forest management to the community in the long term.

Seed-ball Workshop Sponsored by Persistent Foundation

Survey for Great Indian Bustard and Habitat Assessment around Rollapadu Sanctuary, Andhra Pradesh



صندوق محمد بن زايد
للمحافظة على
الكائنات الحية
The Mohamed bin Zayed
SPECIES CONSERVATION FUND

Greenko

FORESTS FOR SURVIVAL
A.P. FOREST DEPT

PROJECT BACKGROUND AND RATIONALITY

With the rapid development and vanishing wilderness, the population of many species has seen a steep decline. In India, grasslands are classified as wasteland, this is based on the fact that it does not have tree growth. This attitude towards the grasslands has proven to be a disaster to many fauna species like the Indian wolf, Blackbuck, Lesser Florican, and Great Indian Bustard among a few. Alarmed by this decline the Ministry of Environment, Forests and Climate Change (MoEFCC) has called for a species recovery program for the Great Indian Bustard, Bengal Florican, and the Lesser Florican.

There has been a drastic decline in the GIB population all across its range. Research and conservation work has been happening on the species in North India and Central Indian landscape but no research has been undergoing about the species presence or its status in South India. There has been no status or population study done in Rollapadu since the late 1990s. But this particular bustard sanctuary has been undergoing a rapid land use change in the past 7-8 years. More so that there is a threat of local extinction of the species in this sanctuary.

Through this work, we will be able to supplement the existing research undergoing in other parts of the country at the same time build a local conservation plan with the stakeholders and forest department for the future of the species in this landscape. The long-term aim of this project is to ensure the future of Bustard species in the landscape in and around Rollapadu by establishing a chain of protected grassland habitats that will act as a safe refuge for GIB and other grassland species.

AIMS AND OBJECTIVES

The work during the initial phase of this project (January 2022-March 2022) was to:

i. Review all the available literature to identify survey areas to focus
ii. Satellite imagery to map all the existing grasslands
iii. Government records and open infra for mapping threats
iv. Vehicles survey in the grids

Satellite imagery to map the existing grasslands

We used the Earth Explorer open-source database and Forest Survey of India to map out the grassland areas. There was no proper classification done for the Grassland habitat type. This we were able to determine based on our field survey. After having collected ground truthing points and overlaid them on the satellite raster, there was no similarity in the classification.

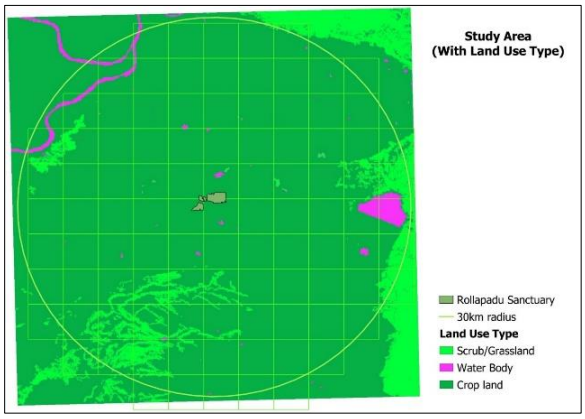


Fig.1. Classification of the study area. Many areas including the Rollapadu Sanctuary were classified as cropland

The Land-use type was taken from Copernicus Global Land Operations (Buchhorn et al. 2020) but this again was only able to pick up forests, human-built-up areas, and other habitat types. After downloading these layers. They were imported into R using the Raster Package.

Grasslands were wrongly classified in many cases as crops. From the above image its evident that grassland habitats were not captured separately by the classification done by Copernicus Global Land Operations. so, we will be collecting multiple ground truthing points at each of the known grassland locations and do supervised classification in QGIS software. we will be using the Landsat9 satellite image from the US Geological Survey (USGS), Earth Explorer platform for classification. The best and clear image we could get was from 13th March 2020 with minimal cloud distortion. The image is at a 30x30 resolution

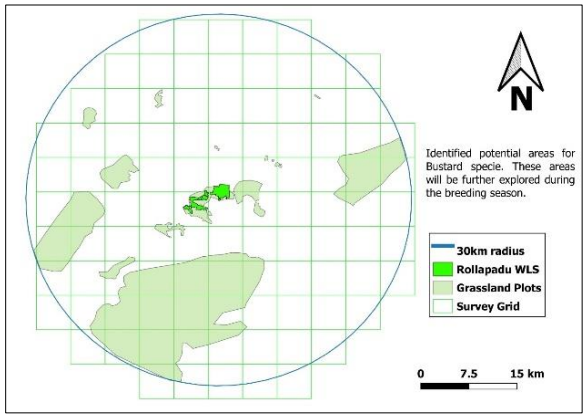


Fig.2. Areas marked for intensive survey during the breeding season

Most of the potential areas is towards the south and south-west of Rollapadu WLS, apart from GIB and Lesser Florican there are reports of Indian wolf (Canis lupus pallipes) in these areas. During our survey, we got information about the sighting of wolves in the southern part of the study area. Other notable sightings were of Pallid Harrier and Montagu's Harrier. Apart from this, we got evidence of Fox and Jungle cat among many others.

Vehicle survey in the Grids:

The vehicle survey was started on 26th January 2022 and concluded on 15th March 2022. A total distance of approx. 386km was traveled on vehicle within the 30km radius to identify areas to be surveyed during the intensive survey period from August to November 2022.

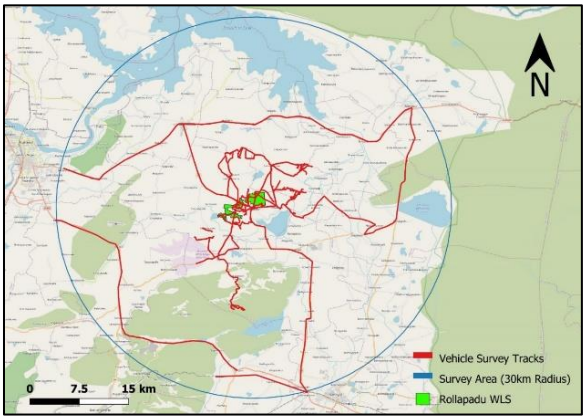


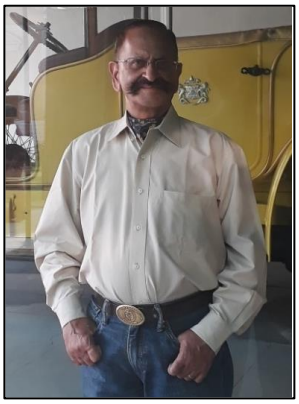
Fig.3. GPS vehicle tracks that were recorded using Garmin etrex 30x during the vehicle survey.

Conclusion:

The project is going as per plans and the intensive survey will be undertaken from August 2022 to November 2022 followed by two months of post-fieldwork. The areas identified will be surveyed for the bustard and other key grassland species. This project is a great start to building up a concrete conservation strategy for the recovery of the bustard species.

The project will provide a basis for conservation of grasslands in and around Rollapadu Sanctuary and the endangered grassland species.

WRCS Governing body

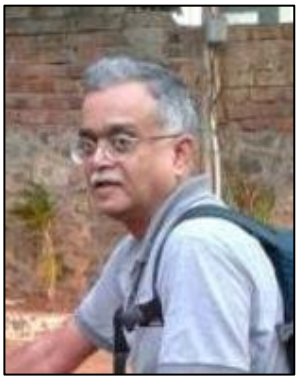


Mr. V.B. Sawarkar (President)

Mr. Vishwas Sawarkar, popularly known as Mr. VB Sawarkar, IFS retired as the Director of Wildlife Institute of India, Dehradun. He has worked extensively with the USDA Forest Service and the US Fish and Wildlife Service (Projects in India and sharing experience in the USA) on the conservation of biological diversity in Protected Areas and forested landscapes. Mr. Sawarkar has worked as a Consultant with United Nations: FAO, UNDP, and UNISDR. He is a Member of the Steering Committee for Conservation of Tigers, Co-predators, and Prey, with the Government of Maharashtra. He is the chairman of the Management Efficiency Evaluation team for the Western Region. He is well-known in India and outside the country for his vast knowledge of forestry and wildlife management. his extensive writings on the subject, his wonderful teaching, his impeccable style, rich language, and sharp wit.

Dr. C.P. Mammen (Secretary)

Dr. C. P. Mammen an electronic engineer from IIT Mumbai. is the secretary of the organization. Dr. Mammen was a visiting scholar at Stanford University and an associate professor at IIT Mumbai. Currently, Mammen is the Director of Systems Software Engineering at NVDIA. Mammen is closely associated with academics and is well versed with technological advancements. He is a nature lover and deeply interested in wildlife conservation.

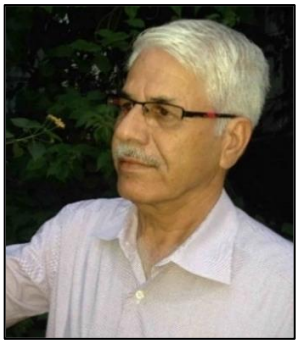


Mr. Raghunath Iyer (Treasurer)

By education and profession, Mr. Raghunath Iyer is an electrical engineer who became a computer scientist at IIT (Mumbai). He is one of those lucky ones who have not been sucked into the "IT" industry. He is actively involved in product design combining hardware and software that have touched many users. Mr. Iyer is a versatile individual and indulges in a bit of everything ranging from masonry, carpentry, plumbing, fixing iPods, and even camera lenses. He has a tool kit ready for all occasions that keeps the D-I-Y streak alive in him. Mr. Iyer manages to wriggle out of his super-busy life to indulge in bird-watching, trekking, photography, and cycling. His keen interest in the wilderness takes him to various places and he wishes to do his bit in keeping pristine nature unspoiled. Mr. Iyer is well versed in South Indian classical music and plays the Veena and Piano. “Food is very intrinsic to our living” he admits and has listed several mouth-watering recipes on his blog. For a glimpse of his multifaceted mind and life, do visit http://iyerhome.com/blog/iyerhome.

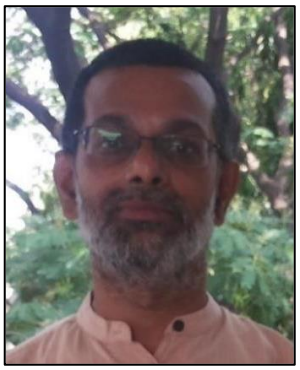
Mr. K.J. Joy

Mr. K. J. Joy has a Master's degree in Social Work from the Tata Institute of Social Sciences (TISS), Mumbai. He has been an activist researcher for more than 20 years and has a special interest in people's institutions for natural resource management both at the grassroots and policy levels. Joy was a visiting fellow with CISED, Bangalore for a year and was a Fulbright Fellow with the University of California at Berkeley. He has authored several books and papers. In 2016, Joy was awarded the prestigious TN Khoshoo Memorial Award for his outstanding work on water conflict.



Dr. R.M. Sharma

Dr. R.M. Sharma is an entomologist and former deputy Director of the Zoological Survey of India. Dr. Sharma has worked in various regions of the country and has several publications to his credit. Dr. Sharma has authored 146 scientific papers and a few papers in the regional language. Dr. Sharma's recent paper is on a review of color aberrations in Indian mammals for the last 113 years which is now published in JOTT. Dr. Sharma is a part of a citizen science program in Pune that conducts courses for wildlife techniques and field identification.



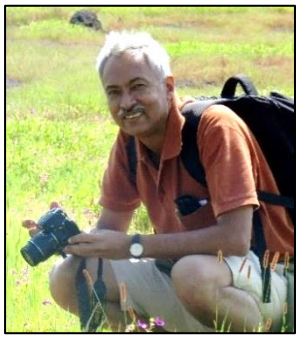
Dr. Ashok Sreenivas

Dr. Ashok Sreenivas holds a Ph.D. in Computer Science from IIT Mumbai and is associated with PRAYAS. Ashok works on issues related to energy data and modeling, cooking energy access, and the coal-thermal sector. He has also worked in the transport and oil-gas sectors. Ashok has authored many reports and papers, contributed to building tools, and provided inputs to policy formulation in the Indian energy sector. He has previously worked in applied research in the IT industry, been involved in teaching, and has engaged in analysis and advocacy for sustainable urban transport.

Prof. Prasad Pathak

Prof. Prasad Pathak is an Associate Professor of Environmental Studies at FLAME University, India where he also serves as Chair of the Centre for Earth and Environment. His research about developing sensing environmental parameters and about Smart Cities has been published in the *International Journal of Applied Geospatial Research*, *Journal of Urban Affairs,* and other journals. He is working with international collaborators from Duke University, McGill University, and Spatial Justice Centre at Winston Salem University. He received his Ph.D. in Geography (GIS and RS) from the University of North Carolina in 2010

WRCS Team



Mr. Jayant Kulkarni (Executive Director, Conservation)
Jayant Kulkarni has a B.Tech and an M.Tech degree in Chemical Engineering from IIT (Mumbai). Jayant served as an IFS officer in Maharashtra and was posted in Melghat Tiger Reserve. He resigned from IFS and worked for nature conservation in the NGO sector. He is particularly interested in the conservation of private forests and sustainable forest management as a conservation tool. Jayant is the Director of Conservation Programs.

Dr. Prachi Mehta (Executive Director, Research)
Prachi Mehta has a Ph.D. in Wildlife Biology from the Wildlife Institute of India, working as Director, Research with WRCS. she joined the Wildlife Institute of India (WII), Dehradun. For her Ph.D. degree, she studied the impact of forestry practices on bird communities of Satpura Hills in Bori Wildlife Sanctuary in Madhya Pradesh, and Melghat Tiger Reserve in Maharashtra. She is working actively on community-based mitigation of human-elephant conflict. Her current passion is the study of the critically endangered Forest Owlet and sympatric owls in Central India.

Mr. Sunil Kale (Project Officer)
Sunil Kale has an MBA degree in Environmental Management and a bachelor's degree in Zoology. He is managing the private forest conservation project at Koyna and implementing activities like eco-restoration of private forests, eco-friendly income-generating activities for the local community, and incentive-based conservation agreements.

Mr. Rakesh Kalva (Research Associate)
Rakesh is an alumnus of the Masters course in Wildlife Biology and Conservation conducted by WCS-India, NCBS, and TIFR. He is presently working with WRCS in Chittoor district of Andhra Pradesh, with a particular focus on elephants. Other than the Eastern Ghats, he has a fascination for the Honey Badger (Mellivora capensis) and hopes to study and understand various aspects of the species' ecology.

Nikhil Gaitonde (Program Manager)

Nikhil Gaitonde is a broadly trained evolutionary biologist. He did his masters in zoology from Savitribai Phule Pune University and earned his Ph.D. in Ecology and Evolution from NCBS. He has more than 7 years of experience in ecological and biodiversity research, restoration ecology, and animal behavior. He has published 8 research articles and several popular science articles. Nikhil is passionate about sustainability research, nature-based solutions, and environmental restoration.

Mr. Nitish Kumar (Research Officer)

Nitish Kumar has an MSc in Ecology from the Department of Ecology and Environmental Sciences at Pondicherry University He had previously worked in Northern West Bengal on human-elephant conflict mitigation and involved the local communities in stakeholder capacity-building programs. Worked on small cats' habitat selection and niche overlap in human-forest use mosaic landscape, Northern West Bengal for his master thesis.

Mr. Shubham Giri (Research Biologist)

Shubham Giri is a science graduate from Amaravati and is an accomplished birder. Shubham Giri is working on the Owl Ecology Project at Melghat. Shubham has deep interest in ornithology and is quick in detecting them by sight and sound.

Ms. Sonal Pawar (Office Administor)

She has a Master's degree in Biodiversity from Pune University. She is managing WRCS website and developing content for social media accounts. She is managing inventory and designing handicraft products. She is interested in birds and the effects of anthropological activity on birds.

Mr. Anand Tulankar (Research Officer)

Anand Tulankar has a Master's degree in Botany. He is working on "The Climate Resilience: Trees and Sustainable Mobility". This project is being implemented in collaboration with "PUNE KNOWLEDGE CLUSTER". He has a very good knowledge of plant taxonomy. He is monitoring and measuring the growth of trees in Pune city. He is also working on the Carbon sink of Pune city.

Mr. Kamran Husain (Research Officer)

Kamran Husain has a Master's degree in Biodiversity Studies and Management from Aligarh Muslim University and he is working as a research biologist in WRCS in Forest Owlet Conservation Project in Madhya Pradesh.

Mr. Ravi Yellapur

He is working as project officer on the project on human elephant conflict and has several years of working with communities and managing human elephant conflict. He has excellent rapport with the Forest Department and community members of the project area and handles the project effectively.

Mr. Sharath Anchatageri

He has a Masters degree in wildlife conservation management from Bharti Vidyapeeth and is working as project officer for managing human elephant conflict in in North Kanara. He has good hands-on knowledge on GIS and effectively manages the data collection and data analysis for the project.

Mr. Rajendra Dheple (Accountant)
Rajendra has a B.Com. degree and over 10 years of accounting experience in the retail industry. Rajendra manages the accounts department of WRCS.

Mr. Amol Dheple (Office Assistant)
Amol is trained as an architectural draftsman at ITI Aundh. He is helping in office administration and managing the handicraft program. He is an expert at managing the inventory of handicrafts.

Mr. Ashok Bethekar (Field Assistant)
Ashok is working on Owl Ecology Project in Melghat Tiger Reserve. He has been trained to assist in Owl Project and working with WRCS for a long time. He manages fieldwork and helps in locating and monitoring owl nests.

Mr. Ram Kasdekar (Field Assistant)
Ram is working in Melghat Tiger Reserve on Owl Ecology. He has been trained to assist in Owl Project and working with WRCS for a long time. He manages fieldwork and helps in locating and monitoring owl nests.

Mr. Jabbar Chauhan (Field Assistant)
Jabbar is an accomplished tracker and an immense help on the field and off-field. He lives at Awaliya and works with WRCS at the Forest Owlet study site at East Kalibhit in Madhya Pradesh.

Mr. Balkrushna Bhomkar (Field Assistant)
Bunty has been working with WRCS on the Koyna project since 2015. He is an expert at managing plantations. His hard work has helped to make a success of the Koyna plantations.

Mr. Sambhaji Chalke (Field Assistant)
Sambhaji has been working with WRCS on the Koyna project since 2019. He is a graduate in Agricultural Science. He has experience in teaching and social work. He is interested in organic farming, and community development.


WRCS