

SMART PATROL IN MANAS NATIONAL PARK

A STATUS REPORT



BODOLAND
TERRITORIAL COUNCIL



DECEMBER 2015

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WWF-India

BACKGROUND

The **Spatial Monitoring and Reporting Tool** (SMART) has been developed in response to the recognition that traditional tools, technologies and resources are not stemming illegal killing and trading of endangered species, thereby resulting in the loss of threatened and highly-valued biodiversity. Those involved in illegal wildlife trade are fast becoming cleverer, and putting to use extremely sophisticated tools for poaching and trade. On the other hand, the number, skill levels and motivation of the personnel committed to enforcing anti-poaching laws remain inadequate.

SMART is a new and improved tool for measuring, evaluating and improving the effectiveness of wildlife law enforcement patrols and site-based conservation activities. It was started by a diverse group of conservation practitioners, who understood the needs of frontline enforcement and recognized the day-to-day difficulties faced by many conservation managers across the world, operating on thinly stretched resources in the face of escalating threats to biodiversity.

SMART recognizes the power of information and the importance of accountability in directing resources to where they are most needed. It is not owned by any one individual or organization, it is free and available to the whole conservation community.

This approach has already demonstrated its effectiveness in improving law enforcement effort, morale of enforcement teams, and reducing poaching levels in multiple sites across the world. Currently, SMART has been implemented in 120 conservation areas in 27 countries worldwide and is fast becoming a global standard for law enforcement monitoring and management. Colombia adopted SMART across more than 50 Protected Areas (PAs) in 2014, Thailand has been using it in 35 PAs. Chitwan National Park in Nepal and Royal Manas NP in Bhutan have also adopted SMART recently, while in India, Rajaji NP in Uttar Pradesh has been using SMART for regular patrolling.

INTRODUCTION OF SMART IN MANAS

Manas National Park was the first choice, under the Indian Rhino Vision 2020 (IRV2020) programme, for the range expansion of rhinos in Assam and to build a new population through wild to wild translocations. As a part of the programme, 18 rhinos were successfully translocated to the park between 2008 and 2012.

Before this ambitious project kicked off, several steps were taken to tighten security in the park. However, despite all efforts, poaching of a few translocated rhinos led the Task Force for Translocation of Rhinos in Assam to adopt SMART on 30 January, 2013, for better enforcement. Furthermore, the High Level Task Force formed for improving security in Manas, in a meeting held on 15 February 2015 at Kokrajhar, advocated for effective implementation of this tool.

A SMART protocol was rolled out for field implementation in Manas in March 2014 under the IRV2020 Programme.



Translocated rhinos in Manas

MOTIVATION AND CAPACITY DEVELOPMENT

SMART was completely new to the officers and staff of Manas National Park. In order to build awareness about the tool, a couple of meetings were organized to initiate the process. A number of training programs were initiated 2013 onwards to provide proper knowledge about the tool and to make the staff confident in handling the protocol.



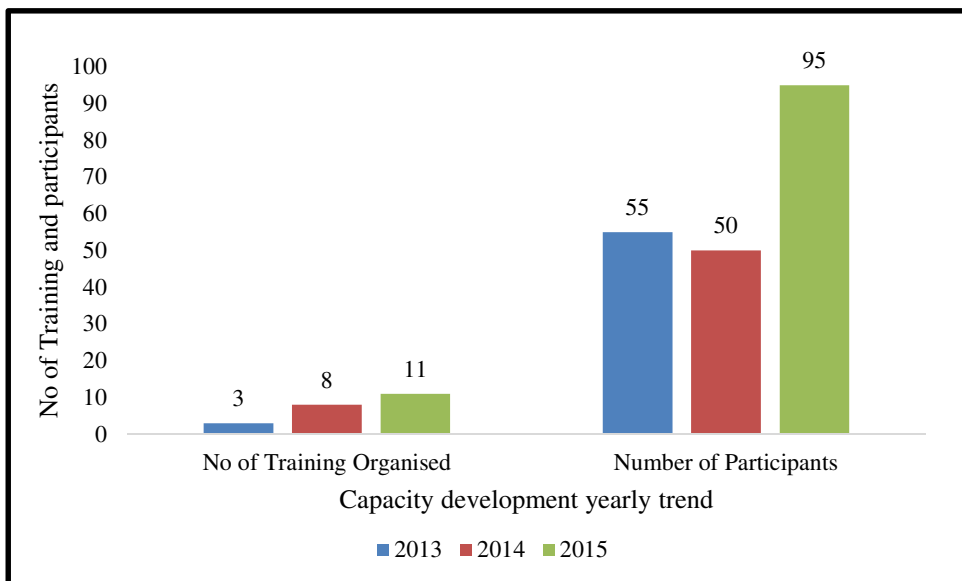
Dr. Sonali Ghose, then Dy. Field Director, Manas NP, discussing SMART implementation with the field teams in September 2014

The first training on SMART patrol was organized in March, 2013 collaboratively by the Assam Forest Department (Manas NP authorities, BTC), the Wildlife Areas Development and Welfare Trust (WADWT) and WWF in the Bansbari and Panbari range of the park, covering more than 50 frontline staff of the park.



Amit Sharma of WWF-India explains use of GPS for SMART patrolling at Manas in March, 2013

A total of 22 training sessions were organized between 2013 and 2015 for about 200 frontline staff of Manas. Of these, 15 were specifically trained on the use of the software. Presently, about 7 staff can confidently handle the SMART software and produce periodic reports. In addition to the formal trainings, technical support was provided for both field implementation as well as software handling, whenever found necessary.



Yearly trend of capacity development for SMART

FIELD IMPLEMENTATION

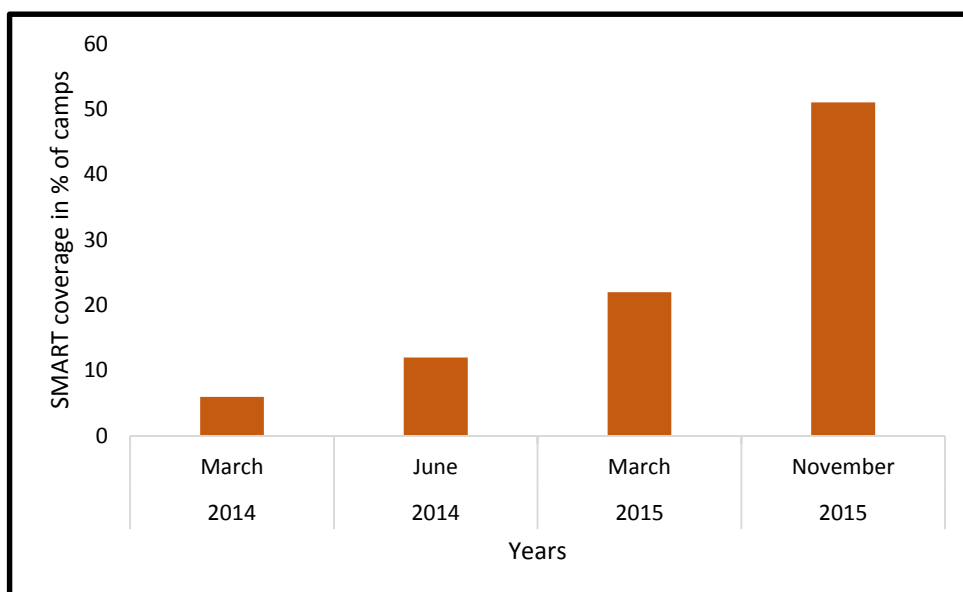
The Manas NP authorities started field implementation of SMART in March 2014. The roll out of SMART has been possible due to a grant extended by USFWS to WADWT, and executed with the support of WWF. SMART was introduced on a pilot basis in 6 critical location to improve the security status through better patrolling and monitoring.

Initially, SMART was practiced by only five units (the central rhino monitoring team, Kuribeel, Chorfuli, Uchila, and the Special Elephant Squad) under the Bansbari range and only one team (Rupahi) of Bhuyanpara range. The implementation was, however, not up to the mark and faced several teething problems. In June 2014, a SMART patrolling plan was developed and the coverage was extended to 12 anti-poaching camps.



SMART field trainees at the Bhuyanpara Range with M. Sarma, Dy Field Director Manas and D.K. Dutta, WWF-India

Priority areas were selected on the basis of the ranging pattern of the rhinos: 8 camps under Bansbari and 4 under Bhuyanpara were chosen. The system has since been found to be effective by the management as well as the Task Force. To further improve coverage, the system was extended to 22 strategic anti-poaching camps in March 2015. Since August 2015, a dedicated official has been delegated to carry out the SMART analysis on a specified computer. Efforts are now on to extend the coverage of SMART to all the camps of the park.



Yearly trend on SMART coverage in anti-poaching camps

KEY PROGRESS

1. Park authority and most of the frontline staff of Manas NP are now familiar with SMART approach and are confident of the implementation.
2. The frontline staff of Manas has accepted SMART as a part of their regular patrolling routine.
3. International Union for Conservation of Nature (IUCN) has acknowledged the Manas Park Authority for improvement of law enforcement through enforcement of SMART patrol and for reducing rhino poaching (on a press release dated 18 May 2015).
4. Formation of Coordination Team for SMART (LEM) under IRV2020 by the Assam Forest Department, Govt. of Assam to ensure effective implementation of SMART in Manas NP and Kaziranga NP. This was decided by the Rhino Task Force in its meeting dated 30 January 2013 for ensuring better patrolling and security.
5. On 16 August 2014, one patrolling team recovered a large number of ammunition and hunting accessories in the Bansbari Range
6. Regular updates on all rhino information available to Park authority.
7. Improved capacity of park staff to carry out regular data analysis and report generation. NTCA has suggested covering LEM in all anti-poaching camps of Manas NP including Panbari Range.



SMART Patrol team display ammunition recovered from a rhino poacher on 16 August 2014 at the Bansbari Range

CHALLENGES

1. Regular and timely supply of battery for GPS and cameras.
2. Need for more manpower to conduct regular data download from the field analysis and generate reports.
3. Adoption of better tool and technology for real-time transmission of field patrol data.
4. Sufficient fund flow.



SMART team inspect cameras and GPS during a training session

About the authors -

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2. Amit Sharma, Sr. Co-ordinator Rhino Conservation, WWF-India
3. H.K. Sarma, Field Director Manas TP
4. Jayanta Das, Large Mammal Conservationist, WADWT
5. Nitya Kaushik, Sr. Communication Manager (Species & Landscapes), WWF-India

SMART: IN PICTURES



O.P. Pandey, PCCF Wildlife and Chief Wildlife Warden of Assam; H.K. Choudhury Retd. PCCF; and trainees from Manas NP, Dibrugarh Forest Division, Pakke Tiger Reserve of Arunachal Pradesh attend a SMART Software Training on August 2015



M Sarma Dy FDTP and D.D.Boro with newly appointed SMART analyst K. Basumatary analyse the SMART data on October 2015

REFERENCES

Ghose S. and D.K. Dutta, (2014): *Rhino Conservation Plan for Manas national Park*. Field Directorate, Manas Tiger Project, 1-35




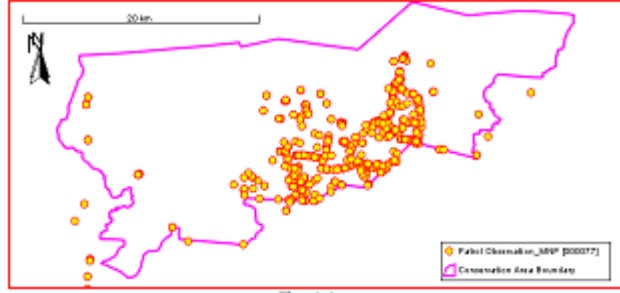

Ellis, S., Miller, P.S., Agarwalla, R.P., Yadav, M, K., Ghose, S., SivaKumar, P., Bhattacharya, U., Singh, V,K., Sharma, A., and Talukdar, B, K. (Eds) (2015): *Indian Rhino Vision 2020 Population Modeling Workshop Final Report*, workshop held 4-5 November,2015, Guwahati, Assam, India, International Rhino Foundation, Forth Worth. TX. USA

IUCN, (2015): *Report-rhino-could-become-locally-extinct-within-30-years-un-on-poaching-*,<http://www.dnaindia.com/india/2086788>

State Conservation Report, Manas Wild Life Sanctuary (India) (N338), (2015), Response to the World Heritage Committee Decision 38 COM 7B.65

ANNEXURE-I

Law and Enforcement (SMART) Monitoring Report of Manas NP, (August-September,2015)

<div data-bbox="255 533 805 728" style="text-align: center;">  Govt. of Assam BODOLAND TERRITORIAL COUNCIL OFFICE OF THE FIELD DIRECTOR, MANAS TIGER PROJECT Barpeta Road-781315, Assam. Tel. : +91 3666 261413 (O) : +91 9435304988 (M) Email : fdirmanastp@gmail.com </div> <div data-bbox="231 750 726 779" style="text-align: center;"> Law and Enforcement (SMART) Monitoring Report </div> <div data-bbox="183 817 766 1131" style="text-align: center;">  </div> <div data-bbox="327 1176 630 1205" style="text-align: center;"> AUGUST - SEPTEMBER 2015 </div> <div data-bbox="287 1243 805 1310" style="text-align: center;"> Prepared by: Field Director, Manas Tiger Project. Compiled by: Shri Kisan Ch. Basumatary and Shri Gita Barman, SMART Analyst. </div> <div data-bbox="167 1344 798 1422" style="text-align: center;">  </div> <div data-bbox="478 1456 805 1489" style="text-align: right;"> 02-Nov-2015 9:42 AM </div>	<div data-bbox="917 571 1500 604" style="text-align: center;"> Summary of Law and Enforcement Monitoring (LEM) </div> <div data-bbox="885 627 1532 672"> 1. Patrolling:- The areas covered by the Frontline Staffs of Panbari, Bansbari and Bhuyanpara Range of Manas NP on patrol are shown below- </div> <div data-bbox="901 705 1524 996" style="text-align: center;">  </div> <div data-bbox="1173 996 1236 1019" style="text-align: center;"> Fig: 1.1 </div> <div data-bbox="885 1030 1532 1097"> 2. Patrolling Intensity Areas:- In this period central part of Bansbari and Western part of Bhuyanpara stressed on more patrol. Panbari Range has covered limited areas due to logistical constraint. Patrolling intensity areas are given below- </div> <div data-bbox="901 1142 1524 1422" style="text-align: center;">  </div> <div data-bbox="1173 1422 1236 1444" style="text-align: center;"> Fig: 2.1 </div> <div data-bbox="901 1108 1212 1131"> Rhinos are found to graze more in these areas </div> <div data-bbox="1197 1456 1532 1489" style="text-align: right;"> 02-Nov-2015 9:42 AM </div>
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2.1 Range wise Patrol Summary> The Area wise patrol summary is shown below-

Table: 2.2

Name of Range	No. of Patrol	No. of Employees	Distance (km)	Patrol Hours
Bansbari Range	11	35	362.24	277.82
Bhayanpara Range	7	22	488.34	348.15
Panbari Range	5	10	27.74	23.04

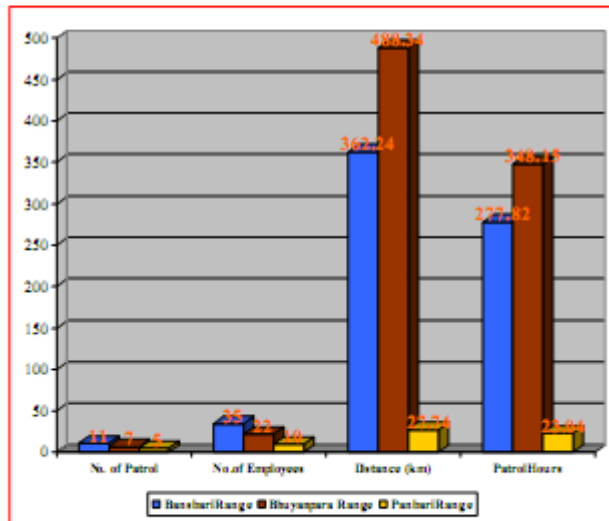


Fig: 2.3

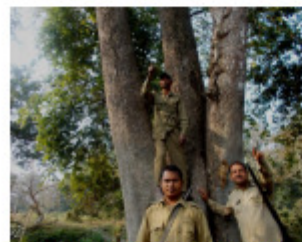
3. Photographs of staff on Patrolling duty>



Sambar encountered by the patrolling team of Bangali Hatidwa camp under Bansbari



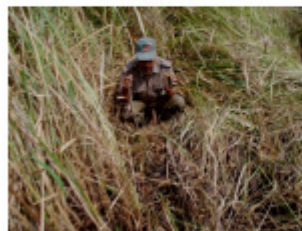
The team of Bangali Hatidwa under Bansbari ready to move for patrolling



The patrolling team of Chophali camp under Bansbari



The patrolling staff of Uchila Boat under Bansbari monitoring team while observing Rhino- 3



A patrolling staff of Kurihli camp under Bansbari observed pug mark of a Tiger



The patrolling team of Chophali camp under Bansbari observed wildlife from temporary Watch Tower

4. Wildlife Observation:-

4.1 Wildlife Observation Summary:- During this period wildlife observation summary is shown below-

Table: 4.2

Rhino	Tiger	Elephant	Buffalo	Bison	Hog Deer	Monitor Lizard	Snake	Sambar	Wild Boar
31	2	103	34	39	36	1	1	12	22

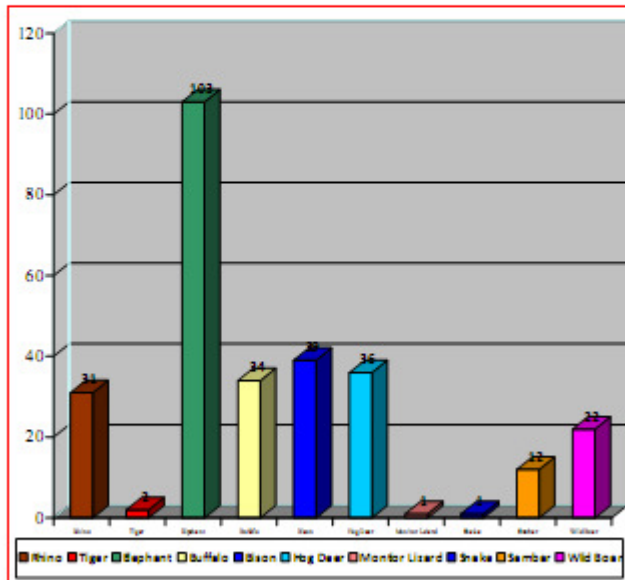


Fig:4.1

4.1.1 Rhino Observation Location:- During this period rhinos were mainly seen in Banebari and Bhuyanpara Range area. The rhino observation location are as shown below-

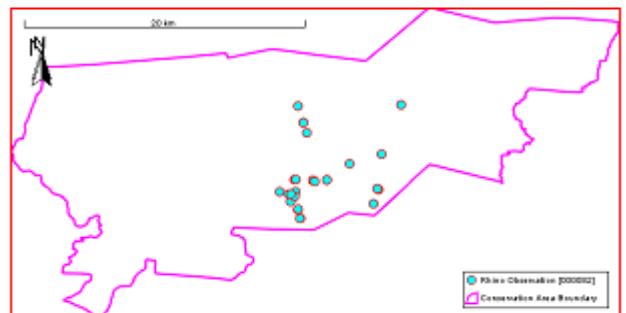


Fig: 4.1.1

4.1.2 Elephant Observation Location:- The Elephants sighting location during this period in the area of Panbari, Banebari and Bhuyanpara area are shown below. One herd of elephant was observed in the fringe area of Bhuyanpara Range .

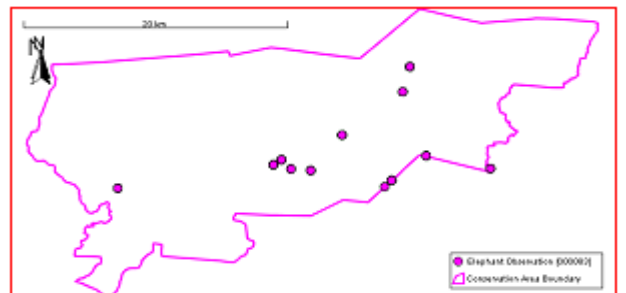


Fig: 4.1.2

4.1.3 Bison Observation Location:- The Bisons sighting location during this period in the area of Bansbari, Bhuyanpara and Panbari Range are shown below-

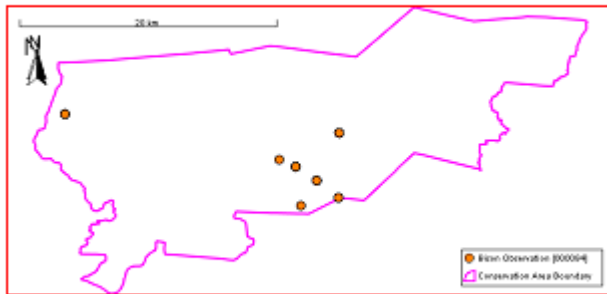


Fig: 4.1.3

4.1.4 Buffalo Observation Location:- The Wild Buffalos sighting location during this period in the area of Bansbari, Bhuyanpara and Panbari area are shown below. One adult Buffalo was observed while grazing in the fringe area of Panbari.



Fig:4.1.4

4.1.5 Hog Deer Observation Location:- The Hog Deer sighting location during this period in the area of Bansbari, Bhuyanpara and Panbari Range are as showing below-



Fig: 4.1.5

4.1.6 Tiger Observation Location:- The Tigers sighting location during this period in the area of Bansbari are shown below-



Fig:4.1.6

5. Some snapshots on SMART Software Training in this period Patrolling:-



Training on SMART Patrolling at FDTP Office, Barpeta Road held at 27th May, 2015



Training on SMART Patrolling in the O/o the Wildlife Area Development & Welfare Trust at Panbarua, Guwahati held at from 3rd to 5th Aug 2015.

6. Some photographs of field staff orientation Trainings:-



New Banskari Camp



Bhuyanpara Range Office



Barpeta Range Office



Old Banskari Camp

SMART patrolling is mainly concentrated during the period in the rhino bearing area of Banskari and Bhuyanpara Range. The areas under Panbari area could not be covered up appropriately due to the regular anti-insurgency operation carried by the security forces. Moreover, all the Beats and Camps could not be covered due to shortage of Camera and GPS as well as trained personnel. However our endeavour will continue improve our performance

We duly acknowledge the Government of Assam, Rhino Task Force and all the members of Rhino Translocation Core Committee (TCC), Chief Wildlife Warden of Assam and Mr. A. Swargowari, IFS, Additional PCCF cum CHD, BTC, Kokrajhar.

We acknowledge Mr. H.K. Choudhury, IFS (Retd), Wildlife Areas Development and Welfare Trust and US Fish and Wildlife Service for his continued support and encouragement and the WWF-India and especially Mr. Deba Kumar Duta, Sr. Project Officer who provides technical on LEM implementation in Manas NP.

We also acknowledge Mr. D.P. Borkhowal, IFS, Inspector General of Forests, NTCA, Assam for his guidance and valuable suggestions in improving the SMART patrolling in Manas NP.

Mr. Kiran Ch. Basumatary, Computer Operator and Mr. Girin Barman, Forester Grade-I are thanked for their computer skills in compiling the report at various stages.

Last but not the least; we would also like to extend our thanks to all staff, Conservation Volunteers for their valuable service day and night for protection and conservation of Manas Project Tiger.

(PREPARED BY)


Hiranya Kumar Sarma, IFS
Field Director, Manas NP

Madhanja Kumar Sarma,
Deputy Director, Manas NP

ANNEXURE-II

Govt. Notification on Coordination Committee for Implementation on SMART at Manas NP and Kaziranga NP

By - Ema


GOVERNMENT OF ASSAM
OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS, WILDLIFE, ASSAM,
BASISTHA, GUWAHATI-29

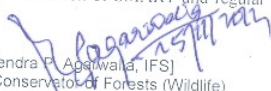
No. WL/FG.41/Rhino Translocation/ 2005 Dated Guwahati, the 25th November, 2014

A Co-ordination Team for SMART (LEM) under IRV2020 is constituted as follows for effective implementation in Manas NP and Kaziranga NP –

1. CF Wildlife, o/o PCCF(WL), Assam	- Leader
2. Deputy Director Manas TP	- Member
3. DFO EAWL Division	- Member
4. Sri. A. Baig, DFO o/o PCCF(WL), Assam	- Member
5. Sri. Deba Dutta, WWF-India	- Member

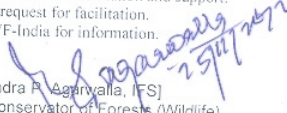
Terms of Reference :

1. The team will be responsible for ensuring effective implementation of SMART (Spatial Monitoring and Record Tool) which was decided to be implemented in Manas NP and Kaziranga NP by the Rhino Task Force in its meeting dated 30th January 2013 for ensuring better patrolling and security.
2. SMART has been in implementation in both Manas NP and Kaziranga NP and the team will analyze the gaps in the implementation and come up with suggestions to address the gaps.
3. The team will work in co-ordination with the FDTP Manas TP, Director Kaziranga NP, Chairman WADWT and Co-ordinator Rhino Conservation, WWF-India.
4. The Deputy Director, Manas NP and DFO EAWL will be the Nodal persons for their respective parks for implementation of SMART and WWF is requested to provide all necessary technical support. They will also generate regular reports on SMART implementation and submit to the office of the undersigned every quarter.
5. Chairman WADWT will facilitate the operation of this team and WADWT will be the Nodal Agency for providing support for the effective implementation of SMART in Manas NP and Kaziranga NP.
6. The team will co-ordinate to ensure effective implementation of SMART and regular reporting for an initial period of two year.


[Rajendra P. Agarwala, IFS]
Principal Chief Conservator of Forests (Wildlife)
and Chief Wildlife Warden, Assam
and Chairman, Task Force for Translocation of Rhinos within Assam

Copy to,

1. The PCCF & HOFF, Assam, Rehabori, Guwahati for his kind information.
2. The Field Director Manas TP and Director Kaziranga NP for their information and support.
3. The Chairman, WAADWT for his kind information and request for facilitation.
4. Sri Amit Sharma, Co-ordinator Rhino Conservation WWF-India for information.
5. All members.


[Rajendra P. Agarwala, IFS]
Principal Chief Conservator of Forests (Wildlife)
and Chief Wildlife Warden, Assam
and Chairman, Task Force for Translocation of Rhinos within Assam
Basistha, Guwahati - 29

