

CHAPTER-IV

Forest Department

4.1 Introduction

Rajasthan is the largest state in the country in terms of area and its north-western part is desert or semi-desert. Rajasthan has a geographical area of 3,42,239 square kms, of which 9.62 *per cent i.e.* 32,921 square kms is Forest Land. This 32,921 square kms of Forest Land includes 13,350 square kms of notified protected area comprising three national parks, three tiger reserves, 27 sanctuaries, and 14 conservation reserves.

The Forest Department of the Government of Rajasthan is responsible for the conservation, protection, and sustainable management of the State's forests and wildlife. It oversees afforestation, biodiversity preservation, and eco-tourism promotion, while also enforcing forest and wildlife laws. Administratively, the Department is headed by the Principal Chief Conservator of Forests (PCCF) which is assisted by Chief Conservator of Forests (CCF) at Zonal level and Deputy Conservator of Forests (DCF) at District level. It also manages national parks and sanctuaries, and implements community-based programs such as Joint Forest Management to ensure people's participation in conserving Rajasthan's rich ecological heritage.

4.2 Results of audit

A brief description of the objections found in the audit of selected offices of the Forest Department during the year 2022-23 is given in **Table 4.1**. During the year 2022-23, there were a total of 119 auditable units under the Forest Department, of which audit of 21 units was done .

Table 4.1: Statement showing irregularities noticed by audit during the year 2022-23

Sl.No.	Subject	Number of Cases
1.	Lack of measurement book maintenance and pruning and overwriting of measurement books	4
2.	Not showing any details of payment of wages to workers	37
3.	Lack of maintenance of daily work registers	8
4.	Lack of recovery of liquidated damages	9
5.	Lack of Income Tax Deduction	4
6.	Irregular Expenditure/Extra Expenditure/Over-Spending/Double Payment/Overpayment/Wasteful Expenditure	78
7.	Administrative/Lack of financial and technical sanction and other irregularities	24

Sl.No.	Subject	Number of Cases
8.	Lack of utilisation of allocated budget/blockage of fund/Lack of obtaining utilisation certificates	10
9.	Lack of quality inspection/testing	12
10.	Lack of disposal of obsolete goods	4
11.	Miscellaneous irregularities	80
12.	Lack of Internal Audit	9
13.	Lack of submission of Records for Audit	4
Total		283

Source: Compiled on the basis of Inspection Report issued to the Department.

4.3 Subject specific Compliance Audit on ‘Management of Tiger Reserves in Rajasthan’

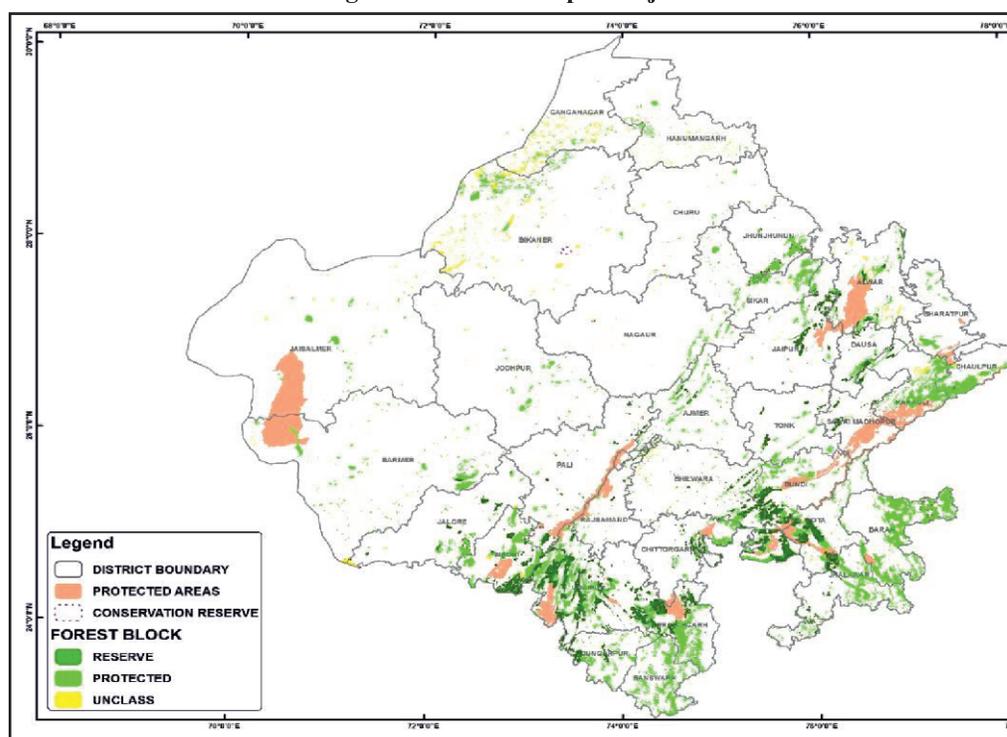
4.3.1 Introduction

The Wild Life (Protection) Act, 1972 empowers the State Government to declare any area of adequate ecological, faunal, floral, natural or zoological significance as a conservation reserve, a national park or a tiger reserve, to protect, propagate and develop wildlife or its environment. A forest area having a substantial presence of tigers with due recommendation of the National Tiger Conservation Authority¹ (NTCA) is considered for declaration as a tiger reserve.

Rajasthan has a geographical area of 3,42,239 square kms, of which 9.62 *per cent* i.e. 32,921 square kms is Forest Land. This 32,921 square kms of Forest Land includes 13,350 square kms of notified protected area comprising three national parks, three tiger reserves, 27 sanctuaries, and 14 conservation reserves. Forest map of the State is presented below in **Figure 4.1**.

¹ A statutory body of the MoEFCC, Government of India with an overarching supervisory/coordination role, performing functions as provided in the Wild Life (Protection) Act, 1972.

Figure 4.1: Forest map of Rajasthan



The details of three tiger reserves are given in **Table 4.2**.

Table 4.2: Details of Tiger Reserves

Sl. No.	Name of Tiger Reserves	Districts Covered	Date/ Year of Notification		Area (square kms)
			Core Area	Buffer Area	
(1)	(2)	(3)	(4)	(5)	(6)
1	Ranthambore Tiger Reserve (RTR)	Bundi, Karauli, Sawai Madhopur, Tonk	28 December 2007	06 July 2012	1,113.36
2	Sariska Tiger Reserve (STR) ²	Alwar	28 December 2007	06 July 2012	881.11
3	Mukandara Hills Tiger Reserve (MHTR)	Bundi, Chittorgarh, Jhalawar, Kota	09 April 2013	09 April 2013	417.17

Source: Forest Department.

RTR is further divided into two forest divisions *i.e.* RTR-I at Sawai Madhopur and RTR-II at Karauli. In addition to the above, the State Government notified (May 2022 and October 2023) two new tiger reserves *i.e.* Ramagarh Vishdari Tiger Reserve (1,501.89 square kms) and Dholpur-Karauli Tiger Reserve (599.64 square kms). Tiger reserve area includes core area, buffer area and corridor area, as summarised below:

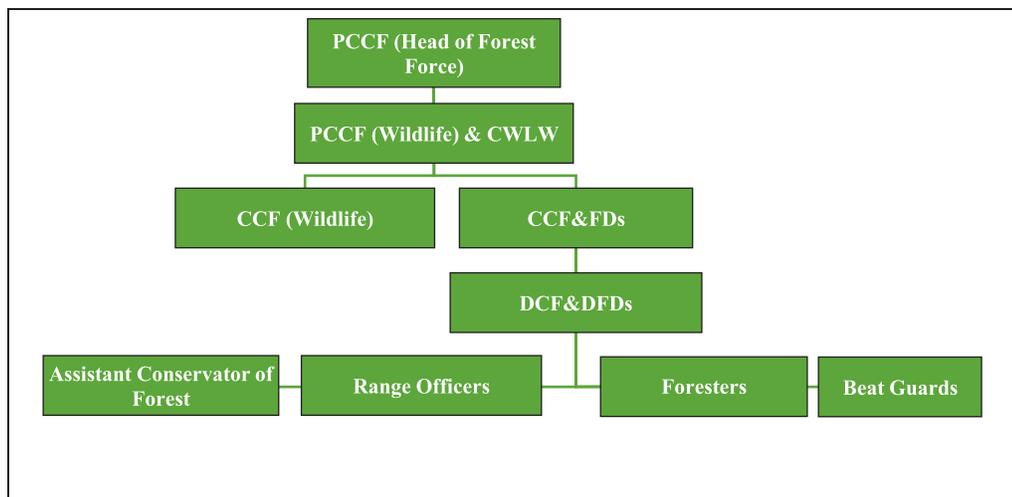
² Sariska is not notified as National Park.

Central part of a tiger reserve;	Buffer Area	Corridor
<ul style="list-style-type: none"> protected space isolated from human contact; required to be kept inviolate for tiger conservation. 	<ul style="list-style-type: none"> area peripheral to core area; lesser degree of habitat protection is required; minor forestry operations and other rights and concessions are permitted in a regulated manner. 	<ul style="list-style-type: none"> stretch of land linking tiger habitats; allowing movement of tigers, prey and other wildlife from one area to another.

4.3.2 Organisational setup

The Forest and Environment Department is headed by the Principal Secretary at the Government level. The Principal Chief Conservator of Forests (Head of Forest Force) is the functional head of the Department. The Wildlife Wing is headed by the Principal Chief Conservator of Forests (Wildlife), who also acts as the Chief Wildlife Warden (CWLW). He is assisted by the Chief Conservator of Forests (Wildlife) at Headquarters, the Chief Conservator of Forest & Field Director (CCF&FD) and the Deputy Conservator of Forest & Deputy Field Director (DCF&DFD) at the field level. Organisational Chart of the Department is presented below in **Chart 4.1**:

Chart 4.1: Organisational Chart of the Forest Department



4.3.3 Audit Objectives

Audit was conducted to assess whether:

- management of tiger reserve and wildlife habitat has been done effectively; and
- adequate efforts were made for relocation and rehabilitation of villages.

4.3.4 Audit Criteria

The following were used as sources of audit criteria for this Audit:

- Wildlife (Protection) Act, 1972;
- Forest (Conservation) Act, 1980;
- Rajasthan Forest Act, 1953;
- Rajasthan State Forest Policy, 2010;
- National Wildlife Action Plan (NWAP) 2002-2016 and 2017-2031;
- Management Plans and Tiger Conservation Plans (TCPs); and
- Guidelines, orders, circulars, manuals and instructions issued by the Department, State Government, the Ministry of Environment, Forest and Climate Change (MoEFCC), Wildlife Institute of India (WII) and NTCA.

4.3.5 Scope and Methodology of Audit

Records maintained at the offices of the Principal Chief Conservator of Forests (Wildlife) and the field level offices of CCF&FDs and DCF&DFDs of RTR, STR and MHTR were examined to conduct Subject Specific Compliance Audit (SSCA) on 'Management of Tiger Reserves in Rajasthan'. The Audit covering the period of five years from 2016-17 to 2020-21³ was conducted between July 2021 to January 2022. The position of reported issues was updated (October 2024) upto 2022-23⁴.

The objectives, methodology, and scope of the SSCA were discussed with the Principal Secretary (Forest and Environment Department) and the officers of the Forest Department at an Entry Conference held on 02 August 2021. The Exit Conference was held on 30 September 2022, wherein all the audit findings were discussed. The reply of the Government was received in November 2022 and December 2024, which was appropriately considered in the relevant paragraphs.

4.3.6 Previous Audit Coverage

The Comptroller and Auditor General of India (CAG) had conducted a thematic audit on 'Rehabilitation of villages situated in critical Tiger Habitats of Ranthambhore and Sariska Tiger Reserve' which was included in Audit Report No. 3 of the Year 2015. The Public Accounts Committee (PAC) had discussed

³ Issues relating to notification of Eco Sensitive Zones, approval of Tiger Conservation Plans in RTR and STR, development of corridors in RTR, relocation of villages from RTR and STR, regulating anthropogenic activities in STR, demarcation of boundary and mutation of land in the name of Department, encroachment, mining activity, forest fire, cattle grazing, etc. for the period 2013-14 to 2017-18, were previously covered in Performance Audit on 'Protection of forest and wildlife in Rajasthan' (Audit Report No. 5 of the Year 2019). In the present SSCA the status of the above issues with specific emphasis on RTR, STR and MHTR have been included besides other issues.

⁴ Where data was available, the position has been updated upto 2023-24.

the Report in January 2017 and recommended that the Department may assess actual funds required for relocation of all villages to decide a timeline to implement relocation of 66 villages of RTR and 28 villages of STR. The PAC also stressed upon making coordinated efforts with the District Administration for timely village relocation so as to develop corridors for movement of tigers.

Another Performance Audit on ‘Protection of forest and wildlife in Rajasthan’ was included in the Audit Report No. 5 of the Year 2019 which was discussed by PAC in December 2021. PAC recommended to take effective action regarding encroachment and illegal mining on forest land and to expedite the process for declaration of Eco-sensitive zones.

This SSCA was undertaken to follow-up the recommendation made by PAC and also make an overall assessment of the conservation and protection of wildlife.

4.3.7 Acknowledgement

Audit acknowledges the co-operation extended by the officers and staff of the Department of Forest, Government of Rajasthan (GoR).

Audit Findings

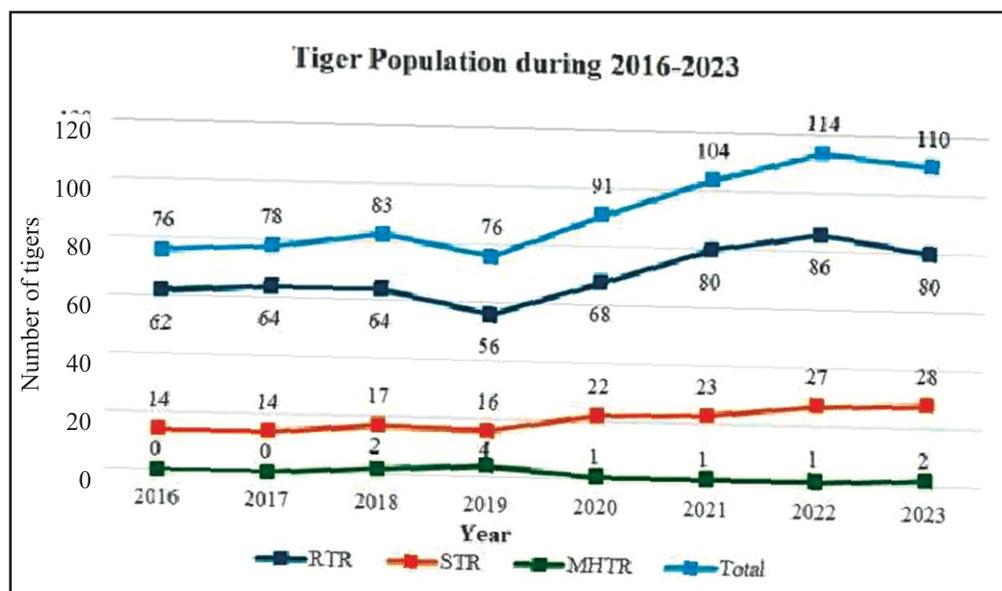
The first audit objective is to see whether management of tiger reserve and wildlife habitat has been done effectively.

Under this objective, audit noticed shortcomings in conservation and protection of wildlife such as poaching in tiger reserves, monitoring and surveillance mechanism, patrolling, development of Corridors, mitigating measures in tiger reserves, allocation of resources for conservation. Further, various issues related to management and consolidation of wildlife habitats such as mining inside and around tiger reserves, anthropogenic activities, Eco-friendly tourism, non-eradication of invasive species, inadequate fire safety arrangements were also noticed. These issues are discussed in the succeeding paragraphs:

4.3.8 Conservation and Protection of Wildlife

Wildlife conservation encompasses support to protected areas, development of corridors, prevention of forest offences and poaching, wildlife health management, mitigating measures to save wildlife, *etc.* The key to successful conservation is the level of protection enjoyed by wildlife species that inhabit the area. Population of tigers in RTR, STR and MHTR during 2016 to 2023 is presented in **Chart 4.2**.

Chart 4.2: Tiger population during 2016-2023



As evident from the above chart, the population of tigers shows an increasing trend in all three tiger reserves. Total tigers in three tiger reserves increased from 76 in 2016 to 110 in 2023.

The issues noticed by audit relating to the Conservation and Protection of wildlife are discussed in the succeeding paragraphs:

4.3.8.1 Tiger fatalities

The State Government is responsible for ensuring the conservation and protection of tigers to minimise their fatalities, for which guidelines have also been issued by NTCA from time to time. As per NTCA Standard Operating Procedure (December 2012), the Department was also required to ascertain causative factors for tiger death.

In this regard, it was noticed that the Department did not ensure safety of tigers, which led to death of 14 tigers in RTR, STR and MHTR during 2016-24, as summarised in **Table 4.3**.

Table 4.3: Details of Tiger deaths during 2016-24

Sl. No.	Cause of Death	RTR	STR	MHTR	Total
(1)	(2)	(3)	(4)	(5)	(6)=(3)+(4)+(5)
1	Poaching	2	2	-	4
2	Territorial Fight	9	1	-	10
	Total	11	3	-	14

Source: Forest Department.

The above included death of 14 tigers on account of Poaching (four tigers), Territorial fights (ten tigers), which were controllable by the Department by taking various conservation and protection measures. In addition to the above, nine tigers died due to diseases and two tigers (T-58 and T-2312) were reported

dead in RTR-I during July 2024 and September 2024, for which reasons are being investigated.

The reasons for tiger fatalities were analysed and audit observations are given below:

(i) Poaching in tiger reserves

Poaching, one of the major threats to tigers, is prohibited under the provisions of Wildlife (Protection) Act, 1972. RTR, STR and MHTR executed (December 2010, January 2018 and December 2019) MoUs with NTCA for the deployment of Special Tiger Protection Force (STPF) in tiger reserves.

Audit noticed that 393 offences relating to poaching of wild animals during 2016-23 in RTR, MHTR and STR, have been registered. The reasons for instances of poaching included non-establishment of STPF in STR and MHTR, shortfall of manpower in patrolling camps (**Paragraph 4.3.8.1 (iii)**), etc. As stated above, four tigers lost their lives in RTR and STR during 2016-24 due to poaching, defeating the objective of conservation and protection of tigers in RTR and STR. This shows that department could not prevent poaching in protected area, which resulted in the death of tigers.

The State Government stated (November 2022) that generally, the offences occur in remote areas, for which witnesses and complaints are not available, which makes investigation a challenging task. Thereafter, in December 2024, it was replied that Sariska Tiger reserve lost tigers in 2004 due to poaching.

This indicate that there is a need to improve vigilance to control forest crimes including poaching.

(ii) Wildlife Surveillance and Anti-poaching System

In order to improve monitoring and surveillance mechanism for prevention of poaching and other illegal activities, Wildlife Surveillance and Anti-poaching System (WS&APS)⁵ was established in RTR, STR and MHTR during 2018-19 and 2019-20, with the support of Department of Information Technology and Communication (DoIT&C). It envisaged establishment of 44 camera towers⁶ in RTR, STR and MHTR at a cost of ₹ 62 crore, for which site was to be selected from critical areas identified in joint feasibility study by the DoIT&C and the Forest Department.

In this regard, it was noted that the commissioning and utilisation of WS&APS was deficient, which defeated the objective of its installation and adversely impacted the monitoring and surveillance mechanism, as detailed below:

⁵ An integrated software-based surveillance solution equipped with high end thermal/optical cameras.

⁶ RTR-12, STR-16 and MHTR-16.

- **Deficient selection of location:** Audit noticed that no field survey was conducted in STR and MHTR for selection of probable location of towers for installation of cameras. Though, field survey was conducted in RTR, but the location of towers were selected by DoIT&C as per their technical convenience, without consulting the Forest Department. It was observed that all the locations of towers where 12 cameras were installed were different than the locations identified in the field survey.
- **Delayed repair of defective cameras:** As per the agreement (June 2017) the vendor, was responsible for operation and maintenance of cameras for five years from the date of installation. In this regard, it was noted that camera of 44 locations of RTR, STR and MHTR became unserviceable for 157 times during 2020-23. However, the Department did not ensure repair of cameras promptly. In 59 cases, one to two month were taken to repair and in 46 cases this time was beyond 2 months. (*Appendix-9*).
- **Unmanned Control Command Centre:** Control Command Centre, for monitoring of live data of WS&APS, was established at Aranya Bhawan, Jaipur, which started functioning in April 2018. However, the officers and staff of forest department were posted (January 2019) in the Control Command Centre, after eight months from the date of establishment of centre. Further, five out of seven staff, took charge (August 2020 and October 2020) with a delay of more than two years from the date of establishment of centre.
- **Detection of poaching instances:** After establishment of WS&APS, 130 cases of poaching were recorded (2019-23) in RTR, STR and MHTR, out of which only 13 cases were detected by WS&APS. Twelve tigers were reported missing after establishment of WS&APS, which could not be detected by the system. CCF&FD, STR itself accepted (December 2020) that the WS&APS was not useful in detecting poaching cases in night.
- **Inaction on detected cases:** The Department did not take effective action on the probable instances detected through WS&APS, as detailed below in **Table 4.4**.

Table 4.4: Position of action taken on instances detected through WS&APS

Year	RTR			STR			MHTR		
	Detected	Action Taken	per cent	Detected	Action Taken	per cent	Detected	Action Taken	per cent
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2019-20	85	2	2.35	381	185	48.56	278	0	-
2020-21	669	5	0.75	508	425	83.66	632	1	0.16
2021-22	1,087	0	-	1,232	143	11.61	2,395	2,225	92.90
2022-23	1,433	773	53.94	1,144	70	6.12	3,078	3,038	98.70
Total	3,274	780	23.82	3,265	823	25.21	6,383	5,264	82.46

Source: Forest Department.

From the above, it is evident that the Department did not take action on

53.14 *per cent*⁷ of the probable instances detected by WS&APS. Thus, the objective of establishing the WS&APS to ensure monitoring and surveillance mechanism in tiger reserves could not be achieved fully, in absence of proper selection of site for installation of cameras, delayed action on cases detected by the system, non-repair of unserviceable cameras in time.

The State Government stated (November 2022) that the location of towers was finalised on the basis of technical feasibility, sensitivity and prioritisation of areas. The Department stated that action on cases detected by WS&APS could not be taken due to inadequate manpower. Further, the Department stated that DoIT&C was regularly intimated about non-working cameras.

In December 2024, it was replied that repair work of faulty cameras is also being done regularly. Prompt action has been taken in cases related to wildlife hunting.

As per information submitted by RTR, five cameras out of 12 were still (December 2024) not working from July 2024.

The reply is not acceptable, as the details of selection of locations were not provided to Audit therefore the reply could not be verified by Audit.

(iii) Patrolling

Rajasthan Forest Manual provided that patrolling is the most effective physical deterrence to poaching. The security of a tiger reserve is dependent on availability of proper infrastructure facilities to a large extent, which include well equipped patrolling camps, availability of adequate modern equipment, adequacy of manpower, *etc.*

- **Patrolling Plan:** Rajasthan Forest Manual provided that a periodic patrolling plan must be drawn up by each tiger reserve, which should be updated regularly for maximum area coverage based on intelligence report⁸. However, no patrolling plan was found prepared for any of the tiger reserves of the State. Further, crime information reports were also not maintained at RTR and MHTR patrolling camps as NTCA guidelines prescribed to collect data of crime before preparing patrolling plan.
- **Staff at Patrolling camps** - Strategically located forest camps and intensive patrolling by the ever-vigilant staff help control intrusion and encroachment. Compendium of guidelines and circulars issued (November 2004) by Director (Project Tiger), MoEFCC provided that a patrol party should ideally be provided with at least four staff.
- There were 175 patrolling camps⁹ in RTR, STR and MHTR. However, the patrolling camps were not adequately staffed, as against the requirement of

⁷ Out of total 12,922 cases detected by WS&APS in RTR, STR, and MHTR during 2019-23, Department has taken action only in 6,867 cases.

⁸ As prepared by State Wildlife Crime Bureau.

⁹ RTR-85, STR-57 and MHTR-33.

staff of 700 in the above patrolling camps, 388 staff were posted, leaving a vacancy of 312¹⁰ staff. Further, it was noticed that as on 31 March 2023 more staff were posted in ranges situated near the division offices and at main roads, than the *nakas/chowkis* situated in remote areas, which were more prone to risk. Joint physical inspections of 19 patrolling camps¹¹ also revealed that one *chowki* in RTR was established without any building and staff and in four *chowkis*¹² only single staff was deployed. In addition, it was noted that only one to two home guards were deployed at three *chowkis*¹³ along with forest guards in place of STPF.

- **Facilities at Patrolling camps** – Joint inspections of 19 patrolling camps in RTR, STR and MHTR revealed that firearms were provided in only one patrolling camp at Borawas in MHTR. Further, tiger tracers¹⁴ were provided only in two patrolling camps *i.e.* at Kho and Kushalgarh in STR. In addition to this, various other auxiliary facilities *viz.* water bottle, mosquito net, first aid kit, measurement tape, torch, battery, binocular, protection wall, light, drinking water, *etc.* were also not available in all patrolling camps.

Thus, in the absence of implementation of prescribed measures for evaluation of threats by formulating patrolling plan, deploying adequate staff at patrolling camps, providing adequate facilities at patrolling camps, *etc.*, security of wildlife was compromised to that extent.

The State Government stated (November 2022 and December 2024) that patrolling was undertaken according to the assessment of sensitivity of various areas and as per TCP. Further, infrastructure was being gradually provided as per availability of funds.

The reply is not acceptable, as the Department did not furnish the details of their patrolling plans as provided in the Forest Manual. Further, despite the fact that the fund was available with the Department, same could not be utilized to ensure adequate infrastructure (**Para 4.3.8.1(i)**).

(iv) Development of Corridors to avoid territorial fights

Wildlife corridors are inherent geographical linkages, which facilitate movement of tigers and other animals. It is necessary to identify and develop corridors between two wildlife population areas, especially for tiger reserves having high tiger density, to enable safe dispersal of tigers to avoid conflict among them.

¹⁰ RTR-146, STR-105 and MHTR-61.

¹¹ MHTR-three, RTR-eight and STR-eight.

¹² RTR-Ungulate *chowki*, Raipur, STR - Barrier Bharthari, Tarunda.

¹³ 19 *chowkis* as per the joint inspections carried out with the departmental officials.

¹⁴ A glass plate, about 25 by 30 centimetre, which is used to trace the outline of the pugmark left on the pug impression pad.

There was extreme pressure of tiger population in RTR-I, which necessitated a critical need for development of corridors for dispersal and movement of increasing tiger population from high density areas to low density areas. The details of tiger density in RTR, STR and MHTR are furnished in **Table 4.5**.

Table 4.5: Details of tiger density in tiger reserves

Name of Tiger Reserve	Area (square kms)	Number of tigers (as on March 2023)	Average area covered by one tiger (in kms)
(1)	(2)	(3)	(4)
RTR-I Core area	636.24	76	8.37
RTR-II Core area	477.12	4	119.28
STR Core area	881.11	28	31.47
MHTR Core area	417.17	2	Nil ¹⁵

Source: Forest Department.

Accordingly, the State Government, in consultation with NTCA, identified (April 2013, January 2014) development of six corridors¹⁶ for the movement of tigers and other animals from the high animal density areas of RTR to other suitable areas, out of which one corridor i.e. RTR-Kailadevi-Banas river¹⁷ was considered as the most crucial for movement of tigers out of RTR-I because of its close proximity with RTR-II.

However, the Department did not ensure development of any of the identified six corridors, including the critically required corridor between RTR-I and RTR-II. The reasons for non-development of corridors were failure to relocate villages present in the proposed corridors, not carrying out activities like delineating the corridor, conducting detailed survey and preparation of micro plan for intensive programme of rehabilitation and fencing on the agriculture fields that fall in the corridor passage *etc.* Non-development of the proposed corridors led to unwarranted higher tiger density (8.37 kilometer per tiger) and consequent death of nine tigers in RTR-I during 2016-24, due to territorial fights, which was much higher than that of poaching.

The State Government replied (December 2024) that activities such as grassland development, juliflora eradication *etc.* are being done in corridor areas. The reply is not tenable as other planned activities such as delineating the corridors, discouraging fencing on the agriculture fields that fall in corridor areas, develop water points at appropriate places were not carried out to facilitate easy movement of tigers.

¹⁵ Tigers were translocated and kept in enclosure to ensure their safety and protection, and to help them acclimate to the reserve's wild; therefore, entire area of Tiger Reserve was unutilised.

¹⁶ RTR: Ranthambhore-Keladevi Wildlife Sanctuary-Van Vihar Wildlife Sanctuary, Ranthambhore-Kuno-Palpur Wildlife Sanctuaries and Ranthambhore-Ramgarh Vishdhari-Mukandara Hills (three), STR: STR-Jamwa Ramgarh (one), MHTR: Indragarh-Lakheri-Ramgarh Vishdhari Sanctuary-Dabi-Jawahar Sagar Sanctuary, Chambal-Kalisindh to Dara Wildlife Sanctuary (two).

¹⁷ Part of Ranthambhore- Kailadevi Wildlife Sanctuary-Van Vihar Wildlife Sanctuary.

4.3.8.2 *Mitigating measures in tiger reserves*

Various infrastructures in tiger reserves *i.e.* roads, railway lines and transmission lines cut across the landscape, fragment wildlife habitat and often result in mortality of animals, thus, endangering many of the species that have already been severely affected by development. Accordingly, WII prescribed (October 2016) construction of underpasses, use of noise barriers and ban on night traffic on the roads passing through tiger reserves. TCP of STR for the period 2014-24, provided that electricity lines passing through tiger reserve should be checked from time to time to avoid short circuiting, fire and electrocution of wild animals.

In this regard, it was noted that, the Department did not ensure mitigating measures in RTR, STR and MHTR, as detailed below:

- Eight¹⁸ transmission lines were passing through the tiger reserve in RTR, STR and MHTR. There were four¹⁹ recorded wildlife mortalities in MHTR and one mortality of Bear in RTR, due to electrocution during audit period. In spite of that, no insulation work or other mitigation measures were carried out by any of the tiger reserves in co-ordination with the Energy Department, which led to continued threat to wildlife.
- As per the conditions laid down by NTCA, speed bumps and rumble strips were to be constructed at every 300–400 metre distance along the roads in tiger reserves. However, during joint physical inspection (November 2021) of widened (2019-20) stretch of 10.69 kms Sawai Madhopur-Shivpuri Road (SH- 30) passing through the core area of RTR, it was noticed that speed bumps and rumble strips were not constructed as per the conditions.
- In spite of the above roads passing through tiger reserves, there was no correspondence on record with respective authorities, for carrying out mitigation measures for the same.

Consequently, 17 animals²⁰ in MHTR (2016-23), two Panther and 261 other animals in STR (2016-23) were reported killed in road accidents. The Government stated (November 2022) that various mitigation measures *viz.* installation of appropriate signage, construction of adequate speed-breakers, proposal of elevated road from Thanagazi to Natnikabara, construction of underground tunnel in MHTR, *etc.* are being taken.

4.3.8.3 *Allocation of resources for conservation*

Resources for the conservation of forest areas include funding, manpower, infrastructure facilities, technology and equipment. Adequate financial resources, trained personnel, along with proper infrastructure and technology,

¹⁸ RTR – two lines, STR – two lines of 26 kms, MHTR – four lines.

¹⁹ Two Neelgai and two Monkeys.

²⁰ Panther, sloth bear, wild boar, Sambhar, Jackal, Cheetal *etc.*

enable effective monitoring and enforcement of regulations to protect forests from illegal activities. Issues noticed in connection with the allocation of resources for the conservation and protection of wildlife are detailed in the succeeding paragraphs:

(i) Inadequate fund management

For execution of planned conservation and protection activities in protected areas, funds are received under the Centrally Sponsored Scheme (CSS) from MoEFCC against requests for grants by the State Government. In addition to it, the State Government also provides budget under various Schemes apart from its corresponding share of CSS. Further, the funds are also sanctioned under the Compensatory Afforestation Fund Management and Planning Authority (CAMPA), National Bank for Agriculture and Rural Development, Rajasthan Forestry and Biodiversity Project, *etc.* The State Government was required to release the CSS fund to the tiger reserve within two weeks of its receipt from MoEFCC along with its corresponding share as per the guidelines, for implementing activities planned in APOs.

In this regard, Audit noticed that:

- **Short utilisation of fund:** During the period 2016-23, against the allotment of ₹ 539.59 crore for RTR, STR and MHTR under CSS, State Budget and other sources, the Department utilised only ₹ 344.06 crore, as shown in **Table 4.6**.

Table 4.6: Position of the allotment and expenditure during the period 2016-23

(₹ in crore)

Tiger Reserve	State Plan		CSS		Other sources		Total	
	Allotment	Expenditure	Allotment	Expenditure	Allotment	Expenditure	Allotment	Expenditure
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
RTR	64.11	28.08	33.03	20.84	106.62	69.00	203.76	117.92
STR	38.00	29.01	29.73	24.70	82.10	67.71	149.83	121.42
MHTR	20.41	14.88	14.62	9.15	150.97	80.69	186.00	104.72
Total	122.52	71.97	77.38	54.69	339.69	217.40	539.59	344.06

Source: Appropriation Accounts of Rajasthan State and information received from Forest Department.

The main reasons for the shortfall in utilisation of the allotted budget was not carrying out 50²¹ out of 301²² activities involving an amount of ₹ 11.42 crore planned in APOs of RTR, STR and MHTR for the year 2016-21 relating to the deployment of local workforce, daily monitoring of wild animals, ration to front line staff, construction of check posts, core area habitat improvement, maintenance of roads, procurement of arms, *etc.* Further, even during 2021-23, the Department did not carry out 43 out of 203 activities planned in APOs of respective years.

²¹ RTR – 15, STR – 19 and MHTR – 16.

²² RTR – 77, STR – 97 and MHTR – 127.

Further the State Government did not ensure the release of funds under CSS to RTR, STR and MHTR in the scheduled time of two weeks from the date of its receipt and there were delays ranging upto 200 days in the release of funds (*Appendix-10*). Specifically, in nine sanctions of RTR, STR and MHTR, the funds of ₹ 35.13 crore²³ were released in February and March of that financial year and also in June after the close of that financial year, leaving inadequate time to utilise the same leading to underutilisation of allotted funds.

- **Failure to levy Conservation Fee:** NTCA Guidelines (2012) provided that the State Government, within one year from the date of guidelines, for eco-development and local community upliftment work, may levy Conservation Fee on hotels having more than six beds at the rate of ₹ 500 to 3,000 per room per month of operation. Levy of cess for wildlife conservation was discussed in TCP of RTR and it was also proposed in one meeting (October 2016) of State Board of Wildlife (SBWL). However, the State Government had not (December 2024) issued notification for levy of Conservation Fee on the hotels in any of its tiger reserves. The main reasons for not notifying levy of Conservation Fee was lack of initiative by the State Government.

Thus, the Department did not manage the funds effectively relating to its tiger reserves, as there was shortfall in utilisation of the allotted funds by the Department, there were delays in the release of CSS funds and there was failure to levy Conservation Fee on hotels by the State Government.

The State Government stated (November 2022 and December 2024) that the short utilisation of funds was mainly due to delayed-release of CSS funds. Further, levy of Conservation Fee on hotels was not undertaken due to inadequate legal provisions and implementation issues.

Audit is of the view that department needs to take effective action for notification of conservation fee. Maharashtra has issued notification for levy of conservation fee.

(ii) Inadequate manpower management

Availability of adequate manpower is vital for wildlife conservation and protection. NWAP 2002-16 also envisaged that the State should have adequate wildlife trained personnel.

²³ RTR - ₹ 9.30 crore (21 February 2017), ₹ 6.66 crore (28 February 2022), ₹ 4.71 crore (3 March 2023, 7 June 2023). STR - ₹ 5.88 crore (28 February 2022), ₹ 3.89 crore (20 March 2023, 6 June 2023). MHTR - ₹ 3.18 crore (28 February 2022), ₹ 1.51 crore (8 February 2023).

In this regard, it was noticed that the manpower management in RTR, STR and MHTR was inadequate, which adversely impacted the conservation and protection activities therein, as detailed below:

- As on 31 March 2023, out of the sanctioned strength of 640 staff in RTR, STR and MHTR, only 295 staff were posted leaving a vacancy of 345 staff. Further, vacancies had increased from 11.01 *per cent* (31 March 2017) to 53.91 *per cent* (31 March 2023) of the sanctioned strength, mainly due to non-recruitment of frontline staff in STR and MHTR after 2016-17. The details are furnished in **Table 4.7**.

Table 4.7: Staff position in RTR, STR and MHTR

Name of post	As on 31 March 2017			As on 31 March 2023		
	Sanctioned strength	Men-in-position	Vacant Post (<i>per cent</i>)	Sanctioned strength	Men-in-position	Vacant Post (<i>per cent</i>)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Range Forest Officers	37	30	7 (18.92)	39	28	11 (28.21)
Forester	57	47	10 (17.54)	54	39	15 (27.78)
Assistant Forester	75	65	10 (13.33)	78	64	14 (17.95)
Forest Guard	467	424	43 (9.21)	469	164	305 (65.03)
Total	636	566	70(11.01)	640	295	345 (53.91)

Source: Forest Department.

The issues related to manpower management in the reserve forests is as below.

- The above table indicates that the vacancy (53.91 *per cent*) position has worsened in the last six years.
- Rajasthan Forest Manual, 2013 provided norms for watch and ward at five to seven square kms by a forest guard. However, due to shortage of forest guards, a forest guard had to cover watch and ward area of 15.39 square kms to 22.35 square kms in tiger reserves, which were much higher than the norms (*Appendix-11*). This adversely impacted the effective monitoring of tiger reserve area.

Further, the post of DCF (Relocation) remained vacant in RTR-II and MHTR during Audit period. Audit noticed that due to vacancy of DCF, relocation of villages could not be taken up as a campaign, which adversely impacted the relocation of villages from core areas of tiger reserves, as discussed in **Paragraphs 4.3.8.7 (i)**.

- With a view to develop a pool of professionals with requisite ability to manage tiger reserves, WII organised²⁴ a post graduate diploma course in advanced wildlife management for Deputy Conservator of Forests, Assistant Conservator of Forests and equivalent officers and a Certificate Course for in-service Range Forest Officers and Deputy Range Officers. However, the Department nominated only two out of 10 eligible officers posted in tiger reserves who completed the diploma course. Further, none of the 26 Range Forest Officers had WII Certificates as on March 2023.
- NWAP 2002-16 and 2017-31 provided for training to the frontline staff of tiger reserves for collection of basic data on wildlife populations, sample collection and investigation, rescue of animals, wildlife health monitoring and human wildlife conflict, *etc.*

However, survey of *Chokis*, revealed that training on sample collection and investigation, wildlife health monitoring, rescue of animals and human wildlife conflict was provided to only 32 per cent, 16 per cent and 26 per cent of the staff, respectively. Audit noticed that the Department utilised fund of only ₹ 12.48 lakh out of ₹ 62.80 lakh allotted for the purpose of training capacity building during 2016-23.

Thus, the Department did not ensure adequate manpower management in its tiger reserves by not filling the vacant posts and not providing training to its staff and officers, which led to undue increase in coverage area for monitoring of tiger reserves by forest guards.

The State Government, while accepting the observation stated (November 2022) that patrolling area varies depending on sensitivity of the area and management intensity. In December 2024, it was replied that new forest guards have been recruited and are under training. To manage vacant posts, home guards are deployed for patrolling and anti-poaching activities.

(iii) Shortage of veterinary staff

Adequate health management of wildlife include treating the sick and wounded animals, taking care of wild animals in captivity, health assessment of wild animals for translocation, surveillance of diseases, taking preventive measures against diseases, *etc.*

Further, the position of veterinary staff was inadequate as detailed in **Table 4.8**.

²⁴ Course prescribed in NWAP 2002-16

Table 4.8: Position of veterinary staff

Year	MHTR				RTR				STR			
	Sanctioned		Posted		Sanctioned		Posted		Sanctioned		Posted	
	Veterinary Doctor	Veterinary Assistant	Veterinary Doctor	Veterinary Assistant	Veterinary Doctor	Veterinary Assistant	Veterinary Doctor	Veterinary Assistant	Veterinary Doctor	Veterinary Assistant	Veterinary Doctor	Veterinary Assistant
2016-17	1	1	0	0	1	2	0	0	0	0	0	0
2017-18	1	1	0	0	1	2	0	0	1	0	0	0
2018-19	1	1	1 Doctor posted from August 2018	0	1	2	0	0	1	0	0	0
2019-20	1	1	1	0	1	2	1 Doctor posted on 25.09.2020	0	1	0	0	0
2020-21	1	1	1	0	1	2	1	0	1	0	1 Doctor Posted on 26.10.2020	0

Source: Forest Department.

As evident from the above table, in STR, against the sanctioned post of one doctor, no doctor was posted till October 2020, In RTR, against the sanctioned post of one doctor and two staff, a doctor was posted only in September 2020 and no staff was posted till date. Against the sanctioned post of one doctor and one staff at MHTR, one doctor was posted was posted only in August 2018 and no staff was posted till date. Even in RTR and STR doctors were posted in September 2020 and October 2020 respectively.

Further in RTR one Ambulance was procured in 2013 and the same was not used due to big size and lack of staff. In STR and MHTR, rescue vehicles were procured during 2022-23.

The State Government replied (December 2024) that the monitoring of wildlife health is being done by veterinary officers, who had been posted in STR and RTR.

4.3.8.4 Management and Consolidation of Wildlife Habitats

A habitat is a place where an organism makes its home, which meets all the environmental conditions that an organism needs to survive. Major reasons of habitat degradation are anthropogenic activities inside tiger reserve *i.e.* mining and other commercial activities, movement of people to visit religious places, tourism and cattle grazing *etc.* To consolidate wildlife habitat, the national parks need demarcation of boundaries, mutation of title of land in revenue records, regulation of commercial, tourism and mining activities. Efforts of the Department in this regard were examined by Audit and observations are discussed in the succeeding paragraphs.

(i) Declaration of Eco Sensitive Zones

MoEFCC Guidelines for declaration of Eco Sensitive Zones (ESZ) around National Parks and Wildlife Sanctuaries (February 2011), provided for

identifying, surveying the land within ten kms of protected areas and submitting proposal by the State Government to MoEFCC at the earliest for declaration of ESZ. This would create a kind of shock absorber for national park and wildlife sanctuary besides serving as a transition zone from areas of high protection to areas involving lesser protection.

The Chief Wild Life Warden (CWLW) submitted²⁵ proposals to declare three ESZs around STR, RTR and MHTR to MoEFCC, out of which ESZs around MHTR only was declared (25 November 2020) by MoEFCC. Declaration of two ESZs around STR and RTR are pending, mainly due to non-compliance with the directions of MoEFCC relating to the inclusion of all buffer zones in ESZ, delineating minimum area as ESZ around the core area, providing the latest coloured maps showing land use around tiger reserves, *etc.* Consequently, the prohibited activity of mining continued in and around one km area of tiger reserve in STR, as discussed in **Paragraph 4.3.8.4 (iii)**. The issue of delay in notification of ESZs was previously highlighted by CAG in its Audit Report no. 5 of 2019, on which PAC also recommended (March 2022) to expedite the matter, however, the position remains same.

The State Government stated (November 2022) that the delay in notification of ESZs was due to the extensive consultation process required for its notification. Further, it was stated that as per the directions of Hon'ble Supreme Court (June 2022), the extent of ESZ should not be less than one km, however, area of notified ESZ was less than one km at some places, due to this, the Zonal Master Plans could not be prepared. Thereafter, it was replied (December 2024) that proposal of final notification of ESZ around STR has been sent to the State Government in April 2024 and draft notification of RTR has been sent in October 2024.

The reply has to be viewed against the fact that despite lapse of six years, declaration of ESZ around RTR and STR was not done.

(ii) Non-securing area of tiger reserves

Rajasthan State Forest Policy, 2010 and TCPs of tiger reserves provided that all notified forest areas should be demarcated by erecting boundary pillars and mutated in the name of the Department in revenue records, mainly to check illegal mining and encroachment in the tiger reserves, which posed a serious threat to tiger reserves and contributes to habitat loss and reduction in net area available for the Wildlife.

In this regard, Audit noticed that:

²⁵ STR – 10 April 2017, MHTR – 21 April 2017 and RTR – 05 May 2017.

- As on November 2022, out of total boundary of 2,136.01 kms²⁶ of its tiger reserves, fencing was not constructed

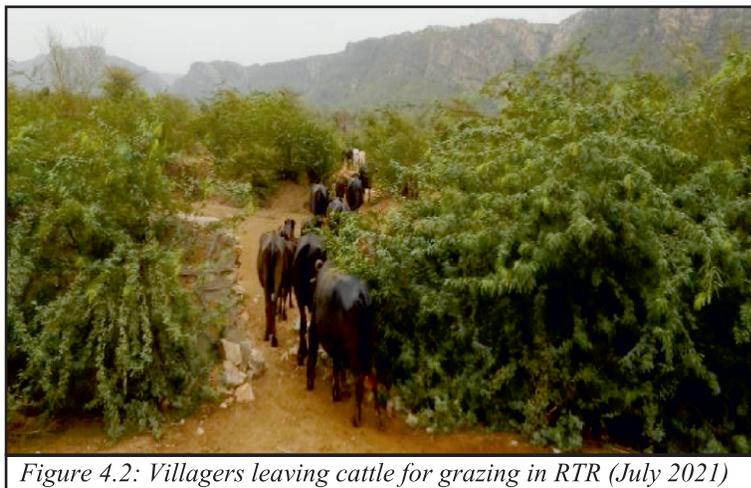


Figure 4.2: Villagers leaving cattle for grazing in RTR (July 2021)

for 1,783.60 kms²⁷ (83.50 per cent). Further, though the physical demarcation by erection of wall/ boundary pillars was completed in RTR and MHTR, in STR physical demarcation was completed only for 46.60 kms (6 per cent) out of total boundary of 761.52 km. The main reason for non-demarcation of 714.92 kms boundary in STR was non-mutation of land in the name of the Department. Further, the Department could utilise only ₹14.33 crore out of ₹ 21.94 crore allotted for construction of boundary wall in RTR during 2018-23.

Thus, non-demarcation of boundary in STR and short utilisation of funds allotted for construction of boundary wall in RTR during 2018-23, contributed to crop raiding²⁸ in STR and RTR, which caused serious resentment among the villagers. Even in Joint survey of 140 persons of 14 villages in periphery of tiger reserves (January 2022), 90 persons stated that there was damage to their crop by wildlife, for which no compensation was paid.

Joint physical verification also revealed that fencing was broken at various places in Falodi and Kushalpura chowki in RTR, which provided space for the cattle to enter in the tiger reserve for grazing.

- Out of total tiger reserve land of 2,72,938.18 hectare, mutation of 60,502.54 hectare land in the name of the Department was pending as on 31 March 2023, mainly due to not conducting survey of 48,936.10 hectare land, not taking any action on mutation of 1,321.68 hectare *khatedari* land²⁹, etc. The details are furnished in **Table 4.9**.

²⁶ RTR: 1,034.49 kms, STR: 761.52 kms and MHTR: 340 kms.

²⁷ RTR: 776.72 kms, STR: 727.17 kms and MHTR: 279.71 kms.

²⁸ Crop damage due to wildlife.

²⁹ *Khatedars* are tenants on Government land to whom land is given for agricultural purpose. The land mutated in the name of *Khatedar* is call *Khatedari* land.

Table 4.9: Position of mutation of land in tiger reserves as on 31 March 2023

(Area in hectares)

Name of Tiger Reserve	Total reserve land	Mutation pending on April 2016	Mutation of land during 2016-2023	Mutation pending on March 2023	Land not surveyed	Khatadari land
(1)	(2)	(3)	(4)	(5)	(6)	(7)
STR	97,344.55	57,155.81	8,254.48	48,901.33	43,285.35	-
RTR	92,906.15	13,223.59	6,664.92	6558.67	1047.87	996.04
MHTR	82,687.48	5,087.99	45.45	5042.54	4,602.88	325.64
Total	2,72,938.18	75,467.39	14,964.85	60,502.54	48,936.10	1,321.68

Source: Forest Department.

Due to not taking requisite actions by the Department in demarcation and mutation of forest land in its name coupled with inaction of the departmental officials in securing forest land, 320.29 hectare of land in RTR, STR and MHTR was encroached by 253 families, as on 31 March 2023. The encroachment was mainly related to agriculture by the villagers residing inside/in adjoining areas of the tiger reserves. The details are furnished in **Table 4.10**.

Table 4.10: Position of encroachments during 2016-23

Name of Tiger Reserve	Encroachment (1 April 2016)		New encroachment during 2016-23		Encroachment removed during 2016-23		Encroachment (31 March 2023)	
	Families	Area (hectare)	Families	Area (hectare)	Families	Area (hectare)	Families	Area (hectare)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
RTR	67	257.78	95	349.40	15	314.28	129	284.47
STR	8	9.97	105	22.29	23	5.45	90	26.81
MHTR	0	0	38	10.12	4	1.11	34	9.01
Total	75	267.75	238	381.81	42	320.84	253	320.29

Source: Forest Department.

Thus, the Department could not secure the area of its tiger reserves by way of demarcation and mutation of land in its name, which compromised the security of tiger reserves and encouraged the encroachment, crop raiding and cattle grazing, *etc.* This issue was also highlighted previously in CAG's Audit Report No. 05 of the year 2019. PAC recommended to intimate the plan to initiate action with co-ordination of Revenue Department for mutation of forest land and to take effective action for disposal of encroachment cases.

The State Government, while accepting the observation, stated (November 2022 and December 2024) that survey and demarcation of remaining area was proposed to be done in forthcoming years and continuous efforts were being taken to remove encroachment.

(iii) Prevention of mining inside and around tiger reserves

The Rajasthan Forest Act, 1953 prohibits mining in the forest area and the Rajasthan State Forest Policy, 2010 stipulates that efforts should be made for curbing illegal mining in forest areas by enforcing a strict surveillance mechanism, including the use of satellite imagery and joint inspections with

officials of mining and the police department.

In this regard, Audit noticed that the Department could not ensure check on mining activities inside and around RTR, STR and MHTR mainly due to absence of clear boundary demarcation and missing boundary pillars in most of the areas. The specific Audit observations, in this regard, are detailed as under:

- State Board of Wildlife (SBWL) issued directions (January 2015) to survey illegal mines in all tiger reserves on priority and share the information with the Mines Department. Though, list of illegal mining cases was prepared and submitted (May 2015) by MHTR to CCF (Wildlife), Jaipur. Further, no such survey was conducted in RTR and STR.
- SBWL directed (October 2015) that all illegal mining in tiger reserves, specifically near Uliyana village, Kundera range, RTR should be stopped by involving district administration. However, the Department did not take any concrete action in this regard and only made routine correspondences with district administration without conducting any joint action to stop illegal mining. Consequently, illegal mining of masonry stone in Uliyana and Bhadlav area in Kundera range, RTR along with Khawa Khandoj, Basso and Shyampura Dungari village areas could not be stopped, which was going on for many years.
- Hon'ble Supreme Court of India ordered (August 2006) and Additional Chief Secretary, Forest Department, GoR directed (March 2015) that there would be no mining activity within one km around a tiger reserve.

However, it was observed that 47 mining leases were in operation within one km of core area of STR during 2016-23. Similarly, 14 mining leases of sandstone were operating within one km of MHTR core area in Rawatbhata, Talera and Ladpura. The Forest Department did not take-up this issue with the higher level of mining department to ensure compliance of the order of Hon'ble Supreme Court. Illustrative images depicting mining activity in and adjoining core area of STR and MHTR, using Global Positioning System (GPS), Geographical Information System technology and *Google Earth Pro* software, are given hereunder:



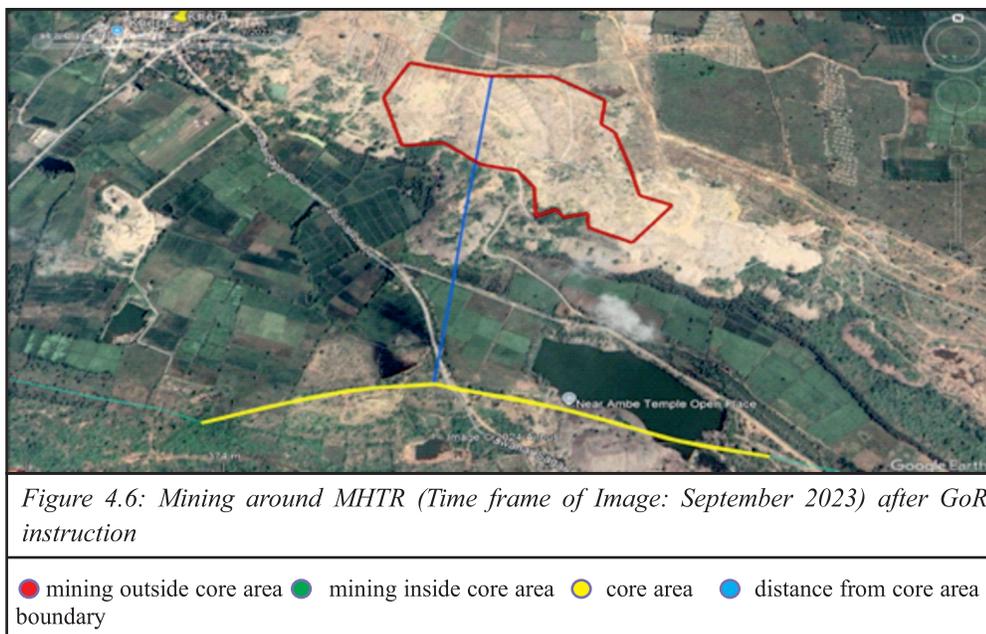
Figure 4.3: Mining in and around STR (Time frame of Image: November 2015) before GoR instruction



Figure 4.4: Mining within and around STR (Time frame of Image: December 2022) after GoR instruction



Figure 4.5: Mining around MHTR (Time frame of Image: May 2016) before GoR instruction



This unregulated mining had negative effect on fragile area around tiger reserve and the movement of wildlife. This issue was highlighted earlier in CAG’s Audit Report No. 5 of 2019.

Thereafter, in December 2024, the Government replied that mining activities within one kilometre has been stopped in compliance of Honourable Supreme Court directions issued in May 2024.

(iv) Anthropogenic activities

Wildlife (Protection) Act, 1972 provide that no person shall destroy, damage or divert the habitat of any wild animal by any act except under, and in accordance with, a permit granted by CWLW. Further, it was provided that core areas of tiger reserves were required to be kept as inviolate for the purposes of tiger conservation.

In this regard, it was noted that the Department did not ensure regulation of the anthropogenic activities in its tiger reserves, as detailed below:

- TCPs of all tiger reserves highlighted great concern on the movement of the pilgrims for religious sites in the park mainly because of unregulated movement of vehicles and pilgrims, which also provide opportunities to poachers to enter the forest to commit wildlife crimes.

However, there were 565 religious sites³⁰ in RTR, STR and MHTR, which *inter- alia* included Pandupole in STR, Ganesh Mandir in RTR, Garadiya Mahadev in MHTR. These sites attract lakhs of pilgrims, for which no appropriate mechanism was developed for their management. Further, no

³⁰ RTR: 242, STR: 308 and MHTR: 15

impact assessment was conducted to assess the negative impact caused by pilgrims on the habitat of wildlife in any of the tiger reserves, due to which mitigative measures to tackle adverse impact of movement of pilgrims on wildlife could not be taken.

- Rajasthan Forest Act, 1953 prohibited pasturing of cattle in reserved forest, mainly to avoid human wildlife conflicts.

However, as per TCPs of RTR, STR and MHTR, there were large number of



Figure 4.7: Domestic Cattle in STR (July 2021)

domestic livestock owned by people living in villages located inside tiger reserves. Even during joint physical inspection, it was noticed that cattle were grazing inside STR (especially near water points), RTR (Seldar Neemly rest house, near Kushalpura chowki, Phalodi range) and MHTR (Jawahar Sagar, Borawas range). Uncontrolled grazing in tiger reserves was mainly due to non-relocation of villages situated inside tiger reserves as discussed in **Paragraph 4.3.8.7 (i)**, broken boundary wall/ fencing at many places as discussed in **Paragraph 4.3.8.4 (ii)**, which further facilitated cattle to enter the park for grazing.

Thus, the Department did not ensure regulation of various anthropogenic activities *i.e.* movement of pilgrims, operation of shops and kiosks, other commercial activities, grazing by domestic cattle, *etc.* in its tiger reserves, which adversely impacted its habitat management.

In December 2024, the Government replied that in order to minimize the effect of anthropogenic activities, the village relocation process is being carried out by the STR administration. Implementation of the e-vehicles and shuttle bus service are under consideration for STR. To regulate human activities around RTR, the concerned regional forest officer is issuing notices to remove 42 kiosks/shops at Ganesh Dham.

Audit is of the view that the Forest Department needs to ensure effective coordination with other department (district administration and revenue department) to reduce anthropogenic activities to prevent negative impact on wildlife.

(v) Eco-friendly tourism in tiger reserves

Eco-tourism is responsible travel to natural areas that conserves the environment and improves the well-being of the local people, while raising awareness in the public at large about the worth and fragility of ecosystems.

However, during the review of management of tourism activities in tiger reserves of the State, Audit noticed the following:

- NWAP 2017-31, envisaged to develop impact assessment techniques and standards that could be used by wildlife managers to evaluate negative impacts of tourism on soil, water resources, vegetation, animal life, sanitation, cultural environment, *etc.* In this regard, the details of tourists in RTR, STR and MHTR during 2016-23 is given in **Table 4.11**.

Table 4.11: Details of tourists in RTR, STR and MHTR

Year	RTR	STR	MHTR
(1)	(2)	(3)	(4)
2016-17	4,69,850	52,205	NA
2017-18	4,90,942	50,265	32,465
2018-19	4,61,899	46,333	73,943
2019-20	4,35,386	48,547	84,549
2020-21	1,93,092	41,375	34,241
2021-22	3,59,059	51,069	69,796
2022-23	5,53,519	56,183	94,548

Source: Forest Department.

Though, TCP of STR and RTR³¹, fixed maximum number of vehicles to be permitted at 35 and 140 respectively, no impact assessment study was conducted to assess and quantify the impact of tourism activities in any of the tiger reserves.

In order to regulate tourism and monitor movement of tourist vehicles in tiger reserves, PCCF&CWLW (September 2016) and the State Government (December 2019) directed to install GPS instrument in every tourist vehicle entering the tiger reserve. Though, as on 31 March 2023, 557 tourist vehicles were fitted with GPS in RTR, their monitoring through GPS was not in operation.

- NTCA (Normative Standards for Tourism activities and Project Tiger) Guidelines, 2012 provided that use of battery-operated vehicles should be encouraged in tiger reserves to minimise pollution. However, RTR and STR did not explore the feasibility of introducing any battery-operated tourist vehicles, so far (March 2024).
- Eco Tourism Policy, 2018 envisaged to establish Interpretation Centres, posters and exhibition material for use by people, to increase awareness about wildlife. Accordingly, the Department established one Interpretation

³¹ There was no safari in MHTR.

Centre in RTR core area, one Interpretation Centre in STR (2012) and one³² Interpretation Centres in MHTR (2019-20).



Figure 4.8: Interpretation Centre at STR (December 2021)

- However, Interpretation Centres at RTR and MHTR were not in operation due to lack of staff and infrastructure, out of which RTR Interpretation Centre was being used for parking two wheelers. Further, Interpretation Centre at STR was not well maintained, as damaged structure, paintings, models, plaster, wood work, *etc.* were not repaired. This defeated the objective of establishment of Interpretation Centres.

The Government stated (November 2022) that impact assessment of tourism activities was shortlisted as a topic for research and GPS monitoring would be initiated in 2022. In reply (December 2024), it was intimated that efforts are being made to promote BS VI vehicles to organize eco-friendly tourism in the sanctuary area.

The department needs to expedite the implementation of its proposals to reduce negative impact of tourism in tiger reserves.

4.3.8.5 *Non-eradication of invasive species*

The TCPs of RTR, STR and MHTR identified *Prosopis juliflora* (*Vilaiti babul*)³³, *lantana*, *etc.* as major invasive alien species, which are undesirable weeds that have little wildlife value and which invade all the available habitats. NWAP (2017-31) recommended to set up a mechanism for assessing, monitoring and managing the invasive alien species inside tiger reserves, as these cause loss of biodiversity with significant undesirable impacts on the ecosystem.

³² At Garadiya Mahadev in Jawahar Sagar range.

³³ *Juliflora*, can have a negative impact on forests in several ways, including displacing native plant communities, reducing tree diversity, suppressing plant growth, reducing plant height and stem diameter, negatively impacting livelihoods, *etc.*

In this regard, it was noted that the Department did not prepare any long-term policy for removal of invasive alien species. Further, area for removal of invasive species was not assessed in RTR and MHTR, for which the targets for eradication were fixed on *ad-hoc* basis. Though the Department assessed 5,000 hectare area for eradication of alien species in STR during 2016-23, but fixed targets for the same at only 600 hectare area, which was much lower than the assessed area. The Department could not achieve even the fixed targets in RTR and MHTR during 2016-23, leaving a shortfall of 14.54 *per cent* against physical targets and 18.21 *per cent* against financial targets, as detailed below in **Table 4.12**.

Table 4.12: Targets and achievements for removal of invasive alien species (2016-23)

Name of Tiger Reserve	Area assessed (hectare)	Target		Achievement		Shortfall (in percentage)	
		Physical (hectare)	Financial (₹ in lakh)	Physical (hectare)	Financial (₹ in lakh)	Physical	Financial (₹ in lakh)
(1)	(2)	(3)	(4)	(5)	(6)	(7)=(5)/(3)*100	(8)=(6)/(4)*100
RTR	-	151.00	110.00	97.00	86.33	35.76	21.52
MHTR	-	653.30	208.75	480.63	154.77	26.43	25.86
STR	5,000	600.00	110.00	622.50	109.56	-	0.40
Total	5,000	1,404.30	428.75	1,200.13	350.66	14.54	18.21

Source: Forest Department.

The reasons for shortfall in achievement of targets were planning for very low area for removal of invasive species in APOs, *etc.* Thus, the efforts made to remove the invasive alien species in its tiger reserves were not sufficient to resolve the problem, which adversely affected the habitat.

The Government replied (December 2024) that grassland development work is being done in RTR by eradicating invasive species. An integrated invasive species removal plan for MHTR is under process.

4.3.8.6 Inadequate fire safety arrangements

Fire is one of the major destructive agents of forest. In Rajasthan, most of the forest fire are ground fires, which normally do not cause permanent damage to the forest tree crop, but they tend to reduce the density of the stocking and destroy invaluable wildlife habitat. Accordingly, Rajasthan Forest Policy envisaged that in order to curb the forest fire, the fire lines need to be created and maintained in forest areas at regular intervals, for which staff would be given modern gadgets.

During 2016-23, there were 105 recorded cases of fire in 3,650.68 hectare area in RTR, STR and MHTR, which included a major fire outbreak (27 March 2022) in 1,000 hectare of STR. In this regard, it was noted that the fire safety arrangements in tiger reserves during 2016-23 were inadequate, as detailed below:

- Assessment of area vulnerable to fire was not carried out in any of the tiger

reserves, for which reasons were not available.

- Firefighting equipment were not provided in any of the tiger reserves except RTR-II, citing reason of non-availability of adequate funds.
- During 2016-23, the department utilised only ₹ 1.92 crore out of ₹ 3.05 crore allotted for carrying out works related to fire lines.
- For protection of fire, fire watchers, fire fighters, beaters were also not deployed in RTR-I and STR. Further, budget was not allotted for fire watchers, fire fighters, beaters in RTR-II during 2017-21.

Non-assessment of area vulnerable to fire, non-availability of firefighting and fire protection equipment, indicated that the tiger reserves were not vigilant regarding forest fires. This issue was earlier highlighted in CAG Audit Report no. 5 of 2019, however, no effective action have been taken by the department.

The Government stated (November 2022) that the protected area under review is less fire prone than the southern parts of the State. Thereafter, it was replied (December 2024) that fire-fighting equipment are given to range level, fire line created to preventing forest fire and also fire-fighting training given to field staff periodically. At present, fire lines are being established for fire safety in the sanctuary area and action is being taken to provide fire equipment.

Conclusion

There were significant shortcomings in wildlife protection and tiger conservation efforts by the Department between the period 2016 and 2023. The Department could not prevent wildlife poaching which caused death of four tigers due to poaching. Moreover, the failure to develop critical tiger corridors, especially between RTR 1 and 2, resulted in overcrowding and territorial fights that caused the death of ten tigers.

There was poor financial management, inadequate security measures and ineffective manpower management by the Department during 2016-2023. Despite an allocation of ₹539.59 crore, ₹344.06 crore was utilised. Wildlife security was compromised due to the absence of effective patrolling plans, lack of adequate staff and insufficient facilities. The Department's inability to address staffing shortages and provide adequate training resulted in forest guards being overburdened with larger monitoring areas.

Non-compliance with the Ministry of Environment, Forest and Climate Change directives regarding Eco-Sensitive Zones exacerbated the situation, particularly around STR, where mining continued near the reserve.

There were significant failures in securing and managing tiger reserves, which jeopardized conservation efforts. The Department did not adequately demarcate

and secure land for tiger reserves, leading to encroachment, crop raiding and cattle grazing. The Department was unable to control illegal mining near reserves, disrupting wildlife and damaging the surrounding environment. The Department also lacked a long-term policy to address invasive species, resulting in insufficient efforts to protect habitats.

Recommendations

The Government/Department may consider for:

- *taking concrete actions such as establishment of STF to minimise tiger mortalities by putting check on poaching.*
- *taking effective action for development of corridors by carrying out required activities to avoid territorial fights.*
- *taking action to post adequate veterinary staff and patrolling staff in tiger reserves.*
- *demarcation of the boundaries of tiger reserves using pillars, walls, or fencing in a specified timeframe and take immediate action to eliminate all encroachment.*
- *framing a long-term plan for assessment and eradication of invasive species with sufficient funding.*

4.3.8.7 Relocation and Rehabilitation of villages

The second audit objective is to see whether adequate efforts were made for relocation and rehabilitation of villages.

Under this objective audit noticed shortcomings in efforts made for relocation and rehabilitation of villages such as delay in conducting survey, delayed approval of land for rehabilitation, deficient monitoring.

NWAP 2002-16 provided that relocation and rehabilitation of villages inside core area of tiger reserves should be undertaken voluntarily or by persuasion. NTCA Guidelines (2007) prescribed that relocation of villagers from tiger reserves should be done within five years from the date of notification of area. Significant audit findings relating to relocation and rehabilitation of villages from tiger reserves are elaborated in the succeeding paragraphs:

(i) Relocation of villages from tiger reserves

There were 108 villages³⁴ (as on April 2013) inside the core area of RTR, STR and MHTR³⁵, which were to be relocated. Accordingly, the Department submitted to NTCA, year-wise relocation plan of 66 villages from RTR with timeframe upto 31 March 2014 and 28 villages from STR with timeframe upto 31 March 2016, additionally 14 villages in MHTR were proposed to be

³⁴ RTR-66 villages, STR-28 villages and MHTR-14 villages.

³⁵ 14 villages inside the core area of MHTR were proposed to be relocated in phased manner starting from 2015-16.

relocated in phased manner starting from 2015-16..

However, against the above proposal, department made year-wise relocation plan of only 31 villages³⁶, out of which relocation of 20 villages was approved by NTCA. Subsequently, 18 more villages were approved and taken up (2014-23) for relocation.

Thus, as against the pending relocation of 108 villages from core areas of RTR, STR and MHTR, the Department planned relocation of only 49 villages (31+18), against which, the Department could relocate 15 villages completely and 17 villages partially, as on 31 March 2023. This indicated very slow progress in relocation process, for which detailed reasons are included in **Paragraph 4.3.8.7 (ii) and (iii)**. The position of village relocation from RTR, STR and MHTR during 2016-23 is given in **Table 4.13**.

Table 4.13: Status of village relocation from RTR, STR and MHTR during 2016-23

Tiger Reserve	Notification month	Total Villages	Pending relocation as on 31 March 2016 (Villages/Families)	Relocated during 2016-23 Villages (Villages/Families)	Pending relocation as on 31 March 2023 (Villages/Families)	Villages in process of relocation (as on 31 March 2023)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
RTR	December 2007	66	60/ 8,025	3/ 373	57/ 7,652	9
STR	December 2007	28	26/ 4,629	2/ 269	24/ 4,360	6
MHTR	April 2013	14	14/ 1,585	2/ 175	12/ 1,410	2
Total		108	100/ 14,239	7³⁷/ 817	93/ 13,422	17³⁸

Source: Forest Department.

Consequently, as on 31 March 2023, relocation of 93 villages (100-7) was pending, even after lapse of more than 10 to 15 years from the date of notification of tiger reserves.

Further, due to lower relocation of villages, out of total funds of ₹ 283.57 crore allotted for village relocation during 2016-23, only ₹ 107.73 crore could be utilised by the Department. Slow pace of relocation of villages, also led to uncontrolled grazing by domestic cattle inside tiger reserves and crop raiding by wildlife, as discussed in **Paragraph 4.3.8.4 (ii)**.

(ii) Lack of efforts in relocation of villages

The Department did not ensure relocation of villages from core areas of RTR, STR and MHTR, as discussed in previous **Paragraph 4.3.8.7 (i)**. The main reasons for low relocation and rehabilitation of villages were lack of efforts by the Department, as detailed below:

³⁶ RTR-19 villages and STR-12 villages.

³⁷ Garhi, Panidhal, Dabli and Laxmipura, Kathuli, Kala khohera and Kharli baori.

³⁸ RTR- Kalibhat, Hindwar, Munderheri, Berai Bhimpura, Dangra, Unchi Gwari, Chodkyakalan, Marmada and Chodkyakhurd, STR- Sukola, Kraska, Devri, Kankwari, Loj Nathusar and Haripura, MHTR-Ghatigaon and Masalpura.

- **Delayed approval of land for rehabilitation:** DCF, MHTR proposed (November 2017) approval of funding for the relocation of 1,589 families of 14 villages at ₹ 251.63 crore compensation and allotment of 2,263 plots, for which in-principal approval (August 2018) was accorded by NTCA for 100 hectares of forest land in Lakhava for village rehabilitation. However, final approval by MoEFCC was pending even after lapse of more than six years (December 2024), mainly due to non-compliance with the laid down conditions³⁹ included in in-principal approval and pendency of the final proposal at the level of State Government.
- **Deficient monitoring:** The relocation process was required to be monitored and implemented by SLMC every six months at the State level and District Level Implementing Committee (DLIC) every quarter at the district level. During 2016-23 as against the requirement of minimum 14 SLMC meetings, five meetings were conducted⁴⁰ and against the minimum requirement of 112 DLIC meetings, 55 meetings were conducted in three tiger reserves. The reasons for holding less meetings were not available on records. Inadequate monitoring at the State and district level adversely affected and slowed down the relocation process in tiger reserves of the State, as the implementation of the decisions taken by SLMC relating to providing city package for relocation, prioritise land availability by FD&CCFs, carry out survey for relocation, *etc.* could not be monitored. During PAC meeting held in October 2019, the government replied that efforts are being made to held regular meetings, however, the facts mentioned in the above para indicates that meetings were not being held regularly.

(iii) Conducting surveys

Rajasthan State Relocation Package (2002), provided that Socio-Economic Survey should be carried out to identify persons to be relocated from tiger reserves.

However, the Department did not ensure carrying out Socio-Economic Surveys, as per the guidelines as detailed below:

- **Delay in Survey:** The Department did not commence (December 2024) survey and relocation process in ten villages⁴¹ of RTR-II, though the families of these villages were ready for relocation, for which RTR Park Manager had requested (2016-17 onwards) the CCF. The reasons for the same were not available on records.
Surveys were conducted (2014 to 2019) in only three⁴² out of 14 villages

³⁹ Approval of district level, sub-division level and Gram sabha level

⁴⁰ 19 May 2016, 12 April 2018, 28 May 2019, 10 January 2022 and 22 April 2022.

⁴¹ Ashaki, Hatiyaki, Noniyaki, Nibhera, Mula Ka Pura, Bandan Ka Pura, Pahadpur, Jogpura, Rawatpura and Chodiya Khata.

⁴² Laxmipura and Kharlibavri (10.12.2014 to 14.12.2014) and Ghati Jagir (01.07.2019 to 31.07.2019).

of MHTR, out of which committees for survey was formed for two villages. Further, there were discrepancies in numbers of family identified mainly due to change in family composition due to time gap in conducting survey. Further, village relocation Proposals for five⁴³ villages of MHTR were prepared on the basis of initial survey conducted during July 2011 without conducting actual socio-economic surveys and consequently no fund was approved. Further, as against the proposal of CSS funds of ₹ 104.10 crore for relocation of five⁴⁴ villages proposed in APOs during 2016-21⁴⁵, no amount was approved by NTCA.

- **Joint survey:** Audit conducted (September 2021 to January 2022) Joint survey of 112 families of 10⁴⁶ villages which were to be relocated and 38 families of two⁴⁷ villages which were rehabilitated, with officials of the Department. Survey of families from villages to be relocated revealed that 49 families (five villages) were unaware about the relocation process, 85 families (eight villages) confirmed that survey was not done in their village and 51 families (six villages) expressed dissatisfaction over the relocation package amount.

Further, survey of families of relocated villages revealed that 38 families were not satisfied with the rehabilitation site, as either the allotted land was not transferred in their name in revenue records or conversion of land was pending. They also cited lack of basic facilities such as gas connection, fair price shop, health centre, community centre, *etc.* at rehabilitation site.

Thus, delays and discrepancies in conducting socio-economic surveys caused dissatisfaction among affected families and hindering relocation efforts.

The State Government stated (November 2022) that socio-economic surveys were carried out only when sufficient number of families show inclination to relocate. Further, it was stated that mutation of land in the name of relocated people was a continuous process and action is being taken to resolve other issues, which has led to increased pace of relocation.

It was also stated that village relocation is a voluntary process and continuous efforts are being made to relocate villages.

The reply is not acceptable as even when sufficient number of families showed inclination for relocation in RTR-II and MHTR, the Department did not carry out socio-economic surveys.

⁴³ Kolipura, Ruppura, Girdharpura, Kharli Bavdi and Laxmipura.

⁴⁴ Darrah, Ghati, Mashalpur Girdharipura and Laxmipura

⁴⁵ No funds were proposed in APOs for the year 2021-22 and 2022-23.

⁴⁶ RTR-Jhilkapura, Ashaki Guwadi, Hatiyaki, Rasilpur, Kalibhat and Bhavpur, STR-Kraska, Rajor May Mandalwas, MHTR-Ghati Jagir and Damodarpura.

⁴⁷ RTR-Ganesh Nagar and STR-Tizara Rundh.

(iv) Inadequate local participation in management of tiger reserves

NWAP emphasised on local participation in management of tiger reserves. Efforts made by the Department for involvement of local people for eco-development and participation in management for conservation of tiger reserves through involvement of Tiger Conservation Foundation (TCF) and Eco Development Committee (EDCs) are discussed below:

- In RTR, STR and MHTR during 2016-21, Governing Bodies held only 20 meetings against requirement of 26 meetings and Executive Committee held only 21 meetings against the requirement of 156 meetings. Consequently, TCF could not ensure implementation of decisions taken in its meetings relating to establishment of wildlife station at Karauli, increase entry fees for high demand zones, cattle compensation, police deployment, translocation of cheetals, electric shuttle buses, *etc.*
- The State Government issued (October 2000) guidelines to constitute EDC in every village in each tiger reserve, for security and development of wildlife. However, 267 EDCs were constituted for 356 villages of three tiger reserves, out of which 126 EDCs (46.76 *per cent*) were working. Further, Micro Plans⁴⁸ were not prepared by any EDCs of STR, whereas partial plans were prepared by EDCs of MHTR. In absence of this, it could not be ensured that activities were carried out as per the requirements of local area and people.

The Government stated (November 2022) that the meetings of RTCFs were held regularly despite covid pandemic. The reply is not acceptable as there was huge deficit in holding the meetings of RTCFs even during non-covid period.

- PCCF and Finance Department instructed (January 2017 and April 2018) that the payment of various work executed by EDCs was to be transferred by cheque/ electronic mode in the bank account of respective labour directly, instead of cash.

In ten EDCs of Sariska and Akbarpur range, ₹ 11.87 crore was spent on various development works executed through EDCs, during 2018-23 whose payment was transferred by the Department in the bank account of EDCs through cheque. The payment was further transferred by EDCs in bank accounts of Gang chief⁴⁹ by cheque, which was further disbursed to the concerned labours. However, the details of actual payment of wages to labourers was neither tracked nor available with EDCs and the Department. This was in violation of the instructions of PCCF and the Finance Department, which also compromised transparency in ensuring employment to the members of EDCs.

⁴⁸ EDC was required to prepare an eco-development and wildlife protection plan for their area, to be approved by DCF.

⁴⁹ Leader of group of labours.

The Government replied (December 2024) that payment to the labourers are being made through bank accounts. However, nothing in support to the reply was submitted.

Thus, the Department did not ensure payment for development works directly in the bank accounts of labours.

- TCP of RTR for 2013-22, proposed plan for livelihood, education, socio-economic upliftment and rehabilitation of *Mogiya*, *Bawariya* and other nomadic tribes residing near its core area at estimated cost of ₹ 17.62 crore with financial assistance of Project tiger. However, the department did not demand any budget in APOs for the year 2016-23. Only a meagre amount of ₹ 19.41 lakh was incurred by Ranthambhore Tiger Conservation Foundation (RTCF) towards hostel facilities and education of *Mogiya* children.

Audit noticed that although the issue was discussed in TCP but no budget was proposed in STR for upliftment of the above tribes in its TCP. Though, ₹ 16.50 lakh was approved (2016-23) for skill development of *Bawariya* community, the Department incurred expenditure of ₹ 7.97 lakh.

Conclusion

There were shortcomings in relocating villages from core areas of tiger reserves and involving local communities in conservation efforts. Out of 108 planned village relocations in RTR, STR, and MHTR, only 15 were fully relocated and 17 partially by March 2023. 51 families out of 112 families expressed dissatisfaction over the relocation package during joint survey. This slow pace of relocation resulted in under-utilization of allocated funds. The incomplete relocation led to issues such as uncontrolled cattle grazing and wildlife crop raiding within reserves.

Recommendations

The Government/Department may consider:

- *reviewing relocation package to make it more lucrative to enhance its acceptance among the villagers for relocation.*
- *establishing a dedicated cell at the headquarters level to efficiently execute the relocation program as a campaign within specified timeframe.*

