

Proposal for conducting fifth cycle of Management Effectiveness Evaluation (MEE) of Tiger Reserves in India 2021-2022

1. Background

Management Effectiveness Evaluation (MEE) is the assessment of how well protected areas are being managed and their effectiveness in conserving target flora and fauna. Assessment of management effectiveness has emerged as a key tool for PA managers and is increasingly being required by governments and international bodies. India is among the select countries in the world that have institutionalized the MEE Process and has taken a lead in evaluating its National Parks, Wildlife Sanctuaries and Tiger Reserves from 2006 onwards.

With the technical support from Wildlife Institute of India, the tiger reserves are subjected to evaluation through Management Effectiveness Evaluation (MEE) process, after every four years of repetition. The first cycle included 28 Tiger Reserves and was evaluated in 2006, second cycle included 39 Tiger Reserves evaluated in 2010, third cycle included 43 Tiger Reserves evaluated in 2014, and fourth cycle included 50 Tiger Reserves evaluated in 2018.

The process of evaluation of Tiger Reserves in the country, is an essential approach for tiger conservation & management and the associated landscape. There has been continuous improvement in subsequent cycles of evaluation in MEE Score of Tiger Reserves. Keeping the success of this process in improving the tiger reserve management, it is proposed to conduct MEE of all 51 tiger reserves using the IUCN-WCPA Framework including all 6 Elements and Headline Indicators that were used in the 2018 MEE Process.

2. The IUCN-WCPA Framework for Assessing Management Effectiveness

India has institutionalized the process of MEE through adopting IUCN-WCPA (World Commission on protected Areas) evaluation framework (Figure 1). The detailed monitoring system has been developed based on the six distinct elements or cycle of WCPA Framework- the Context, Planning, Input, Process, Output and Outcomes.

- It begins with establishing the context of existing values and threats
- Progresses through planning
- Allocation of resources (inputs)

- As a result of management actions (process)
- Eventually produces goods and services (outputs)
- That result in impacts or outcomes.

Of these elements, the outcomes most clearly indicate whether the site is maintaining its core values, but outcomes can also be the most difficult element to measure accurately. However, the other elements of the framework are all also important for helping to identify particular areas where management might need to be adapted or improved.



Figure 1: The IUCN-WCPA Framework for Assessing Management Effectiveness

Source: Hockings, M., Stolton, S., Leverington, F., Dudley, N. and Courrau, J. 2006. *Evaluating Effectiveness: A framework for assessing management of protected areas, (2nd edition) World Commission on Protected Areas, ICUN, Gland, Switzerland.* <http://www.iucn.org/themes/wcpa/pubs/guidelines.htm#effect2>.

3. Assessment Process and Criteria

A Technical Manual on 'Management Effectiveness Evaluation (MEE) of Tigers Reserves in India' will be prepared to guide the MEE process. This manual will serve as evaluators guide and will include the detailed assessment process.

3.1 Landscape Clusters/ Regions

The assessment process includes evaluation all 51 Tiger Reserves (TRs) currently the country has and these 51 tiger reserves have been grouped into following 5 landscape regions. The 51 tiger reserves are placed into 4 Clusters for evaluation process **(Annexure-I)**.

<u>Clusters</u>	<u>Landscape Regions</u>
Cluster One:	Shivalik Hills and Gangetic Plains Landscape
Cluster Two:	Central Indian Landscape and Eastern Ghats
Cluster Three:	Western Ghats Landscape
Cluster Four:	North East Hills and Brahmaputra Plains Landscape and Sundarbans

3.2 Constitutions of Independent Regional Expert Committees

In order to ensure credibility of the assessment process and evaluation of 51 tiger reserves, Independent Regional Expert Committees (MEE Teams) will be constituted. Each MEE Team comprises of following 4 members:

<i>Chairperson</i>	A retired PCCF or CWLW with adequate Wildlife Management Experience
<i>Member</i>	2 Scientists/ University representative/ NGO representative with more than 10 years of experience in wildlife management
<i>Member</i>	WII Faculty Member (He/ She would provide technical support but not directly participate in scoring of PAs)

For evaluation of 51 tiger reserves in 5 landscape regions, 6 MEE Teams will be required, as per following:

MEE REC Team Number	Cluster Number	Landscape Region	No. of tiger reserves to be evaluated	States covered
1	I	Shivalik Hills and Gangetic Plains Landscape	6	Uttar Pradesh, Uttarakhand, Bihar and Jharkhand
2	II	Central Indian Landscape and Eastern Ghats	9	Madhya Pradesh and Rajasthan
3	II	Central Indian Landscape and Eastern Ghats	8	Chhattisgarh, Odisha, Andhra Pradesh and Telangana
4	III	Western Ghats Landscape	8	Maharashtra and Kerala
5	III	Western Ghats Landscape	10	Karnataka and Tamil Nadu
6	IV	North East Hills, Brahmaputra Plains and Sundarbans Landscape	10	Arunachal Pradesh, Assam, Mizoram and West Bengal
Total 6 Teams	IV Clusters	Five Landscapes	51 Tiger Reserves	18 States

3.3. Organisation of workshop

Two workshops will be organized during the MEE Process one in the beginning with 'Evaluation Team' and 'TR Managers' to brief about the MEE process and another in the end of the evaluation process to discuss the outcomes and dissemination of findings.

The evaluation of 51 tiger reserves will require at least 12 months of field work and 6 months of data compilation and report writing. The exercise will start in **January 2022** and will submit the report by **July 2023**. The activity time-line is given **Annexure-II**.

3.4 Assessment Criteria

There were 32 headline indicators been used in fourth cycle of MEE of tiger reserves in 2018. These 32 headline indicators fitted into six elements of IUCN WCPA framework, as Context- 5 questions; Planning-7 questions; Input-5 questions; Process- 6 questions; Outputs- 4 questions and Outcomes- 5 questions. In addition to this, there were 2 additional questions on Climate Change and Carbon Capture for evaluation.

In the current cycle also, it is proposed to evaluate the 51 tiger reserves with the same framework and questions, with some minor changes and necessary adaptation. The detailed assessment framework and criteria will be described in Technical Manual.

As per the existing framework, there are 2 optional criteria on Climate Change and Carbon Capture. It has been observed in earlier MEE cycles that most of the Teams are giving least attention to this aspect and either not marking this question or marking as 'poor'. To address this issue, only one compulsory question has been taken up with little rationalization in 'Planning' as '*Mechanism to manage the PA to adapt to Climate Change and Disaster Risk Reduction (CCA & DRR) to increase its resilience*' (**Annexure - III**). Further as tiger reserves mobilise resources from other line departments often, a new question has been included on '*cross-sectoral and inter-sectoral linkages*' as '*Does the tiger reserve has a mechanism for cross-sectoral/ inter-sectoral linkages for effective TR management?*' (**Annexure - III**).

With this, for assessment of six elements of the MEE Framework, 34 Criteria (headline indicators) has been developed for MEE of 51 tiger reserves in India. The Independent Expert MEE teams will visit all the 51 TRs for conducting MEE as per the prescribed assessment criteria and complete the MEE Score Card.

The experience of conducting MEE process in India since 2006 suggests that there is a need to minimize/ reduce the 'subjectivity' or 'observer bias' in the assessment. This can be done by using criteria that are based on 'quantitative' and not 'qualitative' data/ information. The NTCA has initiated the implementation of 'Monitoring System for Tigers-Intensive Patrolling and Ecological Status (M- STRIPES)' in most of the tiger reserves of the country. The M-STRIPES process is generating huge amount of quantitative data and this data could be used in the scoring process of some of the 'Headline Indicators' so as to reduce/ minimize subjectivity in the assessment.

In the MEE framework, there are 34 headlines indicators, of which the evaluation of about 10 'Headline Indicator' will be based on quantification and which can help in improving the assessment process and remove the observer bias upto some extent (Table 1).

Table 1.: Headline Indicators that would be subjected to quantification process

S.No.	Element	Headline Indicator	Headline Indicator Description
1	Context	1.3	Are the Core Area and Tiger Reserve free from human and biotic interference?
2	Planning	2.5	Does the TR has an 'effective protection strategy'
3	Inputs	3.2	Are resources (vehicle, equipment, building etc.) adequate, well organized and managed with desired access?
		3.3	Are financial resources other those of State linked to priority actions and are funds adequate, released timely and utilized?
		3.4	Are financial resources from the State linked to priority actions and funds adequate, timely released and utilized for the management of Tiger Reserve?
		3.5	What level of resources are provided by NGOs?
4	Process	4.4	Is there a responsive system for handling complaints and comments about TR management?
5	Output	5.4	Is there a systematic maintenance schedule and funds in place for management of infrastructures/ assets?
6	Outcomes	6.1	Are populations of the endangered species especially tiger populations declining, stable or increasing?
		6.3	Are the expectations of visitors generally met or exceeded?

4. Proposed Budget

The proposed budget for evaluation of 51 tiger reserves will be Rs. 1,52,06,000 of which WII component is Rs. 58,92,600 and NTCA component is Rs. 93,13,400 and the break-up is given in **Annexure - IV**. All payments regarding travel/ sitting fee etc. to MEE Committees will be paid by NTCA.

List of 51 Tiger Reserves arranged in 5 Landscape clusters to be evaluated under MEE 2022-23

MEE Team No.	Clusters and Landscape Region	Name of TR	State
Team One	Cluster-I Shivalik Hills and Gangetic Plains Landscape (6 Nos.) 01 Team	1. Dudhwa	Uttar Pradesh
		2. Pilibhit	Uttar Pradesh
		3. Corbett	Uttarakhand
		4. Rajaji	Uttarakhand
		5. Valmiki	Bihar
		6. Palamau	Jharkhand
Team Two	Central Indian Landscape and Eastern Ghats Cluster -II (17 Nos.) 2 Teams	7. Bandhavgarh	Madhya Pradesh
		8. Satpura	Madhya Pradesh
		9. Kanha	Madhya Pradesh
		10. Panna	Madhya Pradesh
		11. Pench	Madhya Pradesh
		12. Sanjay -Dubri	Madhya Pradesh
		13. Ranthambhore	Rajasthan
		14. Sariska	Rajasthan
		15. Mukundara Hills	Rajasthan
		Team Three	
17. Achanakmar	Chhattisgarh		
18. Udanti-Sitanadi	Chhattisgarh		
19. Similipal	Odisha		
20. Satkosia	Odisha		
21. NSTR	Andhra Pradesh		
22. Kawal	Telangana		
23. Amrabad	Telangana		
Team Four		24. Melghat	Maharashtra
		25. Pench	Maharashtra

		26. Tadoba-Andhari	Maharashtra
		27. Sahyadri	Maharashtra
		28. Navegaon-Nagzira	Maharashtra
		29. Bor	Maharashtra
		30. Periyar	Kerala
		31. Parambikulam	Kerala
Team Five	Western Ghats Landscape	32. Bandipur	Karnataka
		33. Nagarhole	Karnataka
	Cluster -III (18 Nos.)	34. Bhadra	Karnataka
		35. Dandeli-Anshi	Karnataka
		36. BRT	Karnataka
	2 Teams	37. Kalakad- Mundanthurai	Tamil Nadu
		38. Annamalai	Tamil Nadu
		39. Mudumalai	Tamil Nadu
		40. Sathyamanglam	Tamil Nadu
		41. Srivilliputhur Megamalai	Tamil Nadu
Team Six	North East Hills and Brahmaputra Plains Landscape and Sundarbans	42. Namdapha	Arunachal Pradesh
		43. Pakke	Arunachal Pradesh
		44. Kamlang	Arunachal Pradesh
		45. Kaziranga	Assam
		46. Manas	Assam
	Cluster -IV (10 Nos.)	47. Nameri	Assam
		48. Orang	Assam
		49. Dampa	Mizoram
		50. Buxa	West Bengal
		51. Sundarbans	West Bengal
1 Team			

Activity/ Time-line of MEE Process (2021-2023)

S. No.	Activity	Time-line
1.	Review of Headline Indicators and preparation of Technical Manual	December, 2021
2.	Meeting of Evaluation Team and TR Managers	January, 2022
3.	Development of Quantitative Indicators/ Software	February, 2022
4.	Finalization of Technical Manual	March, 2022
5.	Site Evaluation of Tiger Reserves	March–December, 2022
6.	Analyses of MEE data	January-February, 2023
7.	Assessment workshop for TR Managers and MEE Team	February, 2023
8.	Finalization of MEE Results	March, 2023
9.	Printing of MEE Report	July, 2023

Two additional criteria of evaluation

PLANNING				
Is there a mechanism to manage the tiger reserve to adapt to climate change and DRR to increase its resilience?				
Assessment criteria	Rating/ Score	(Tick ✓)	Reference document(s)/ Photos	Remarks
There is no mechanism to manage the protected area to adapt to climate change and DRR to increase its resilience	Poor (Score 2.5)			
Groundwork in process to develop mechanism of assessing likely impacts of climate change and DRR	Fair (Score 5)			
Preliminary actions initiated to assess likely impacts of climate change and DRR, but not translated into management plans	Good (Score 7.5)			
Mechanism has been institutionalized through management plans, to manage the protected area to adapt to climate change and DRR to increase its resilience	Very good (Score 10)			
Explanatory note: The evaluator should look the mechanism of adaptation to avoid fire, flood, disaster etc.				
Indicative reference documents: 1. Description of the site in State Action Plan on Climate Change (SAPCC), 2. Integration of Climate Action Plan with Management Plan 3. List of innovative activities adapting to Climate Change, 4. Any other relevant document				

PROCESS

Does the tiger reserve has a mechanism for cross-sectoral/ inter-sectoral linkages for effective TR management?

Assessment criteria	Rating/ Score	(Tick ✓)	Reference document(s)/ Photos	Remarks
The site has no system or mechanism in place for cross-sectoral/ inter-sectoral linkages with other departments.	Poor (Score 2.5)	<input type="checkbox"/>		
The site has a system for cross-sectoral/ inter-sectoral linkages with other departments but not effective	Fair (Score 5)	<input type="checkbox"/>		
The site has a system for cross-sectoral/ inter-sectoral linkages with other departments but it is partially effective	Good (Score 7.5)	<input type="checkbox"/>		
The site has a system, which is institutionalized for effective management of PA	Very good (Score 10)	<input type="checkbox"/>		

Explanatory note: The assessment should be based on checking of all schemes/ programme of the various agencies integrated for PA management

Indicative reference documents: 1. Details of scheme/ programme running with various agencies during last 3 years, 2. Any other relevant document

Budget Estimate for Management Effectiveness Evaluation (MEE) of 51 Tiger Reserves in India to be evaluated in 2021-2023

S. No.	Particulars	Cost (Rs.)
1.	Technical Backstopping by WII Faculty (Travel & Accommodation) (Rs. 30,000 each for 51 TR)	15,30,000
2.	Engagement of Project Associate @ 50,000/- +16%HRA month for 18 months	10,44,000
3.	Printing of Report	10,00,000
4.	Development of Web-based Application Software and IT Support	15,00,000
5.	Miscellaneous Expenses	50,000
6.	Total	51,24,000
7.	WII Institutional Charge @15%	7,68,600
8.	Grand Total	58,92,600
9.	Field Component	93,13,400
	a. Workshop cost: 2x10,00,00= 20,00,000	
	b. Travel: 30000x51x3 person= 45,90,000	
	c. Sitting Fee: 3 personx3 daysx51x@4000 = 18,36,000	
	d. Per diem to Evaluation Team: 3 personx4 days x 51TRsx@1200/day = 7,34,400	
	e. Report writing cost: Rs. 3000x51TR = 1,53,000	
10.	Final Total	1,52,06,000