The Marihan-Sukrit-Chunar landscape (MSC) and Patehara-Halia-Dramadganj (PHD) landscape are two important forest areas in Mirzapur district act as an important wildlife refuge. Both of the landscapes are similar but with varied degree of topography and anthropogenic pressure.

The forest ranges Lalganj, Mirzapur and Wyndhamfall is kept separate because of the highly fragmented status of forests and great level of disturbances, but are important for free movement of wild animals. These three forest ranges fall under transition zone between Gangetic plains and Vindhyan range and is highly disturbed, degraded and fragmented. Wyndhamfall range adjoins Marihan and Chunar range, while Lalganj adjoins Marihan, Patehara and Mirzapur range. These 3 forest ranges are however very important as shock absorbers and act as natural buffer with urban, semi-urban and other human settlements from the critical wildlife areas of MSC and PHD landscapes. These 3 forest ranges have some patches of isolated forests which still support some wildlife, but are at high risk of losing wildlife due to severe anthropogenic disturbance.
5.1 MARIHAN FOREST RANGE

The forests of Marihan is undeniably the most vivid of all forest ranges in Mirzapur due to the variety of landscape features found in this range like grassland, savannah, scrub forests, mixed deciduous forests and dense deciduous forests interspersed with short heightened hills and numerous rivers which originate from here. While most of the forest areas near periphery are increasingly getting disturbed and facing immense pressure from land use change activities- there are still remains of pristine forested hills in this range due to their inaccessibility by vehicles and by grazers. Other reason may be attributed to the fear of wild animals especially sloth bears and leopards due to which local villagers avoid going in such forests.

A. TOPOGRAPHY

![Map 8 LULC Map of Marihan Forest Range](http://bhuwan.nrsc.gov.in)

This landscape has short to medium height hills, with less steep slopes. The elevation varies between 170-250 meters. Though the sub-surface layer is rocky sandstone, but soil layer is still found intact in most places. Dense canopy can be seen in most of the hills. In some pockets, old growth forests are also found. Most of the plain areas in between the hills were found to be degraded/mixed deciduous forests interspersed with grasslands and scrub forests dominated by Zizyphus, Acacia catechu and bamboo. Hyptis suaveolens (bantulsi/bush mint) invasion is very common in this forest range.

B. SOURCES OF WATER

There are several small order rain fed seasonal rivers, and naturally collected rainwater within the aquifers which flows year-round through some rock crevices, which provides the essential drinking water requirement of wild animals. The forest range forms important catchment and source of many such rivers.
This landscape has several waterfalls, which also shows the steep variations in the elevation at some places. These waterfalls and rivers stores water as series of ponds (See image 12) which are used in dry seasons by the animals. Some of the lesser known waterfalls-cum-rivers found inside the forests are Jogiadari, Alopi Dari, Jamithwa Dari, Pahiti dari etc which can be said as lifeline of the wild fauna.

Several small check dams could be found in villages inside the forests. Forest department staff has also created few small ponds and check dams in some of the areas to facilitate collection of rainwater for use in dry season. Dhekwah dam, Nanauti dam and Upper Khajuri dam are the major irrigation dams built in this forest range which are now integral part of the ecosystem and serves as source of drinking water in dry seasons.

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**C. CONTINUITY**

**WITHIN THE FOREST RANGE:** The Marihan forest range in itself is quite large in area, scattered but continuous in itself via several thin forest corridors interspersed with agricultural fields and fallow lands. The approximate area of this forest range may be between 175-200 sq.km. The south of SH-5 lies the Patewar forests which adjoins Upper Khajuri Reservoir. In between the Darhiram beat and Sarson beat, there are several rural settlements with agricultural fields and large fallow lands. The villages like Sarso, Semri and Rajapur, is infamous for man-bear conflicts.

There is a continuous stretch of hill forests in Darhiram, most of which is inaccessible by both local people and forest department staff, and which extends up to Sarso and Lahaura beat. This continuous stretch of forests seems to be the core wildlife habitat of Marihan range. This small area is naturally protected because of the difficult terrain and fear of wild animals.
WITHIN OTHER FOREST RANGES: The continuity of Marihan forest range with other forest range is very limited. This is because the northern side of the range is dense populated rural settlements and the under-construction Ban Sagar canal acts as the northern boundary of the forests and the same also traverse through the eastern side of the range along Chunar-Rajgarh road. The south of the range is traversed through SH-5, beyond which there are forests of Belan beat-Patewar till Upper Khajuri reservoir. The forests of Patewar extends till Bahuti forests under Lalganj range beyond which there are densely populated rural settlements. Towards south of Marihan range, the SH-5 bends towards south east from where it is joined by Chunar-Rajgarh road which may be termed as eastern boundary of Marihan forest range. Towards east of Chunar-Rajgarh road lies the Chunar range and Sukrit range. There is little or no vegetation cover on western side (Marihan) of Chunar-Rajgarh road. However large tracts of fallow land could be seen interspersed with agricultural land. The forests of Chunar and Sukrit range shares boundary with Chunar-Rajgarh road on eastern side, but they are heavily disturbed by mining activities and the forest is highly degraded. One railway line called Chunar-Churk link also goes through this range near the Chunar-Rajgarh road.

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D. STATUS OF PROTECTION

FOREST STAFF: The forest range was found to be regularly monitored, and the forest guards seems to know their area very well. There is weekly monitoring done by the Forest Ranger as informed by the forest guards and watchers. The Forest Ranger informed that the number of range staff is highly inadequate to protect such large area of forests, and therefore the forest watchers and forest guards have loads of responsibilities. He showed
the concern of increasing encroachments near water sources present in the forests which has great impact on survival of wild animals.

**EFFECTS:** The forests were found to be protected by temporary boundary wall created using layer of stacked rocks. It served two purposes- protection from livestock grazing and also demarcation of forest boundary preventing unwanted encroachments. There was considerable fear of forest staff among the locals, which could be understood from the way loggers ran away leaving their axe and cycle on several occasions seeing us (with forest guards) inside the forests.

**ATTITUDE OF PEOPLE:** Local villagers were obedient to forest guards during our survey. However, we were informed that encroachments in forest areas is a big challenge to the forest department. The forest range staff informed that they regularly keep check, but due to lack of administrative support from local authorities and various political reasons- it is often difficult to remove the encroachments. We tried to interact with some local people, and they told us that the landless labourers and sometimes the succeeding generation does not find enough spaces inside their village to set up their family and livelihood and therefore they start settling in open spaces inside the forests.

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**E. SIGNIFICANT DISTURBANCES:**

Marihan forest range has been long known for bear habitat especially forests of Darhiram where people at a time stopped going due to fear of bears. Due to lack of any stable income source and increase in population, the deforestation rate is very high and the pressure is increasing as forest areas are getting constricted with time. Forest fires are reported every year from this forest range. Overgrazing by livestock is also one of the severe disturbance agent which not only disturb the wild animals in the forests but also led to compaction of soil. Situations also changed in recent decade due to expansion of agricultural fields inside the forests which have reduced the wilderness area significantly constricting the habitat within a small radius and creating gaps in between forest patches. A counter-effect is also observed where villagers have stopped growing crops due to increased raid by deer species and wild boars in those areas, incurring heavy losses to farmers. This has given rise to another problem-farmers selling their land to real estate developers at cheaper prices. Now, such areas which are at periphery of forests, and few within the forests are acquired by companies to set up big projects such as townships, institutes, colleges etc. (See Example 1: Development of Marihan as Ex-Urban town of Mirzapur, Pg 60)
F. THREATS/CHALLENGES:

The most significant threat looming over Marihan forest range is fragmentation of the continuous forests into several small island forests and losing out of the forest corridors with other forests in vicinity. Grasslands and scrub forests, though highly suitable habitat of sloth bear and deer species are highly prone to land-use conversion for developmental purposes. Mining activities are prevalent near the SH-5 and the blasting activities along with other alteration to land, has led to significant irreparable loss to wildlife habitats and movement.

Several townships namely Shine City Wyndham, Spazio Mountain Heaven City etc have recently come up in the abandoned agricultural lands which were once forests. There are several schools and institutes already operating and one Mulayam Singh Yadav University is proposed in this forest range. All these projects are planned on existing forest like area adjoining SH-5. These sites were reportedly mentioned as revenue land, though having similar forest like area as in adjacent areas. These projects, when completed will completely isolate the forest range from its southern part of the forests ie. Patewar.

The proposed 2x660 MW Imported Coal based Thermal Power Plant of M/s Welspun Energy U.P. Pvt Ltd is also proposed within the Darhiram forests of the range, a critical wildlife habitat. Most of the project site is grassland, forests interspersed with small patches of agricultural fields. The project will also bifurcate the Marihan range further due to the 20 km proposed railway corridor till Sarsongram and 2 km road inside forests till SH-5.
Hunting of animals is also a problem in this forest range. Though forest department staff claimed there is effective control on hunting and poaching of animals, we came to know from local villagers that wild boars are regularly hunted. It was informed by a local villager during our field visit that few weeks ago (around December-January) a sloth bear was killed by explosives kept inside some food item (a bait used for hunting wild boar). It was informed that it is a regular practice to hunt wild boars using such techniques. We were informed by a local villager that last year (around March, 2015), a sloth bear was killed as a result of electrocution which was then buried. Such incidences of accidental killing of Scheduled animals are hardly reported to Forest Department.

Image 15 Signs of blood-spill found inside forests of Marihan range (Photo: Debadityo Sinha)

G. SURVEY RESULTS:

Our survey was carried out in following sites which were selected for survey based on our analysis, secondary information and interviewing local villagers. 2.5 km walk was undertaken by foot for each survey location on the pre-existing trails inside the forest areas accompanied by forest guard. In difficult terrains, the trails are limited to accessible areas only. During the survey we also spotted Chinkara, Blackbuck and Egyptian Vulture in this forest range. The presence of sloth bears is confirmed by the evidences and is summarized in the table below.
Table 5 Evidences of Sloth Bears in Marihan Forest Range

<table>
<thead>
<tr>
<th>S.No</th>
<th>Forest Beat</th>
<th>Trail distance (km)</th>
<th>No. of evidences</th>
<th>Frequency (no. of signs/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dadri</td>
<td>2.5</td>
<td>16</td>
<td>6.4</td>
</tr>
<tr>
<td>2</td>
<td>Darhi Ram-(two trails)</td>
<td>5</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Lahaura-Darhiram</td>
<td>2.5</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Kotwa*</td>
<td>0.5</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>Bela-Patwar*</td>
<td>0.5</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>Sarso</td>
<td>1</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td><strong>Cumulative</strong></td>
<td><strong>11</strong></td>
<td><strong>55</strong></td>
<td><strong>5</strong></td>
</tr>
</tbody>
</table>

*Reason for small trail: Kotwa: on a hill, Patewar: Dense forests, for safety reason

Map 9 Marihan Forest Range (with some portion of Lalganj forest range) as seen in LANDSAT OLI False Colour Composite Map
5.2 CHUNAR AND SUKRTI FOREST RANGE

A. TOPOGRAPHY

Map 10 LULC Map of Chunar and Sukrit Range (bhuwan.nrsc.gov.in/)

Chunar and Sukrit are two different forest ranges but in continuous with each other. Chunar range starts from the south of River Ganges and extends till Wyndhamfall, Marihan and Sukrit range. Siddhanath Dari is one of the famous religious waterfall which falls under Chunar range. The elevation of the forest areas varies between 200-300 m.

**Sukrit:** A significant portion of Sukrit forest range is inaccessible, and those accessible are highly disturbed with human interference. Some portions of Sukrit range are severely invaded by *Lantana camara*, especially the areas near the mining stretch. Canopy cover increases while we move inside 6-7 km from SH-5A. Bamboo is highly dominant in foothills. Some patches of the forests were found to be pristine with good diversity of trees such as Chirauji, Kutaja, Mahua etc.

**Chunar:** Chunar range is severely degraded near its periphery towards Ganga. These denuded hills and fragmented patches of forests are interspersed with number of small active and abandoned mines of approx. 20-50 meters in radius. Most of the Chunar range gave appearance of scrub forests and soil layer severely compacted. Some dense canopy with fairly good soil layer could be observed in Sakteshgarh beat, where sloth bears are also reported.

B. SOURCES OF WATER

Jargo reservoir is one of the major irrigation dam in this region which lies north of Chunar range. Chuna Dari and Panchsheel Dari are two important natural waterfalls inside the Sukrit forest range, the latter is less popular and therefore not visited much by outside people. There are several small streams with brackish water which serve as drinking
water source for the animals in dry season. Dongia reservoir in Talar beat serves as an important drinking water source for Sukrit range. There are several small mountainous streams which impound water within their valleys in small ponds like structure. There are number of villages deep inside the forests, who have also constructed small check dams and ponds for irrigation purposes.
C. CONTINUITY

WITHIN THE RANGE: Chunar and Sukrit forest range is continuous with each other. The total area of Sukrit (125-150 sq.km) and Chunar (approx. 150-175 sq.km) is approx. 275-350 sq.km in area. There are several small villages inside the forests mainly inhabited by tribal and forest dweller communities. The Sukrit and Chunar forest range is bordered by SH-5A on eastern side and Chunar-Rajgarh road on western side. There is a portion of the Sukrit range which is on the other eastern side of the SH-5A and extends till Chandraprabha WLS in district Chandoli.

WITHIN THE LANDSCAPE: Chunar and Sukrit range is adjacent to Marihan forest range and separated by Chunar-Rajgarh road.
D. STATUS OF PROTECTION

FOREST STAFF: The forest department staff were cooperative during the survey but they showed their helplessness in controlling mining and logging activities inside the forest due to lack of support from the local administration. In contrary to Marihan forest range, here the forest staff were scared of local villagers. The reason they give for the same is due to the fact that there have been several incidences in past where clashes between government officials and local villagers took place. It was informed that 2 forest staff were killed few years ago near Panchsheel Dari. They also reminded us of the Bhavanipur incident (1st March, 2001) where police claimed to shot down 16 Naxalites in the area. Political pressure from local leaders are very much dominant in this range and discourages any strict action from forest staff deputed on site.

The forest staff who accompanied us did not have good knowledge of their areas. We were accompanied by some local tribal persons who helped us during our entire survey in Sukrit range.

EFFORTS: There was a common belief among all forest staff of Sukrit forest range that there are Naxalites living in the forests, and therefore they avoid going inside forests frequently. They informed that they do monitoring only once in 2-3 months only when asked by senior officials. They always go in groups and avoid going there in late evening.

During our field survey, logging and mining activities were carried out by villagers openly without any fear in areas of both the forest ranges. This shows, there is no control of any kind from the forest staff. The primary reason is lack of support from the administration, lesser number of forest guards, fear of damage to life and property and submission to local political forces.

ATTITUDE OF PEOPLE: We got very limited opportunity to interact with villagers except during our field survey. The villagers residing inside these forests are mainly forest dependent communities. Surprisingly, they also knew where sloth bear lives, and were kind enough to show us some of the sloth bear dens. It was also surprising to know that local people were not much scared of sloth bears while going to the forests. They informed that they know where sloth bear lives, and what time they sleep, move etc. They generally avoid such known places, and generally come back to home before 5.30 PM as soon sunshine starts diminishing.
E. SIGNIFICANT DISTURBANCES:

Increasing population, and influx of people from other villages is leading to increase in encroachments of forest areas. It was informed that due to availability of easy land and less administrative control, people from other places are also slowly occupying the forests and villages inside the forests. People are generally dependent on agriculture, forest produce and livestock for their livelihood. Therefore, as population is increasing, the dependency on forest resources have also increased and number of domesticated livestock is also increasing. All of these factors are leading to unsustainable logging,
compaction of soil, mining activities and expansion of agricultural fields to forest areas all of which affect the wildlife to a great extent. We also found number of religious ashrams in both of these forest ranges.

F. THREATS/CHALLENGES:

The most significant threat in this landscape is illegal mining activities, land use conversion and rampant logging activities going on in the forest areas and the helplessness of forest staff to control it. Old growth trees were observed to be chopped off from stem in many places, which can be counted as serious threat to forest regeneration. The lackadaisical attitude of administration towards protection of Sukrit and Chunar forest is coupled with strong political influences of local leaders which has suppressed the authority of the forest staff in these 2 ranges.

G. SURVEY RESULTS:

Both Chunar and Sukrit range spreads over a very large area, but is highly disturbed due to deforestation and mining. Our survey was highly limited due to unwillingness of forest staff to go into deep forests as they showed concerns because of several criminal incidents in these forests in past. Even, we could not dare to go into those forests in Sukrit range because they were not only dense in some places but also had difficult mountainous terrain, rocky trails and mobile network was also very poor. Certainly, we were not prepared to go into such areas without proper guidance and hence avoided. From satellite imagery, we could take note of a continuous mountainous forest patch approx. 11 km long and 5 km wide in Sukrit forest range which seems to be densely covered by vegetation. This forest can be said the largest continuous forest patch of this landscape. Seeing the results which we got from our survey in periphery areas, we can be very much assured
that this mountainous forest range in the interior has very rich wildlife and core habitat. An Indian Jackal (also confused with Indian Wolf) and a Leopard was also spotted near Panchsheel Dari.

**Table 6 Evidences of Sloth Bears in Chunar & Sukrit Forest Range**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Forest Beat</th>
<th>Trail distance</th>
<th>No. of evidences</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Madhupur</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>Talar</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>Jungle Mohal Purvi</td>
<td>2</td>
<td>67</td>
</tr>
<tr>
<td>4</td>
<td>Jungle Mohal Paschimi</td>
<td>2</td>
<td>27</td>
</tr>
<tr>
<td>5</td>
<td>Sakteshgarh</td>
<td>2</td>
<td>23</td>
</tr>
<tr>
<td>6</td>
<td>Bhawanipur</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>12</strong></td>
<td><strong>142</strong></td>
</tr>
</tbody>
</table>

Map 11 Sukrit Forest Range (including some portion of Chunar range) as seen in LANDSAT Old False Colour Composite Map
5.3 PATEHARA FOREST RANGE

A. TOPOGRAPHY

Patehara range can be said to be the most fertile of all forest range in Mirzapur. The main reason is because the forest range is encircled with two major rivers-Belan and Bakahar, both having their own natural history and known for rich aquatic biodiversity. Meja Dam and Sirsi Dam are among the biggest dams in Mirzapur and are constructed on River Belan and Bakahar respectively. Most of the areas alongside the rivers and reservoirs are under cultivation. In some stretches, there are mountains alongside rivers giving an appearance of gorge or canyon like topography. Kaimur Wildlife Sanctuary lies on the western side of Patehara forest range and is continuous with it. Sirsi fall is a major tourist attraction which is on river Bakahar. However, the main water fall area is closed for tourists due to several accidents happened in past where people died after being attacked by honey bees and falling into the river.

B. SOURCES OF WATER

The Patehara forest range is richest in annual water resources out of all forest ranges found in Mirzapur division. River Belan and River Bakahar flows through Patehara forest range, both of which are major rivers of the district. Meja reservoir and Sirsi Reservoir on these two respective rivers.
Image 24 A river flowing through the forests which joins river Bakahar downstream, Imliapokhar-Patehara range (Photo: Debadityo Sinha)

Image 23 River Bakahar near Sirsi Fall, sloth bears are reported here by villagers (Photo: Debadityo Sinha)
C. CONTINUITY

WITHIN THE RANGE: Patehara forest range is highly fragmented and the main reason is agricultural expansion and encroachment in forest areas. Leduki and Imlipokhar are two forest beats of Patehara which have the remnant forests. While Leduki is continuous with Kaimur WLS and river Belan, the Imlipokhar beat is isolated patch of forest with very limited connectivity with other forests. There is a huge agricultural farms between Leduki and Imlipokhar forests, which came up recently. Forest staff informed that agricultural encroachment is the single greatest challenge in this landscape. The Imlipokhar and Leduki forests were once connected with forest corridor which is lost in recent years due to illegal encroachments. Presently Leduki forests (eastern bank of Belan) and Imlipokhar (southern bank of Bakahar) has been constricted to merely two patches of approx. 20-25 sq.km each.

Map 13 Google Map Imagery showing the continuity of Patehara forests in November, 2007

Map 14 Google Map Imagery showing the loss of Patehara forests and continuity as on November, 2015
WITH OTHER FOREST RANGES: Patehara range is continuous with Kaimur Wildlife Sanctuary Division which is west to river Belan. There is frequent movement of animals to and fro in between these two forest ranges. Though administrative boundary of Patehara forest range extends till Marihan and Lalganj, but forest continuity is nearly lost and disturbances are too high now to call them continuous with Patehara.

D. STATUS OF PROTECTION

The Patehara forest range has less populated villages as compared to Marihan, Sukrit and Chunar range. Most of the forest areas are remotely located and therefore problem of population influx is not significant issue yet.

FOREST STAFF: The forest staff were cooperative with us. However, the forest guards at Leduki beat informed that the number of forest staff is highly inadequate to deal with encroachment of forests and other illegal activities.

EFFORTS: Illegal logging activities is quite prevalent in this range. The forest staff complained about political pressures due to which they feel helpless sometimes to take strict action.

ATTITUDE OF PEOPLE: In lack of proper monitoring, the forest areas are under immense threat of encroachment and deforestation. There are many areas in Patehara forest rage which were informed to be encroached by local people for agricultural activities and houses. Incidents of hunting were not informed by anyone. One reason may be because this range is in remote location and quite far from state highways.

Image 25 Invasion of forests for agriculture, Leduki-Patehara range (Photo: Debadityo Sinha)
E. SIGNIFICANT DISTURBANCES:

Agricultural expansion, livestock grazing and deforestation is the most significant disturbance observed in the Patehara forest range. Incidents of forest fires is also occasionally reported from this range.

F. THREATS/CHALLENGES:

The Patehara forest range due to its remote location, has very limited access from outer world. Due to availability of water in dry seasons, Patehara forest range is highly critical for survival of wild animals in nearby forests and protected areas and there is frequent movement of animals into Patehara range. Here forest fragmentation is more of a serious concern than forest degradation. Clearing and encroachment of forests for agriculture is the major challenge of this forest range. We were informed by the forest staff and villagers that they have often spotted tigers roaming in this range during summer months, which may be attributed to the presence of water sources nearby. River Bakahar, Belan and other streams in this landscape are also known for breeding population of Mugger Crocodiles and livelihood support of number of fishermen who are dependent on the rivers. Mirzapur Forest Division record also shows presence of Barasingha (Swamp Deers) in this forest range, which the local forest guards also confirmed to be present. Therefore, this range is highly critical for survival of several endangered wildlife and that’s why it is highly critical to protect this landscape. The loss of forest area must be monitored and efforts must be taken to restore the continuity of forests.

Image 26 River Bakahar and its aquatic fauna is lifeline of Patehara range (Photo: Debadityo Sinha)
G. SURVEY RESULTS:

The survey was carried out only in 2 beats as presence of bears in these two beats were reported in our preliminary survey.

Table 7 Evidences of Sloth Bears in Patehara Forest Range

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Forest Beat</th>
<th>Trail distance</th>
<th>No. of evidences</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Implipokhar</td>
<td>2.25</td>
<td>22</td>
</tr>
<tr>
<td>2</td>
<td>Leduki</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>4.25</td>
<td>26</td>
</tr>
</tbody>
</table>

Map 15 Patehara Forest Range (including some portion of Kaimur Wildlife Sanctuary-west of River Belan) as seen in LANDSAT OLI False Colour Composite Map.
5.4 DRAMADGANJ FOREST RANGE

A. TOPOGRAPHY

Forests of Dramadganj range are at higher elevation than other forest ranges of Mirzapur. Dense old growth can be observed in this mountainous forest range. The western boundary of Kaimur WLS touches the Dramadganj Forest Range. There are numerous agricultural fields in foothills, but phenomenon of landscape change is not fast as other forest range. The main reason for comparatively better density of forests may be attributed to the steep slopes and higher mountains in this range. At several places, we found remnants of small-scale mining activities. These forests are mostly inhabited by tribal people. Their livelihood is highly dependent on forest resources and some of the old gardens of Mahua can be seen in this range. Halia range, which falls under protected area-Kaimur Wildlife Sanctuary is continuous with Dramadganj forest range. The elevation varies between approx. 175-400 m in this forest range.

B. SOURCES OF WATER

River Sewati is the main river and forms the lifeline of the forest communities. River Adhwa flows near the eastern side of the mountains. The main water sources of this forest range are natural streams and rivers which flows through it. River Sewati flows through the mountains and river Adhawa flows adjacent to the outer boundary of the forest range. There are two dams-Banjari Kala dam and Sukhra dam adjoining the mountains. There is
one barrage (adjoining) and one dam (at 7 km) on river Adhwa. We also spotted one ancient water harvesting structure like ‘baoli’ within the forest.

Image 27 A 'baoli' like old structure found in Songadha-Dramadganj range (Photo: Debadityo Sinha)
C. CONTINUITY

WITHIN THE RANGE: Dramadganj forest range lies on the western side of Kaimur WLS and shares boundary with Halia range of the sanctuary. These hills are well connected with each other, but interspersed with agricultural settlements near foothills and rivers.

WITH OTHER FOREST RANGES: This forest range has series of dense forested mountains which continues till Madhya Pradesh and runs continuously until Ranipur WLS for approximately 100 km in length. The same forest continues further to Panna National Park. Both of these protected areas are known for tigers.

![Image 28 General topography of Dramadganj forests (Photo: Debadityo Sinha)](image)

D. STATUS OF PROTECTION

The forests of Dramadganj is still used as free hunting ground by people which could be understood from incidents in past and as told by local villagers.

FOREST STAFF: The forest staff were cooperative. They have established good communication with local villagers which help them monitor the forests which are practically impossible to regularly monitor due to limited infrastructure, staff and inaccessibility. The forest staff and local villagers seemed to have friendly relation in this forest range.

EFFORTS: During survey, the forest staff struggled in finding ways inside the forests, which shows they are very less frequented with the forests. We were informed that there is acute shortage of staff in the range, and the forest guards are given administrative responsibilities as well due to which they have to remain most of the time in their offices and could find very less time to make visit to forest areas. They informed that only during plantation activities and emergency situation, they go to the forests.
ATTITUDE OF PEOPLE: We found the local people quite aware of the presence of wild animals. A sense of discomfort was present in all people we interacted who were very angry over the nuisance created by sloth bears in their village, especially Banjari where confrontation with sloth bears are not a new phenomenon. However, these tribal settlements are evolved to live with wild animals and they see these conflicts as part of their lives now. A group of tribal women told us that bears are regular visitor in their village during season of Mahua and that is why most of the houses are fenced, to avoid sloth bears.

We were also informed by the local villagers that there are illegal mining activities being carried out on pahadi (hills) which damages the sloth bear dens and disturbing their natural habitats. They blame this as one of the reason bears are forced to attack human beings. According to them, ‘babus’ (can be interpreted as people with shirt- trousers on vehicle, accompanied by some people) often goes to those forests for hunting animals.

E. SIGNIFICANT DISTURBANCES:

Deforestation, grazing and hunting are the main disturbances in this forest range. Few small abandoned mine spoils could be observed in Dramadganj forest range. Mining activities could be seen on some mountain tops. We were informed that there was rampant mining going on in this range and it was stopped only few years back after a court order. Livestock grazing is common in the Dramadganj range. Most of the forest areas lie in mountainous region, and therefore agricultural expansion is limited to only foothills. There are few agricultural settlements of tribal people in Banjari which extends till the forests. As most of the human settlements are located near river banks at foothill of mountains, therefore the villagers directly compete with the animals for water and is also disturbance to free movement of animals. NH-7 passes through these mountains and is one of the linear disturbance. Forest fire is also reported to be one of the significant disturbances of this forest range.

Image 29 Forest Fire in Dramadganj range (Photo: Amar Ujala, Mirzapur - 25th April, 2016)
F. THREATS/CHALLENGES:

The Dramadganj forest office is located in Dramadganj market, while the forest areas are located at far off distances. The monitoring of forests is very poor and the number of staff is highly inadequate to manage the entire forest range. The landscape change is caused by Ashrams which started establishing in the forests in recent years. These ashrams not only cleared forests, but once inaccessible areas are now heavily disturbed by vehicular movement and influx of people.

During our visit, we came to know that hunting of wild animals including sloth bears has been observed in recent past. It was informed by local forest staff that couple of years before, two sloth bears were shot dead by hunters in this forest range. Incidences of leopard entering villages is reported often. We were informed by few forest staff that they have spotted tiger in the forest range on several occasions. We confirmed the same with villagers during our survey, and received mixed response from same locations. People who have seen tigers reported they have spotted tiger at least once in a year. Most of the people who witnessed tiger could distinguish between leopard and tigers from the pattern of marks on skin. This fact made us curious and we believe a detailed survey of the region must be done by an experienced tiger expert.

A very serious observation we made during our visit was about sale of bear private parts for increasing sexual power. We were told that there is a local belief that the bone found inside penis of a bear has magical aphrodisiacal powers which can delay the semen ejaculation in human males and therefore gives extraordinary sexual pleasure. Though it was very difficult to collect evidence for the same, but we came to know from one person in Dramadganj that such bear parts can be made available on demand. Though forest
range staff dismissed any possibility of hunting bears for parts, but they admitted to be aware of the local belief regarding the use of the penis-bone of bears.

**G. SURVEY RESULTS:**

We found the forest areas of Dramadganj range the most difficult to survey. The forests are not only vast in area, but are quite dense in some parts that it was difficult to walk through because of the difficult terrain. We had to limit our survey only to certain parts of the forests which were less dense, have lesser terrain and accessible by motorcycle (mostly near periphery of forests). Therefore, the number of evidences were significantly lesser despite the forest range in itself being vast and very suitable habitat for wildlife.

**Table 8 Evidences of Sloth Bears in Dramadganj Forest Range**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Forest Beat</th>
<th>Trail distance</th>
<th>No. of evidences</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Songadh Paschmi</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>Songadh Purvi</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Banjari</td>
<td>0.4</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Babura</td>
<td>1.5</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Cumulative</td>
<td>4.9</td>
<td>16</td>
</tr>
</tbody>
</table>

**Map 17 Dramadganj Forest Range- as seen in LANDSAT OLI False Colour Composite Map**

Legend

- Location of Bear presence

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