



**CONNECTING**  
*Tiger*  
**POPULATIONS**  
**FOR LONG-TERM**  
**CONSERVATION**







**CONNECTING TIGER POPULATIONS  
FOR LONG-TERM CONSERVATION**

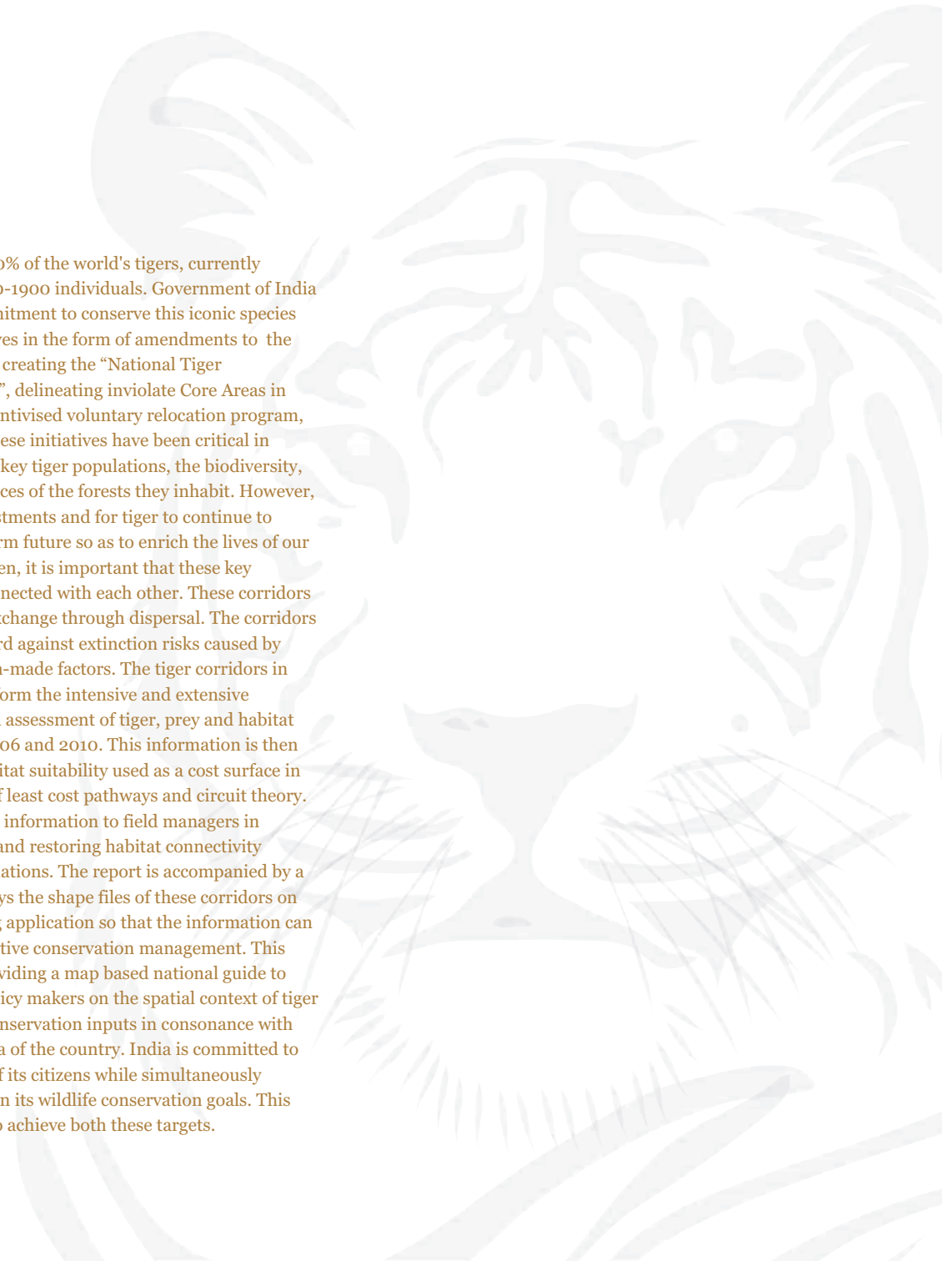
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## PREFACE

India is home to over 60% of the world's tigers, currently estimated between 1500-1900 individuals. Government of India has shown strong commitment to conserve this iconic species through several initiatives in the form of amendments to the Wildlife Protection Act, creating the "National Tiger Conservation Authority", delineating inviolate Core Areas in Tiger Reserves and incentivised voluntary relocation program, among many others. These initiatives have been critical in securing the survival of key tiger populations, the biodiversity, and the ecosystem services of the forests they inhabit. However, to safeguard these investments and for tiger to continue to survive into the long-term future so as to enrich the lives of our great-great grandchildren, it is important that these key populations remain connected with each other. These corridors would ensure genetic exchange through dispersal. The corridors would also serve to guard against extinction risks caused by environmental and man-made factors. The tiger corridors in this report are derived from the intensive and extensive countrywide survey and assessment of tiger, prey and habitat assessments done in 2006 and 2010. This information is then used to model tiger habitat suitability used as a cost surface in GIS based algorithms of least cost pathways and circuit theory. They serve as a first-cut information to field managers in identifying, managing, and restoring habitat connectivity between key tiger populations. The report is accompanied by a software CD that displays the shape files of these corridors on any web based mapping application so that the information can readily be used for effective conservation management. This report is the first in providing a map based national guide to Field-managers and policy makers on the spatial context of tiger corridors for guiding conservation inputs in consonance with the development agenda of the country. India is committed to secure the livelihoods of its citizens while simultaneously minimizing its impact on its wildlife conservation goals. This report provides a tool to achieve both these targets.



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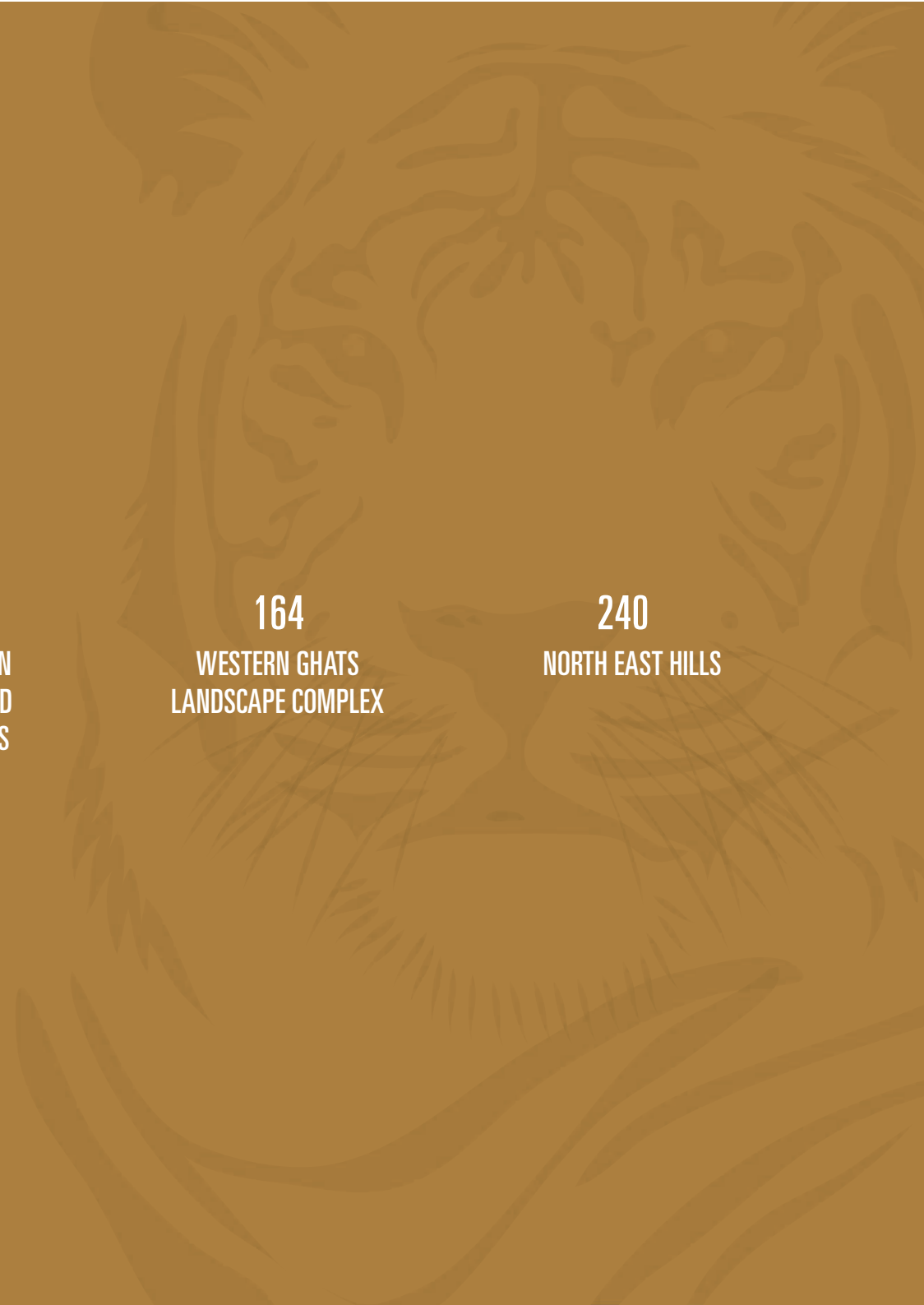
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# INTRODUCTION

Being at the top of the food chain and found at low densities, the conservation of large carnivores is a challenge to biodiversity conservation (Chapron G. et al. 2014). With their requirement of large home ranges, carnivores occupy vast areas to harbor viable populations (Purvis et al. 2000). Since historical times, carnivores are in conflict with humans for food and resources, often resulting in their demise (Gittleman et al. 2001). Several factors, such as habitat destruction and excessive hunting by humans in lieu of real or perceived threat to people and their livestock, the use of body parts for traditional medicine, have extirpated many populations (Woodroffe 2000, Clark et al. 1996, Check 2006) while shrinking, fragmenting, and isolating most others to varying degrees (Crooks 2002, Proctor et al. 2005). Small and isolated such populations are prone to local extinctions (Wilcox and Murphy 1985, Woodroffe and Ginsberg 1998), therefore managing them in a meta-population framework (Harrison 1991, Hanski 1994) by connecting through habitat corridors (Beier and Noss 1998, Noss 1987) provides individuals an opportunity to disperse, establish residency and reproduce, reduces the overall risk of extinction (Purvis et al. 2000, Banerjee and Jhala 2012). In comparison to other large cats, tigers having relatively high K selected life history, dispersal and immigration play a vital role in long-term viability of tiger populations (Chapron et al. 2008). Small isolated tiger populations are likely to face extinction due to demographic stochasticity, inbreeding depression (Frankham et al 2002) and poaching (Chapron et al. 2008, Kenney et al. 1995). Therefore, habitat connectivity is essential in sustaining regional populations of tigers, as they require contiguous forest connectivity for dispersal and genetic exchange between populations (Smith 1993; Yumnam et. al. 2014).

The impacts of habitat fragmentation can be mitigated by preventing or reversing population isolation through connectivity conservation (Crooks and Sanjayan 2006), which facilitates the accommodation of species to the shifts in their natural domains due to climate change and maintain their evolutionary potential (Crooks and Sanjayan 2006,

Revilla and Wiegand, 2008; Lowe and Allendorf 2010). Wildlife conservation has emphasized on two primary strategies to promote connectivity. The first focuses on conserving areas that facilitate movement; while the second focuses on restoring connectivity across areas that impede movement. Most connectivity analyses have focused on the former strategy where modeling and mapping areas important for movement are important. In the majority of conservation studies, it is observed that a corridor is a continuous remnant of habitat between otherwise isolated habitat patches (Inglis and Underwood 1992; Beier and Noss 1998). Thus, a corridor is not merely an animal movement path, but also a conservation intervention (e.g., land protection, restoration, and management), when applied to a portion of the potential movement area between habitat patches, it achieves specific connectivity goals in landscapes that would otherwise be fragmented by urban, agricultural, or industrial land uses. The phrase "landscape permeability" which suggests (1) the importance of dynamic processes, (2) the species-specific nature of obstacles to movements, is often substituted for connectivity. It compels conservationists to think about the landscape (including the "matrix" of unprotected land) as a whole, rather than focusing on protected areas and narrow defined corridors (Forman and Godron 1986).

Studies on modeling connectivity has always focused on developing reliable linkage designs (Beier et al. 2008) whereas less attention has been paid to procedures for mapping regional connectivity within numerous natural landscape blocks over large areas, such as a nation, province, or eco-region. Among the methods and metrics used for analyzing connectivity, the two recent and complementary approaches that have gained popularity and provided important conceptual improvements for decision making in conservation planning are graphs (Urban and Keitt 2001) and habitat availability metrics (Pascual-Hortal and Saura 2006). With intensive efforts put towards advancing the best way to quantify and incorporate connectivity in landscape planning, much research work is carried out in field understanding the







underlined meta-population dynamics, focusing on patch based description of connectivity (Moilanen and Hanski 2001). Models distinguishing between habitats of varying quality for a species are prerequisites while estimating functional connectivity, as animals are believed to select movement paths in the same way they choose habitat (Beier et al. 2008). Therefore a reduced ecological cost (e.g., mortality risk) is accounted when individuals move through favourable habitats (Rayfield et al. 2010), demonstrating the significance of high quality habitats to be more permeable to movement than low quality habitats.

Conceived as a landscape feature (Tischendorf and Fahrig 2000) and defined as the connectedness of habitat for a particular species (Fischer and Lindenmayer 2007), connectivity can be a simple structural indices to more complex, biologically detailed, dynamic and spatially explicit meta-population models (Hanski and Ovaskainen 2000, Calabrese and Fagan 2004, Wiegand et al. 2005). Hence, measuring functional connectivity involves understanding the relation between structural characteristics of the landscape with ecological and behavioral characteristics of the species or community of species (Adriaensen et al. 2003). There are several approaches available to evaluate connectivity across complex landscapes, including least-cost path modeling (Adriaensen et al. 2003, Cushman et al. 2010), circuit theory (McRae and Beier, 2007; McRae et al., 2008), other forms of network analysis (Urban et al., 2009), resistant kernel modeling (Compton et al., 2007; Cushman et al., 2010b), agent-based movement (Palmer, Coulon and Travis, 2011), gene flow simulations (Landguth and Cushman, 2010), statistical modeling (Cushman et al., 2006; Compton et al., 2007; Spear et al., 2010) or empirically derived understandings from detailed movement data (Sawyer et al., 2009; Cushman et al., 2011).

In the light of conservation of Tiger, rigorous assessment of the influence of connectivity in maintaining meta-population framework is a necessary component in planning. The tiger (*Panthera tigris*) acts as a umbrella and focal species for the conservation of forested

ecosystems throughout its range in Asia (Tilson and Seal 1987). Although widely debated (Simberloff, 1998; Caro and O'Doherty, 1999; Lindenmayer and Fischer, 2003; Wiens et al., 2008), the focal species concept is important in landscape planning for wildlife management and conservation as it allows action with incomplete knowledge, address the conservation or management requirements of whole communities by focusing on a species subset (Lambeck, 1997). The approach is widely used not only to design protected areas (e.g. Noss et al., 1999; Gopal 2014) but also to plan wildlife linkages (i.e. corridor networks for multiple species), to maintain connectivity among protected areas (e.g. Sanderson et al., 2002b; Rouget et al., 2006; Thorne et al., 2006; Beier et al., 2008; Yumnam et al. 2014).

Conserving the tiger typifies the prospects and challenges inherent in the current paradigm of fragmented small populations and landscape based conservation models in large carnivores (Dolrenry et al 2014). Extant tiger populations are confined to fewer than 7% of their historical range in patchily distributed habitats across a range of twelve regional tiger conservation landscapes (TCLs) in southern and north-eastern Asia (Dinerstein et al. 2007). Six global priority TCLs of long-term tiger conservation significance are present in the Indian subcontinent alone. These Indian TCLs are important for global tiger recovery as they harbor over 60% of the estimated global population of ~3,000 wild tigers (Sanderson et al. 2006, Jhala et al 2011), and >60% of the global genetic variation in the species (Mondol et al. 2009). The high genetic variation seen in Indian tigers could be attributed to historically high population sizes, numbering about 50,000 individuals until c. 200 years ago, and habitat contiguity that permitted genetic exchange between the various regional tiger populations in the area (Mondol et al. 2009). Due to change in land ownership and forest use policy in the mid nineteenth century during British rule and again during the early years of India's independence a century later, much of the forest was cleared for timber and agricultural needs (Rangarajan 1996, Rangarajan 2006). This change in land use combined with


organized trophy hunting and bounty driven extermination resulted in severe decline, fragmentation and isolation of tiger populations throughout India (Rangarajan 2006, Narain et al. 2005). The strong wildlife legislation (The Indian Wildlife (Protection) Act, 1972) and the launching of Project Tiger in 1973 where the tiger, the top charismatic carnivore was used as a flagship and umbrella species for conserving the biodiversity of India's forested ecosystems marked the beginning of a new conservation era in India. Currently, within the six tiger occupied landscapes of India (Jhala et al. 2008), habitat contiguity varies extensively, with the best being within the Western Ghats and the North East, while fragmentation is highest in the Shivalik-Gangetic Plain and the Central Indian Landscapes (Jhala et al. 2011; Yumnam et al. 2014). Most of the connecting habitats in these landscapes are not within the legal domain of protected areas and are often lost to burgeoning development demands of a growing economy and attrition by human consumptive uses.

Currently in India, the once contiguous tiger population is now fragmented with source populations primarily restricted to tiger reserves. A tiger reserve is legally mandated to designate a critical core area wherein human habitation and resource extraction is not permitted (Wildlife Protection Act 1972, amendment 2005, (The Indian Wildlife (Protection) Act, 1972). This core is surrounded by a buffer zone, which is essentially a multiple use area, wherein conservation objectives are to be given precedence over other land uses. Breeding populations of tigers are mostly located in the core area of tiger reserves, while the buffers usually serve as population sinks (Karanth et al. 2005, Jhala et al. 2011a,b). The size of these tiger reserves vary between 344 km<sup>2</sup> to 3,150 km<sup>2</sup> (average 1,321 km<sup>2</sup>), with tiger densities ranging from about 0.1 to 20 individuals per 100 km<sup>2</sup> (Jhala et al. 2011, Jhala et al. 2011a, Walston et al. 2010). For a demographically viable tiger population, a minimum of 20 to 25 breeding units are believed to be essential (Walston et al. 2010, Chapron et al. 2008, Gopal et al. 2010; 2014). As such, many extant tiger populations are by

themselves inadequate for long-term persistence (Kenney et al. 1995, Linkie et al. 2006), either because of habitats harboring a low number of breeding tigers, small size of the protected area and/ or ecologic isolation from other populations. High spatial genetic structuring and small population size observed in today's Indian tiger populations dictates preserving them in a metapopulation framework wherein individual populations are connected through a permeable habitat matrix and can occasionally exchange individuals (Hanski and Gilpin 1997). This would result in re-colonization of suitable habitat patches where tigers have become locally extinct and rescue declining local populations from extinction by immigrants (Hanski 1999, Brown and Kodric-Brown 1977). Understanding and managing the metapopulation framework of extant tiger populations is an important strategy for ensuring their long-term conservation. Connecting tiger source populations within tiger landscapes by identifying, restoring and conserving habitat corridors will not only enhance long-term tiger conservation objective but will serve to address the need for gene flow for many other biota as well.

In this document we provide a preliminary map of minimal habitat corridors connecting source populations of tigers in India. The mapped corridors are based on least cost corridors and least resistance pathways using circuit theory. Though these models are based on real life data on tiger habitat suitability obtained from extensive ground surveys during the country wide assessment of tiger status (Jhala et al 2011), however, they still need site specific ground validation for micro-adjustments. Field managers can use these as first cut information for their tiger





conservation plans that include landscape scale connectivity as an important component. The corridors shown in this report are minimal requirement. Alternative connectivities do exist in many areas and need to be conserved as well. Many of these alternative connectivities are highlighted by the resistance based connectivities (circuitscape) in this report and need conservation attention as well. The bottlenecks in the minimal corridors need special attention through enhanced protection and restoration ecology inputs. Infrastructural development within corridors should be minimal, and whenever permitted for larger National interests, it should include a "green mitigation design" for ensuring that the corridor permeability for tigers is not compromised. In the absence of any formal maps on corridor, this report will serve to provide this much needed information for long-term tiger conservation.

## MATERIALS AND METHODS

### Field Data Collection for Occupancy Analysis

#### Tiger Sign Surveys

The entire study area was divided into 10 km x 10 km grids. Each grid that contained potential tiger habitat (forest) was surveyed by replicate search paths for tiger sign. The number of surveys per grid ranged from 3 to 35, and was proportional to the amount of tiger habitat within each grid. Each survey consisted of a 5 km search for tiger signs. Surveys were not random, but instead conducted along features that were likely to have tiger sign e.g. dirt roads, dry water courses, and animal trails (Jhala et al. 2011). Surveys were conducted by the local guard and a local assistant who had intimate knowledge of the forest and were trained to observe and record tiger sign in pre-designed datasheets. All encounters of tiger pugmark track sets and scats were recorded. These were distinguished from those of other carnivores based on criteria described by (Jhala et al. 2009 and Karanth and Nichols 2002). A total of 44,8005 km of search effort was invested in 89,600 replicate surveys between December 2009-February 2010 (cold and dry season) across the entire country to adhere with the assumption of occupancy closure (MacKenzie et al. 2006) and have minimal influence of weather (rainfall) on sign detections and distribution. A total of 9309 grids were sampled.

#### Prey Assessment

Within each forest beat, one or two permanent line transects of 2 to 4 km in length were delineated. Each transect was walked on two or three subsequent mornings (06:30 to 08:30 hrs) by two observers to record encounter rates of wild ungulates and domestic livestock. Data on number of each species seen and the length of transect were recorded to compute encounter rates of each species. In disturbed forests (outside of Protected Areas) wild ungulate densities were low, animals were shy, and difficult to record using line transects. Therefore,

at every 400 m along the line transect we also sampled a plot of 20 x 2 m to record ungulate dung. Dung was visually distinguished to species (Jhala et al. 2009) and dung density for each species, wild ungulates as a group, and domestic livestock was computed separately. Encounter rates of ungulates and dung density were used as indices of ungulate abundance. The number of transects within each 100 km<sup>2</sup> grid ranged from 1 to 74, and were proportional to the quantum of tiger habitat within that grid. Total effort invested in transect survey was 1,79,202 km of walk in 89600 replicates.

Human Disturbance - At every 400 m along transects established for ungulate assessment a plot of 15 m radius was sampled to assess indices of human impact. Presence of (a) human/livestock trails within the plot, and (b) sighting of humans and livestock from the plot were recorded (Jhala et al. 2009) The number of plots within a 100 km<sup>2</sup> grid ranged from 5 to 147. The total number of plots sampled across the country was 4,48,000.

#### Remotely Sensed Variables

Remotely sensed data that depict landscape characteristics and human impacts were obtained from various sources and extracted at the 10 X 10 km grid. Forest cover was obtained from the Forest Survey of India (FSI 2009) that is based on IRS 1D LISS III satellite with 4 multispectral band data at 23.5 m resolution. Normalized Differential Vegetation Index (NDVI) information were derived from 1 km<sup>2</sup> Advanced Very High Resolution Radiometer (AVHRR) data, acquired from the National Aeronautics and Space Administration's (NASA) Television Infrared Observation Satellite (TIROS) (<http://science.nasa.gov/missions/tiros/>; accessed Dec 23, 2010). Road and drainage information were obtained from Digital Chart of the World (<http://statisk.umb.no/ikf/gis/dcw/>; accessed Dec 20, 2010). Protected Area shape files were obtained from the wildlife database at the Wildlife Institute of India, National Tiger Conservation Authority and State Forest Departments of India. The



Shuttle Radar Topography Mission has produced the most complete, high-resolution digital elevation model of the earth (Rodriguez et al 2005). Within each 1 km<sup>2</sup> grid, this information was used for computing average elevation and the coefficient of variation of elevation used as a measure of terrain ruggedness. Night light data was obtained from U. S. Air Force Defense Meteorological Satellite Program (DMSP) and National Oceanic and Atmospheric Administration's (NOAA) Operational Linescan System (OLS) (<http://www.ngdc.noaa.gov/dmsp/sensors/ols.html>; accessed Dec 18, 2010). Density of roads (length of paved road per km<sup>2</sup>), and Euclidean distances to roads, Protected Areas and Night Lights were computed in ArcGIS 9.3 (www.esri.com) software.

### Occupancy Modeling

Though sampling was done at the level of the forest beat so as to ensure an even distribution of sampling effort across the landscape, analysis was done at the scale of 9309 grids, each of size 10x10 km<sup>2</sup>. This grid size was chosen since it was larger than the size of an average tiger home range (Sharma et al. 2010, Karanth KU and Sunquist ME 2000) and the size was relevant for subsequent administrative and managerial inputs. Sign surveys of 5 km independent spatial replicates within each grid (Kendall WL and White GC 2009) were modeled to address the issue of imperfect detections of tiger sign using program PRESENCE (Hines 2006). Detection of tiger signs was likely to depend on the abundance of tigers within a grid (Karanth et al. 2011). We first modeled the detection process by i) keeping detection ( $\hat{P}$ ) constant across surveys, ii)  $\hat{P}$  varying across surveys and iii)  $\hat{P}$  as a function of tiger abundance in that grid, wherein we used average encounter rate of tiger sign as an index that surrogated tiger abundance (Jhala et al. 2011, Karanth et al. 2011). The model that best explained the detection process based on Akaike Information Criteria (AIC) was then used in all subsequent models of tiger occupancy.

Tiger site occupancy was a *priori* expected to be positively influenced by a) prey abundance, and b) amount and quality of tiger habitat, and negatively influenced by c) human disturbance (Jhala et al. 2011, Karanth et al. 2011, Harihar and Pandav 2012). We tested these hypotheses by modeling variables representing these factors as covariates using the logit link function in PRESENCE (MacKenzie et al. 2006, Hines 2006). We initially generated data on 23 site covariates that represented landscape and habitat features (Forest area, Core Forest area, Forest patch size, Normalized Differential Vegetation Index (NDVI), Elevation, Ruggedness, drainage density, rainfall, distance to protected area), Prey availability (Chital, Sambar, wild pig and Gaur encounter rates on line transect walks, and wild ungulate dung density), human disturbance (distance to night lights, distance to roads, humans and livestock encountered on transect walks, human/livestock trails within sampled plots, and livestock dung density) that could potentially explain tiger occupancy. These covariates were examined with exploratory data analysis for their interrelationships and relationship to tiger presence (by scatter plots, box plots, and correlation analysis). The variables were modeled as covariates in a logit link function to model tiger occupancy in the program PRESENCE available for download from <http://www.proteus.co.nz/>. Model selection was done using AIC and model fit was assessed by comparing the actual detection histories with simulations generated from 50,000 parametric bootstrap runs of the target model in PRESENCE. Models were built using prey abundance, human disturbance and habitat quality, these were evaluated against the null model and the full model by their delta AIC values. A total of six models were evaluated for modeling tiger occupancy and coefficient estimates for all models with delta AIC < 2 were averaged based on model weights (MacKenzie et al. 2006) to arrive at occupancy probability ( $\Psi$ ) in each grid (Yumnam et. al. 2014).

### Tiger Population Extents and Occupied Habitats

We used two approaches to estimate population extents and area of occupied habitats; (i) a more conservative approach wherein we considered only those grids that detected tiger sign as being occupied (the naïve estimate) and (ii) model inferred occupancy that corrected for detection bias and covariates in PRESENCE. Herein, landscape scale occupancy was computed by sum of cell occupancy probability values and divided by the total number of cells. Tiger habitat (forested area) in each grid was weighted by the tiger occupancy probability of that grid and summed across all grids to arrive at occupied tiger habitat for the landscape (Karanth et al 2011). All adjacent tiger sign detected cells were joined and were considered to be occupied by a single tiger population.

### Habitat Corridor Modeling

Grid based tiger occupancy probability ( $\Psi$ ) obtained from PRESENCE was used as a measure of habitat suitability for tigers (Boyce et al. 1999, MacKenzie et al. 2006). A cost surface for tiger habitat suitability across grids was generated as  $1-\Psi$ . This was used as a resistance layer for modeling habitat connectivity using least cost (Sawyer et al. 2011)

and circuit theory (McRae et al. 2008) analyses. Least-cost pathways (LCP) were modeled using PATHMATRIX (Ray 2005), and resistance pathways were modeled using CIRCUITSCAPE (McRae and Shah 2009). Core areas of tiger reserves were considered as "sources" or areas of high potential from which tiger movement across paths of least resistance were modeled across the landscape. PATHMATRIX models several potential routes in a radiating manner from the "source" to connect to another adjacent "source". It then selects a single "least cost" pathway as the best alternative. CIRCUITSCAPE models connectivity through habitat swaths, considering resistance to movement based on pixel cost and corridor width (McRae et al. 2008). It provides one to several potential alternatives for joining sources and helps in identifying bottlenecks within the corridors. Since Central Indian Landscape is a human dominated landscape with clearly defined and limited forested habitat, we could overlay LCP on high resolution Google Earth images and align them to match geographical features within occupancy grids, to delineate realistic corridors. These least cost corridors buffered by 1.5 km (LCC) were considered the minimal essential corridors joining two tiger reserves.







# SHIVALIK HILLS AND GANGETIC PLAINS

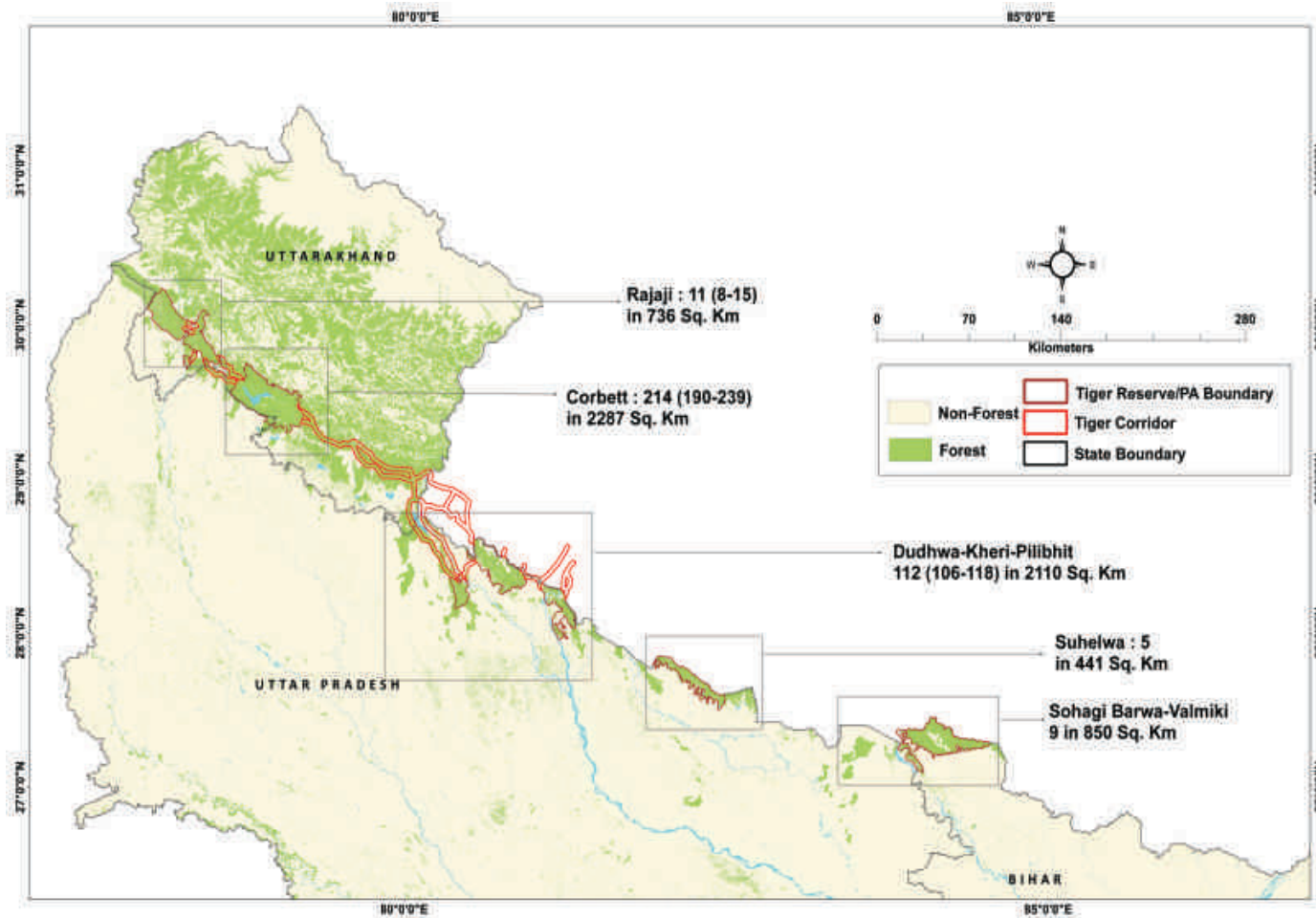




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# THE SHIVALIK HILLS AND GANGETIC PLAIN LANDSCAPE

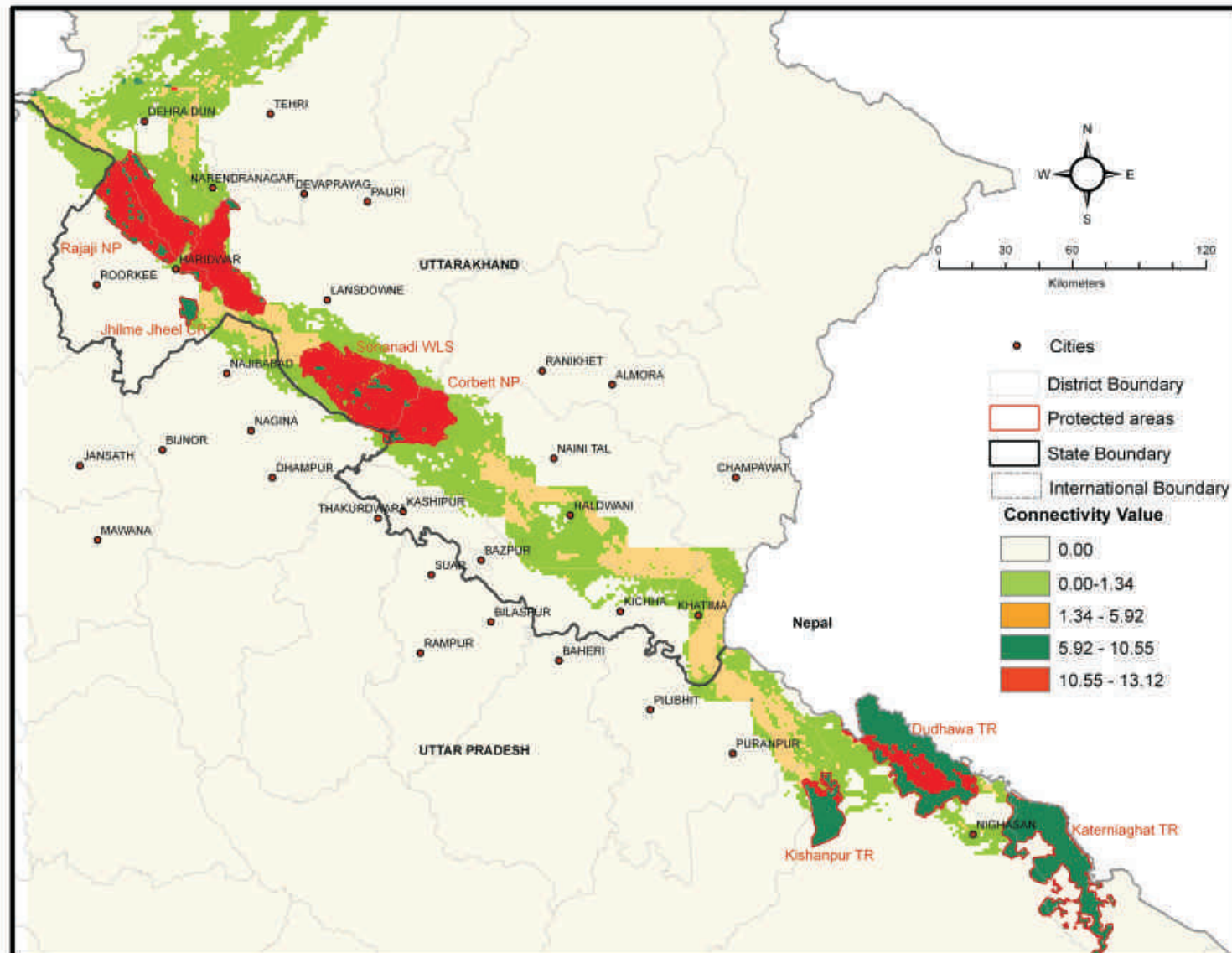
The Shivalik Hill and Gangetic Plain landscape comprises of Uttarakhand, Uttar Pradesh and Bihar. The entire landscape has 4 Tiger Reserves with about 351 tigers.



**Figure 1.1:**  
*Tiger Populations and Corridors of Shivalik and Gangetic Plain*



**Figure 1.2:**  
Map showing  
Landscape connectivity  
in Shivaliks modeled  
Using CIRCUITSCAPE



# CORRIDORS OF SHIVALIK HILLS AND GANGETIC PLAINS

Kansrao-Barkot connects Rajaji National Park with Dehradun Forest Division. A narrow strip of forest west of Lal Dhang town connects Rajaji National Park with Jhilmil Jheel Conservation Reserve. Highway and a canal crosses the corridor which need mitigation in the form of passageways to maintain long term wildlife movement. The Chilla Range (eastern Rajaji) is connected with Motichur Range (western Rajaji) by Chilla-Motichur connectivity. This corridor is severely impaired restricting the movement of tigers to western Rajaji, across River Ganga.

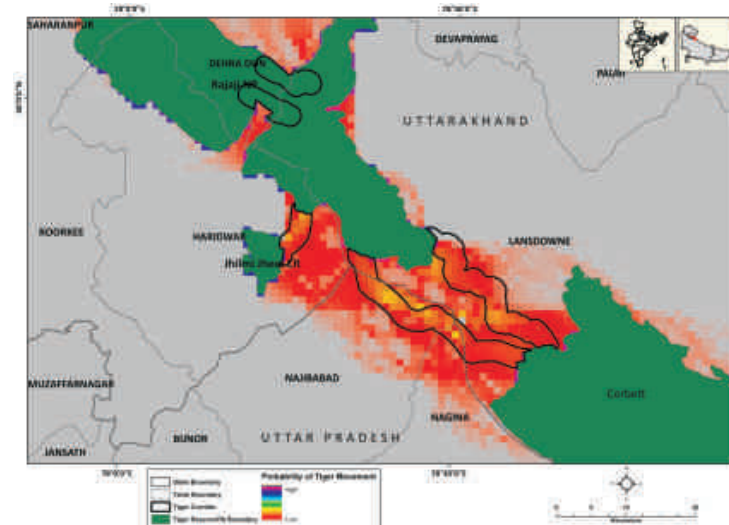
The most used part of this region, through the Motichur Rau, is constricted by high human habitation due to the growing township of Haridwar on the south. To the north, a settlement (Khand Gaon 3) housing the Tehri dam oustees is located along with an army ammunition dump but is still potentially viable. This portion needs to be restored through acquisition and restorative management.

River Song flowing into the River Ganga between Raiwala and Rishikesh forms a corridor that is heavily impacted by human habitation and agriculture. A lot has been written on the importance of this critical corridor for elephants as well as other wildlife. However, there has been little progress on ground to revive it. Important considerations for revitalizing these corridors are: mitigation of the impact of the Delhi-Dehradun highway and railway traffic, power canal, and prevention of encroachment of the river islands in the River Ganga.

The Rajaji-Corbett corridors comprises of two smaller corridors: one through the Shivalik Hills (Lansdowne Forest Division) and the other through the Shivalik foot-hill forests of Haridwar and Bijnore Forest Division that connects Rajaji to Corbett Tiger Reserve (Sonanadi Wildlife Sanctuary). Both these corridors (more so the Bijnore forest corridor) are threatened by the growing township of Kotdwar. The Bijnore

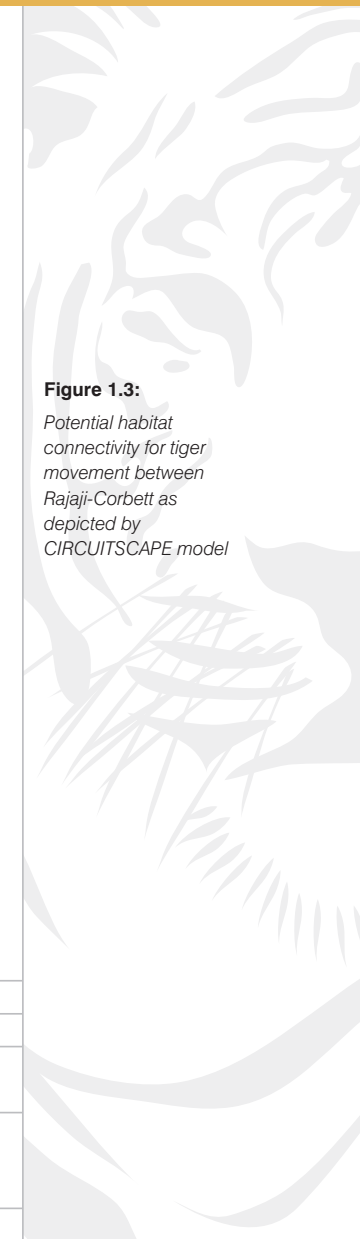
## RAJAJI-CORBETT

corridor faces severe bottleneck south-east of the township of Kotdwar where it passes through agriculture and human settlements.



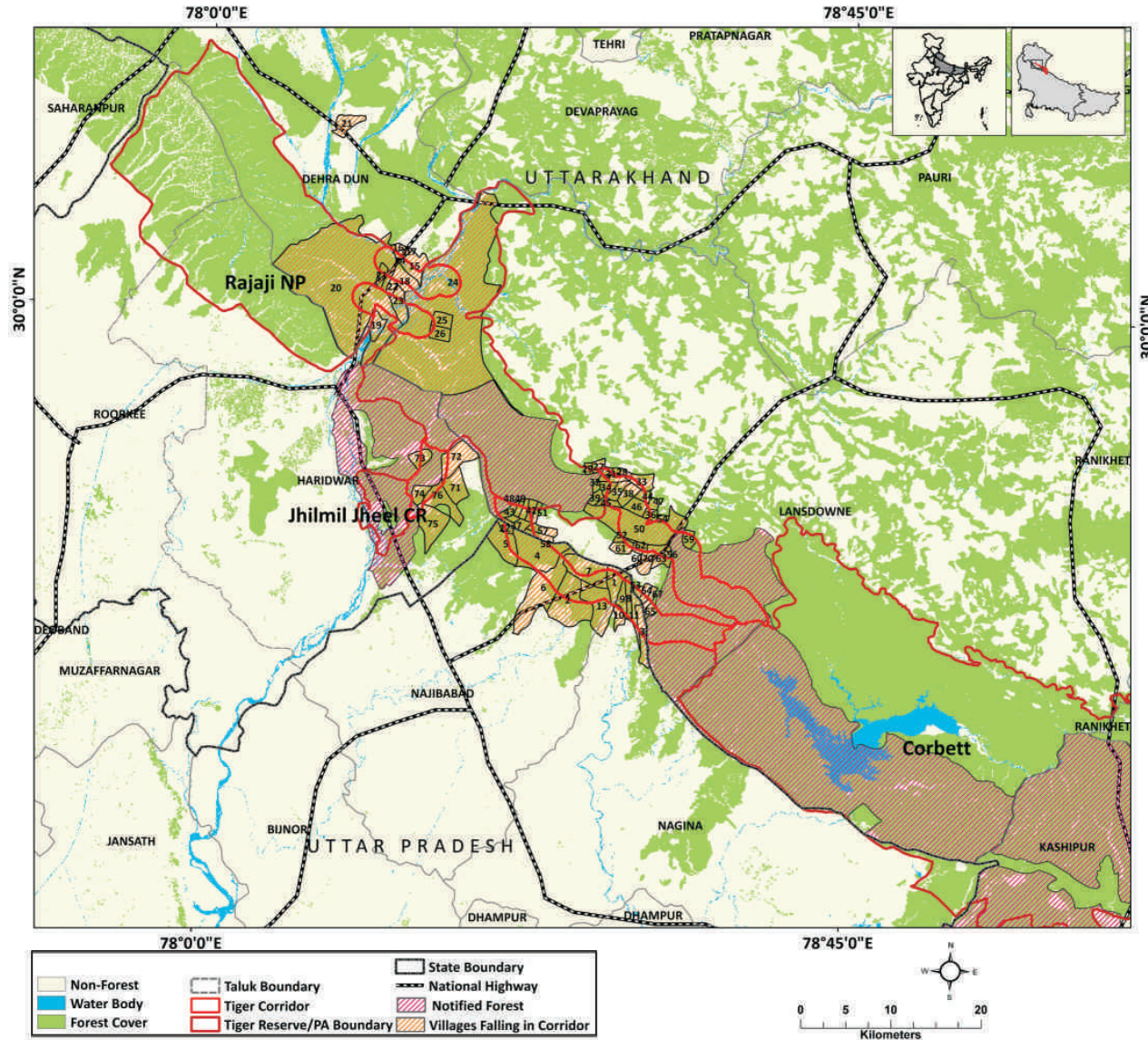
**Figure 1.3:**  
Potential habitat connectivity for tiger movement between Rajaji-Corbett as depicted by CIRCUITSCAPE model

| Rajaji-Corbett           |  |
|--------------------------|--|
| <b>Habitat size</b>      | 24792 Km <sup>2</sup>  |
| <b>Source Population</b> | Rajaji and Corbett   |
| <b>Size of Source</b>    | 8-15 (Rajaji)<br>190-239 (Corbett)                                       |
| <b>Protected Areas</b>   | Rajaji NP<br>Corbett Tiger Reserve<br>Jhilmil Jheel Conservation Reserve |
| <b>Corridors</b>         | Rajaji-Corbett   |



**Figure 1.4:**

Least Cost Pathway corridor for Tiger movement Rajaji-Jhilmil Jheel, Rajaji-Corbett and within Rajaji (Chilla-Motichur) overlaid with village map (the village numbers are referenced in Table 1.1)



| Village_ID | State         | District | Tehsil    | Village             | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|---------------|----------|-----------|---------------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Uttar Pradesh | Bijnor   | Najibabad | Kouriya             | 60                     | 294                     | 122                    | 594                     |
| 2          |               |          | Najibabad | Chatruwala          | 38                     | 189                     | 35                     | 157                     |
| 3          |               |          | Nagina    | Qadarganj           | 60                     | 388                     | 67                     | 293                     |
| 4          |               |          | Najibabad | Haldu Khata         | 5                      | 30                      | 21                     | 125                     |
| 5          |               |          | Najibabad | Ramnagar            | 3                      | 18                      | 5                      | 49                      |
| 6          |               |          | Najibabad | Madduwala           | 140                    | 818                     | 110                    | 609                     |
| 7          |               |          | Najibabad | Motadhar            | 142                    | 744                     | 162                    | 763                     |
| 8          |               |          | Nagina    | Telipara            | 121                    | 550                     | 259                    | 1075                    |
| 9          |               |          | Nagina    | Rajpur Kot          | 8                      | 22                      | 1                      | 1                       |
| 10         |               |          | Nagina    | Shanckerpur         | 21                     | 101                     | 12                     | 54                      |
| 11         |               |          | Nagina    | Sulema Shikohpur    | 45                     | 222                     | 42                     | 204                     |
| 12         |               |          | Najibabad | Rahman Nagar        | NA                     | NA                      | NA                     | NA                      |
| 13         |               |          | Najibabad | Sanywala            | NA                     | NA                      | NA                     | NA                      |
| 14         | Uttarakhand   | Dehradun | Rishikesh | Thakurpur           | 55                     | 302                     | 71                     | 344                     |
| 15         |               |          | Rishikesh | Kharakmaf           | 974                    | 5397                    | 1699                   | 8404                    |
| 16         |               |          | Rishikesh | Kheri Khurd         | 293                    | 1571                    | NA                     | NA                      |
| 17         |               |          | Rishikesh | Shyampur            | 679                    | 3945                    | 1432                   | 7052                    |
| 18         |               |          | Rishikesh | Mohri Mafi          | 328                    | 1850                    | NA                     | NA                      |
| 19         |               |          | Rishikesh | Haripur Kalan       | 942                    | 4720                    | 2328                   | 10367                   |
| 20         |               |          | Dehradun  | Motichur Range      | NA                     | NA                      | NA                     | NA                      |
| 21         |               |          | Dehradun  |                     | NA                     | NA                      | NA                     | NA                      |
| 22         |               |          | Dehradun  | Pratit Nagar        | NA                     | NA                      | NA                     | NA                      |
| 23         |               |          | Chakrata  | Raiwala             | NA                     | NA                      | NA                     | NA                      |
| 24         |               | Garhwal  | Kotdwara  |                     | NA                     | NA                      | NA                     | NA                      |
| 25         |               |          | Kotdwara  | Ganga Bhogpur Malla | 193                    | 934                     | 214                    | 1030                    |
| 26         |               |          | Kotdwara  | Ganga Bhogpur Talla | 56                     | 302                     | 75                     | 610                     |
| 27         |               |          | Kotdwara  | Simalna Talla       | 11                     | 39                      | 27                     | 112                     |



**Table 1.1.**  
Villages within the Least Cost Pathway Corridor between Rajaji-Jhilmil Jheel, Rajaji-Corbett and within Rajaji (Chilla-Motichur) as shown in Fig. 1.4



| Village_ID | State | District | Tehsil   | Village         | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|----------|-----------------|------------------------|-------------------------|------------------------|-------------------------|
| 28         |       |          | Kotdwara | Chaundali       | 43                     | 223                     | 43                     | 206                     |
| 29         |       |          | Kotdwara | Simalna Bichala | 7                      | 35                      | 35                     | 149                     |
| 30         |       |          | Kotdwara | Mathana Bichala | 48                     | 227                     | 83                     | 356                     |
| 31         |       |          | Kotdwara | Mathana Malla   | 33                     | 149                     | NA                     | NA                      |
| 32         |       |          | Kotdwara | Mathana Talla   | 11                     | 58                      | NA                     | NA                      |
| 33         |       |          | Kotdwara | Utircha         | 107                    | 464                     | 117                    | 447                     |
| 34         |       |          | Kotdwara | Gwiralra        | 20                     | 89                      | 17                     | 66                      |
| 35         |       |          | Kotdwara | Kandai          | 90                     | 426                     | 91                     | 396                     |
| 36         |       |          | Kotdwara | Ginthala        | 20                     | 61                      | 18                     | 66                      |
| 37         |       |          | Kotdwara | Gandriyakhla    | 57                     | 299                     | 84                     | 391                     |
| 38         |       |          | Kotdwara | Balli           | 141                    | 600                     | 150                    | 590                     |
| 39         |       |          | Kotdwara | Edabara         | 13                     | 67                      | 5                      | 15                      |
| 40         |       |          | Kotdwara | Edachota        | NA                     | NA                      | NA                     | NA                      |
| 41         |       |          | Kotdwara | Lalpur          | 234                    | 1087                    | 415                    | 1864                    |
| 42         |       |          | Kotdwara | Jayadevpur      | 76                     | 327                     | 92                     | 442                     |
| 43         |       |          | Kotdwara | Bhupdevpur      | 38                     | 186                     | 53                     | 274                     |
| 44         |       |          | Kotdwara | Katal           | 47                     | 195                     | 43                     | 157                     |
| 45         |       |          | Kotdwara | Edamalla        | 8                      | 31                      | 6                      | 20                      |
| 46         |       |          | Kotdwara | Sylinga         | 46                     | 208                     | 43                     | 185                     |
| 47         |       |          | Kotdwara | Tachali         | 17                     | 76                      | 16                     | 56                      |
| 48         |       |          | Kotdwara | Dalipur         | 41                     | 225                     | 64                     | 294                     |
| 49         |       |          | Kotdwara | Mandevpur       | 34                     | 190                     | 45                     | 204                     |
| 50         |       |          | Kotdwara | Kotdwar Gaon    | 327                    | 1612                    | 188                    | 851                     |
| 51         |       |          | Kotdwara | Lokmaripur      | 146                    | 827                     | 190                    | 960                     |
| 52         |       |          | Kotdwara | Dhurwapur       | 198                    | 988                     | 320                    | 1533                    |
| 53         |       |          | Kotdwara | Koriya          | 172                    | 866                     | 276                    | 1311                    |
| 54         |       |          | Kotdwara | Gaujura         | 13                     | 68                      | 18                     | 74                      |

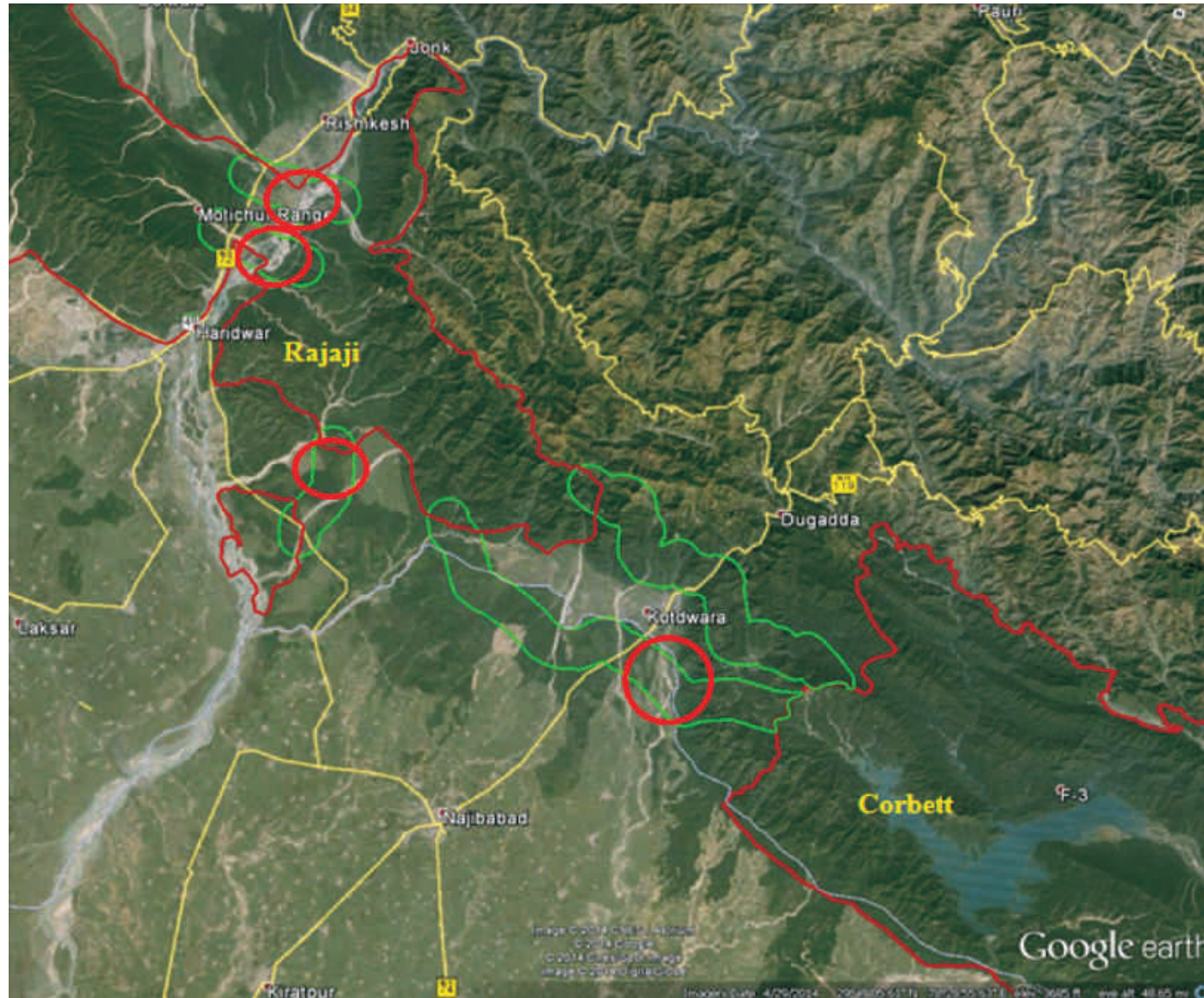
| Village<br>_ID | State | District | Tehsil   | Village               | No of<br>Household<br>(2001) | Total<br>Population<br>(2001) | No of<br>Household<br>(2011) | Total<br>Population<br>(2011) |
|----------------|-------|----------|----------|-----------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
| 55             |       |          | Kotdwara | Bhawanipur            | 5                            | 17                            | 6                            | 33                            |
| 56             |       |          | Kotdwara | Grastan Ganj          | 136                          | 654                           | 200                          | 924                           |
| 57             |       |          | Kotdwara | Jhandichaod Uttri     | 264                          | 1439                          | 422                          | 2073                          |
| 58             |       |          | Kotdwara | Jhandi Chaur West     | 319                          | 1757                          | NA                           | NA                            |
| 59             |       |          | Kotdwara | Jamargadi Talli       | 51                           | 261                           | 59                           | 254                           |
| 60             |       |          | Kotdwara | Manpur                | 847                          | 3751                          | NA                           | NA                            |
| 61             |       |          | Kotdwara | Padampur Sukhran      | 1368                         | 6555                          | 2406                         | 9802                          |
| 62             |       |          | Kotdwara | Shivpur               | 767                          | 3688                          | 1055                         | 4889                          |
| 63             |       |          | Kotdwara | Ratanpur              | 210                          | 1116                          | 329                          | 1478                          |
| 64             |       |          | Kotdwara | Lapani Walli          | 131                          | 692                           | NA                           | NA                            |
| 65             |       |          | Kotdwara | Kotridhank            | 111                          | 556                           | 154                          | 799                           |
| 66             |       |          | Kotdwara | Harsinghpur           | 211                          | 1011                          | 406                          | 1820                          |
| 67             |       |          | Kotdwara | Lalpani Palli         | 97                           | 512                           | 283                          | 1333                          |
| 68             |       |          | Kotdwara | Saneh Palli           | 81                           | 406                           | NA                           | NA                            |
| 69             |       |          | Kotdwara | Saneh Walli           | 42                           | 216                           | NA                           | NA                            |
| 70             |       |          | Kotdwara | Kotdwara              | NA                           | NA                            | NA                           | NA                            |
| 71             |       | Haridwar | Haridwar | Samaspur Katarbarh    | 91                           | 577                           | 116                          | 647                           |
| 72             |       |          | Haridwar | Rasool Pur Mithi Beri | 766                          | 4324                          | 1041                         | 5953                          |
| 73             |       |          | Haridwar | Peeli Parhav          | 249                          | 1697                          | NA                           | NA                            |
| 74             |       |          | Haridwar | Nalo Wala             | 27                           | 154                           | 59                           | 403                           |
| 75             |       |          | Haridwar | Gaindikhata           | 351                          | 2179                          | 549                          | 2817                          |
| 76             |       |          | Haridwar | Pamrhowali            | NA                           | NA                            | NA                           | NA                            |

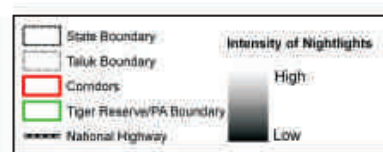
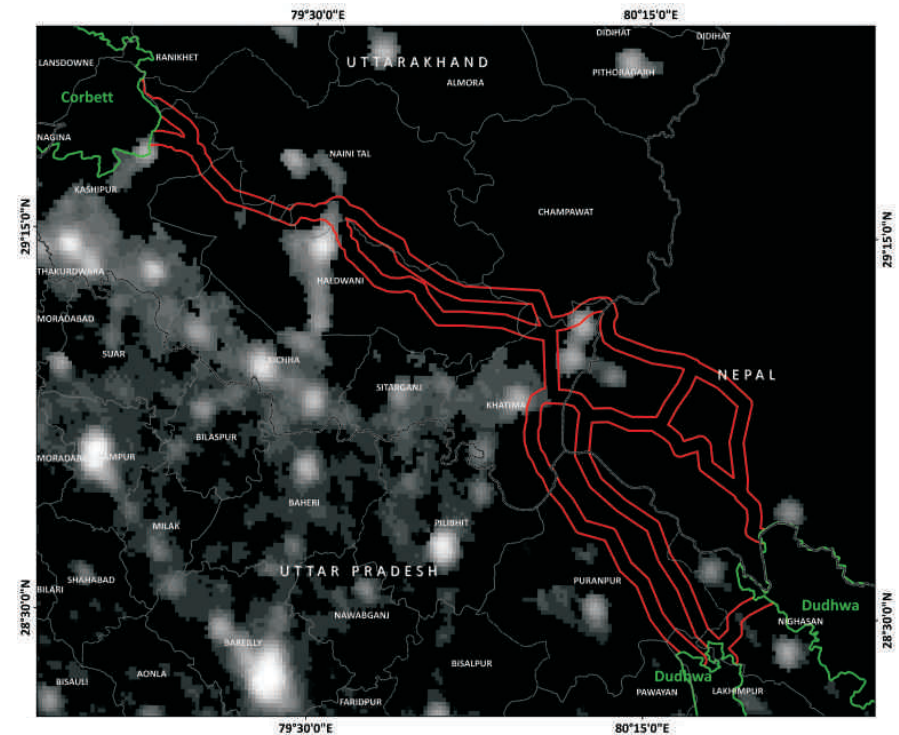
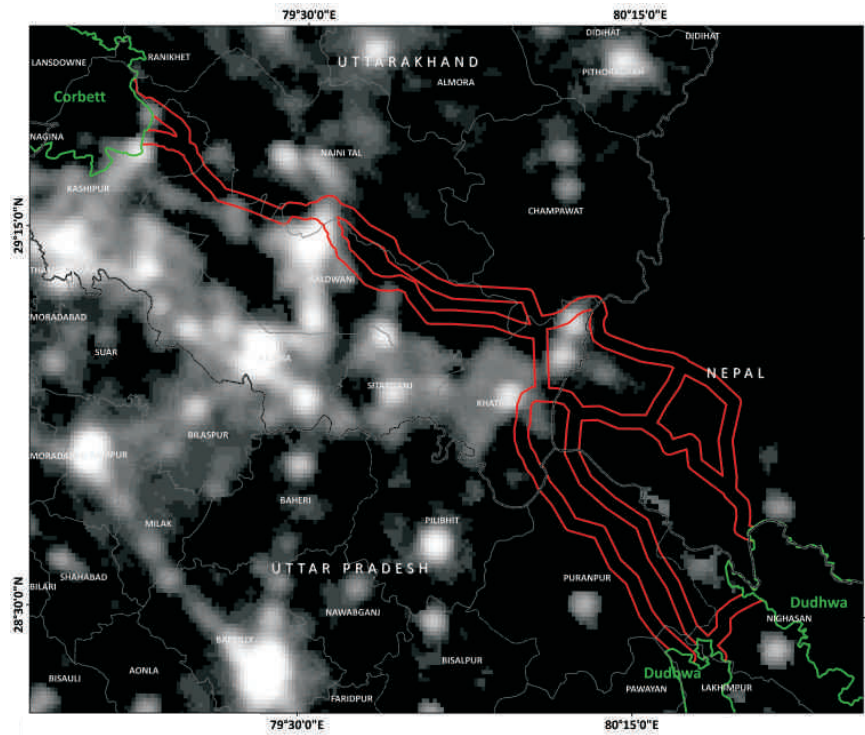




**Figure 1.5:**

Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Rajaji-Jilmil Tal, Rajaji-Corbett and within Rajaji (Chilla-Motichur)





**Figure 1.6:**  
 Human habitation as depicted by nightlights within the Rajaji-Corbett landscape in the year 1992 and 2012

## CORBETT-DUDHWA

Kosi River corridor connects Corbett Tiger Reserve to the Ramnagar Forest Division and onwards to the Forest Divisions of Terai West, Terai East and Haldwani. The connectivity between Corbett Tiger Reserve and the forests east of River Kosi, towards the plains, is impacted by the city of Ramnagar. Towards the north, the steeper slopes of the lower Himalayas make the connectivity tenuous for species like the elephant. Linear development of resorts and hotels along the highway from Ramnagar to Almora along the banks of the Kosi makes the intervening habitat matrix hostile to movement of wildlife. Currently only two corridors remain, one to the north of Dhikala entrance to Corbett near Garjia Temple crossing the Kosi River, and another commencing from Bijrani Gate of Corbett eastwardly to Kosi River and beyond. The northern boundary of this southern corridor is south of the Dhikuli village and north of River Tons. The above two corridors are the only vital linkages for gene flow between Corbett and the eastern populations of tigers and elephants in UP (Kishanpur and Dudhwa) and Nepal (Suklaphanta and Bardia National Parks).

Due to the high demand and price of land within these corridors for tourism ventures, policy and legislation need to be implemented urgently to secure them at the earliest before development deteriorates them further. Settlements in the northern section of the Reserve such as Sundarkhal need to be urgently relocated.

The connectivity through the plains (Gadgadia-Terai Central) forests, south of the city of Haldwani is now deteriorated beyond recovery due to the growth of Lal Kuan and Haldwani infrastructure, along with agriculture and industry. The plains/foot hills corridor from east of Haldwani passes north of Chorgalia town through the forests of Terai East Forest Division. Though the least cost pathway defines the corridor across the Shivalik Hills in the East Terai Forest Division, the forests in the terai belt (plains) that are currently fragmented patches are extremely important for movement of elephants that are unlikely to use the Shivalik corridor. The Nihil-Bhakra corridor north of Kamala and Kaladhungi is important for tiger movement.

Gola River corridor comprises of the north Kosi and south Kosi corridors that connect south west of Rampur village and continue eastwards

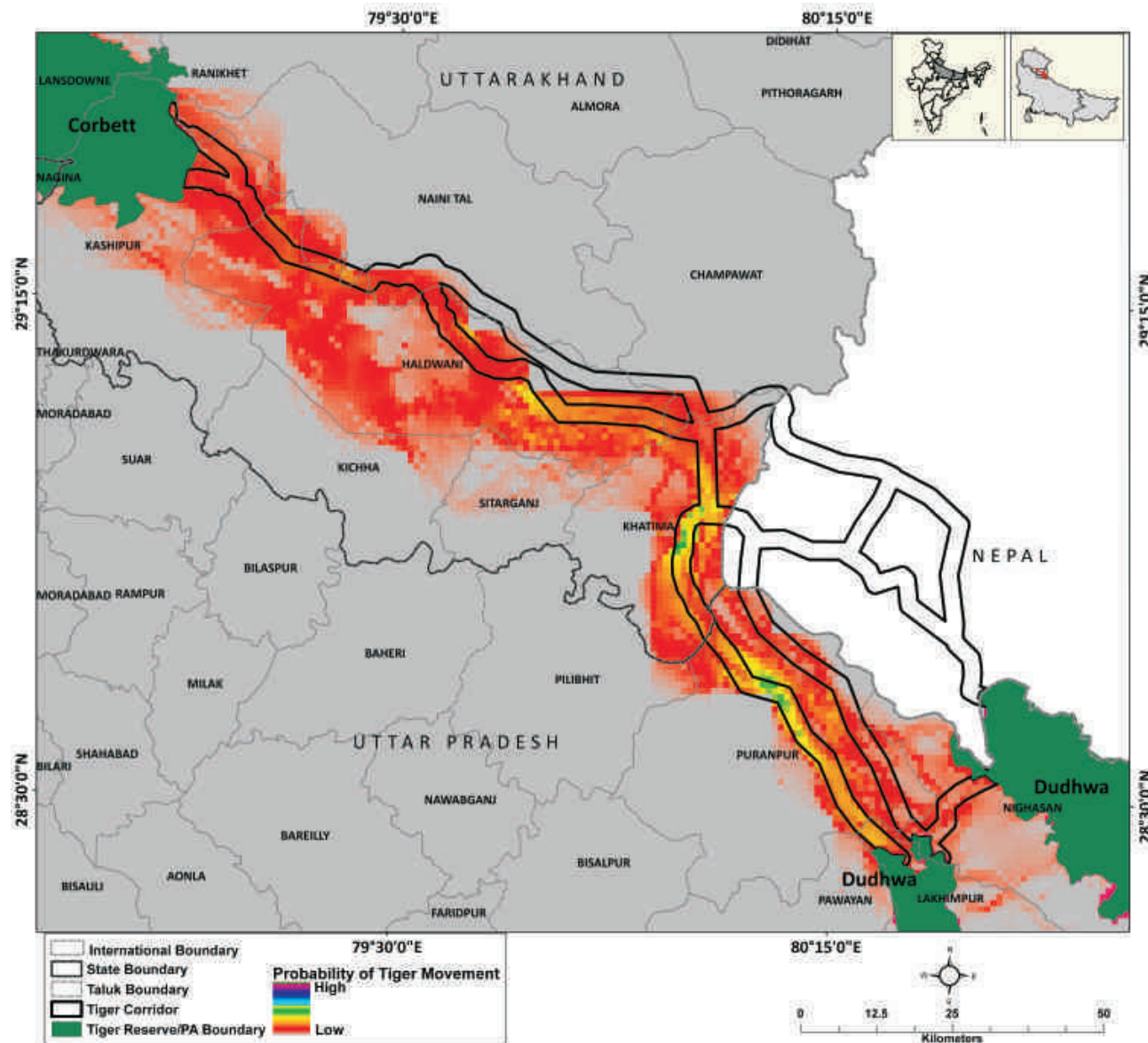
through the forests of Choti Haldwani and Kaladhungi upto the townships of Haldwani and Kathgodam. It is at this juncture that a severe bottleneck exists across River Gola.

The optimal path is through the plains section north of Kathgodam which is negotiable by elephants. However, a less impacted corridor through the hilly tracts along River Gomti is a viable option for other wildlife including tigers.

In Terai East, south-west of the township of Tanakpur (Kilpura range) the corridor bifurcates into two branches: the Kilpura corridor going north of Tanakpur to cross River Sharda above the barrage going into Nepal (Churia Hills-Bhramgiri Forests), and the Khatima-Surai corridor goes south via Khatima and Surai Range into Pilibhit connecting further to Kishanpur (Dudhwa Tiger Reserve).

### Corbett-Dudhwa

|                          |   |
|--------------------------|---|
| <b>Habitat size</b>      | 24792 Km <sup>2</sup>   |
| <b>Source Population</b> | Corbett and Dudhwa-Pilibhit   |
| <b>Size of Source</b>    | 190-239 (Corbett)<br>106-118 (Dudhwa-Kheri-Pilibhit)                    |
| <b>Protected Areas</b>   | Corbett Tiger Reserve<br>Dudhwa Tiger Reserve<br>Pilibhit Tiger Reserve |
| <b>Corridors</b>         | Corbett -Dudhwa   |

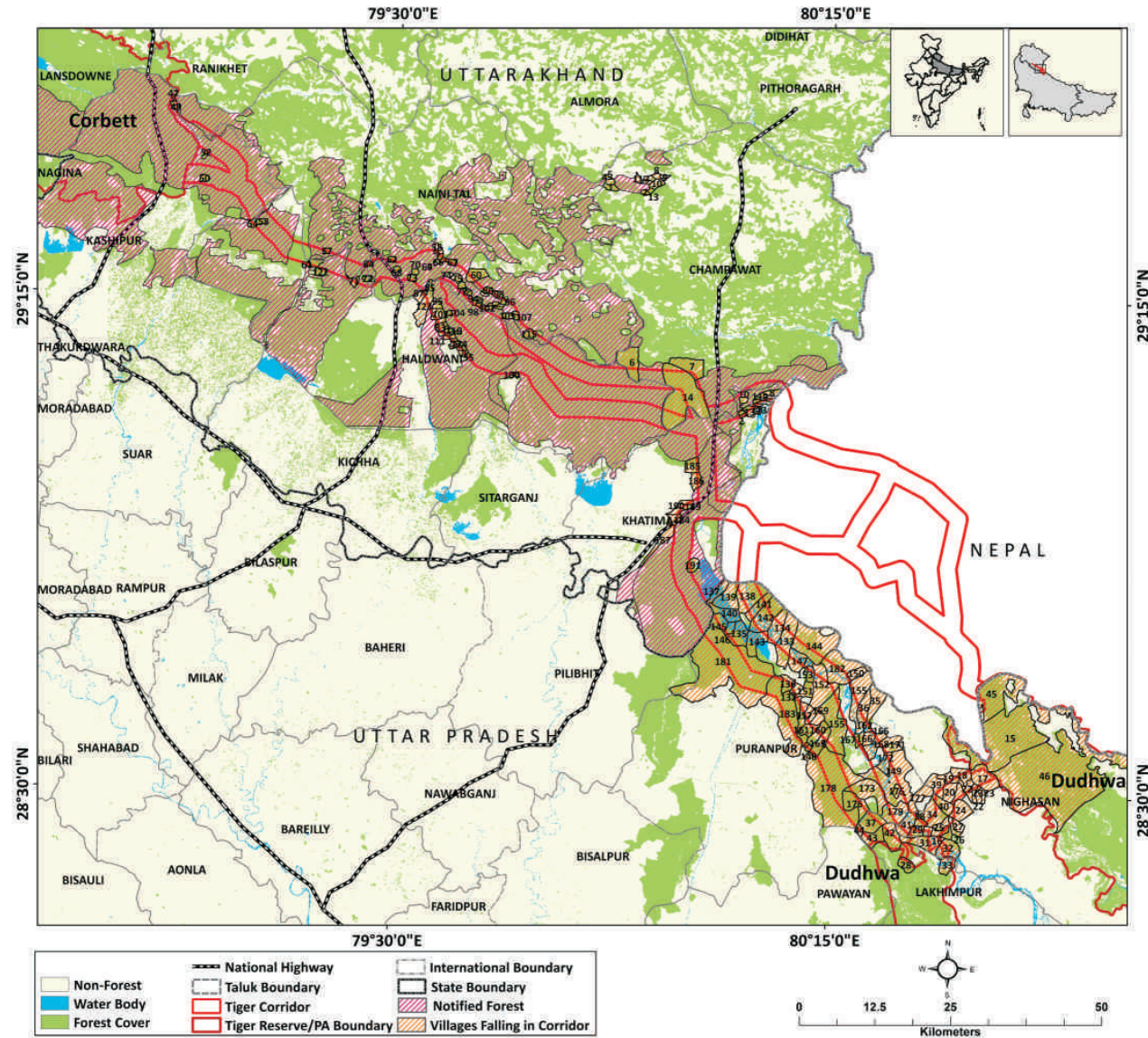


**Figure 1.7:**  
Potential habitat connectivity for tiger movement between Corbett-Dudhwa as depicted by CIRCUITSCAPE model



**Figure 1.8:**

Least Cost Pathway corridor for Tiger movement between Corbett-Dudhwa overlaid with village map (the village numbers are referenced in Table 1.2)



| Village<br>_ID | State         | District  | Tehsil            | Village             | No of<br>Household<br>(2001) | Total<br>Population<br>(2001) | No of<br>Household<br>(2011) | Total<br>Population<br>(2011) |
|----------------|---------------|-----------|-------------------|---------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
| 1              | Uttarakhand   | Champawat | Champawat         | Devidhura (dechmar) | 172                          | 691                           | NA                           | NA                            |
| 2              |               |           | Champawat         | Sagaun              | 46                           | 267                           | 46                           | 265                           |
| 3              |               |           | Champawat         | Kapherti            | 16                           | 76                            | NA                           | NA                            |
| 4              |               |           | Champawat         | Timla Guth          | 30                           | 169                           | 42                           | 218                           |
| 5              |               |           | Champawat         | Kumaiya Guth        | 8                            | 52                            | NA                           | NA                            |
| 6              |               |           | Champawat         | Bungra Dungra Pipal | 10                           | 88                            | 15                           | 88                            |
| 7              |               |           | Champawat         | Buram               | 53                           | 296                           | 60                           | 351                           |
| 8              |               |           | Champawat         | Kotna               | 39                           | 215                           | 55                           | 277                           |
| 9              |               |           | Champawat         | Amauli              | 91                           | 465                           | 100                          | 608                           |
| 10             |               |           | Champawat         | Dungra Kot          | 68                           | 333                           | 71                           | 405                           |
| 11             |               |           | Champawat         | Gegi Bashan         | 25                           | 148                           | NA                           | NA                            |
| 12             |               |           | Champawat         | Kanikot             | 149                          | 834                           | 192                          | 1058                          |
| 13             |               |           | Champawat         | Bans Balwari        | 104                          | 542                           | NA                           | NA                            |
| 14             |               |           | Champawat         | Sharda Range        | NA                           | NA                            | NA                           | NA                            |
| 15             | Uttar Pradesh | Kheri     | Nighasan          | Sureya Para         | 93                           | 864                           | 133                          | 1124                          |
| 16             |               |           | Nighasan          | Pateda              | 4                            | 18                            | 3                            | 18                            |
| 17             |               |           | Nighasan          | Ghola               | 365                          | 2416                          | 497                          | 2913                          |
| 18             |               |           | Nighasan          | Visen Puri Colony   | 354                          | 2443                          | 575                          | 3033                          |
| 19             |               |           | Nighasan          | Bahadur Nagar       | 51                           | 307                           | 68                           | 350                           |
| 20             |               |           | Nighasan          | Bhasuri             | 82                           | 474                           | 113                          | 530                           |
| 21             |               |           | Nighasan          | Tulli               | 13                           | 50                            | 15                           | 63                            |
| 22             |               |           | Nighasan          | Ebrahim Puri Colony | 323                          | 2431                          | 558                          | 2993                          |
| 23             |               |           | Nighasan          | Vikram Van          | 62                           | 475                           | 73                           | 399                           |
| 24             |               |           | Nighasan          | Gadeneya            | 423                          | 2417                          | 560                          | 3585                          |
| 25             |               |           | Nighasan          | Suhela              | 3                            | 11                            | 1                            | 1                             |
| 26             |               |           | Nighasan          | Badaiya Khera       | 28                           | 143                           | 29                           | 172                           |
| 27             |               |           | Nighasan          | Paduwa              | 291                          | 1746                          | 425                          | 2209                          |
| 28             |               |           | Gola Gokaran Nath | Kisunpur            | 162                          | 1112                          | 261                          | 1335                          |
| 29             |               |           | Nighasan          | Niranjan Pur        | NA                           | NA                            | NA                           | NA                            |
| 30             |               |           | Nighasan          | Madan Pur           | NA                           | NA                            | NA                           | NA                            |
| 31             |               |           | Gola Gokaran Nath | Khamaria            | NA                           | NA                            | NA                           | NA                            |
| 32             |               |           | Gola Gokaran Nath | Newasi              | NA                           | NA                            | NA                           | NA                            |



**Table 1.2:**  
Villages within the Least  
Cost Pathway Corridor  
between Corbett-  
Dudhwa as shown in  
Fig. 1.8



| Village ID | State       | District | Tehsil            | Village                       | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------------|----------|-------------------|-------------------------------|------------------------|-------------------------|------------------------|-------------------------|
| 33         |             |          | Gola Gokaran Nath | Girda                         | NA                     | NA                      | NA                     | NA                      |
| 34         |             |          | Nighasan          | Paras Pur                     | 89                     | 498                     | 432                    | 1854                    |
| 35         |             |          | Nighasan          | Bhan Puri Colony              | 632                    | 4637                    | 858                    | 5325                    |
| 36         |             |          | Nighasan          | Govind Naga Colony            | 356                    | 2799                    | 365                    | 2245                    |
| 37         |             |          | Gola Gokaran Nath | Ellenganj                     | 147                    | 903                     | 227                    | 1090                    |
| 38         |             |          | Nighasan          | Bajpur                        | 81                     | 421                     | 108                    | 497                     |
| 39         |             |          | Nighasan          | Bam Nagar                     | 173                    | 964                     | 213                    | 1089                    |
| 40         |             |          | Nighasan          | Mahag Pur                     | 270                    | 1707                    | 438                    | 2277                    |
| 41         |             |          | Nighasan          | Lagdahan                      | 200                    | 1182                    | 249                    | 1438                    |
| 42         |             |          | Gola Gokaran Nath | Canp                          | 184                    | 1149                    | 412                    | 2200                    |
| 43         |             |          | Gola Gokaran Nath | Grantno 1                     | 165                    | 969                     | 75                     | 333                     |
| 44         |             |          | Gola Gokaran Nath | Pasiyan Pur                   | NA                     | NA                      | NA                     | NA                      |
| 45         |             |          | Nighasan          | Gori Fanta                    | NA                     | NA                      | NA                     | NA                      |
| 46         |             |          | Nighasan          | Dudhauwa                      | NA                     | NA                      | NA                     | NA                      |
| 47         | Uttarakhand | Nainital | Haldwani          | Chukam                        | 63                     | 314                     | 84                     | 444                     |
| 48         |             |          | Haldwani          | Dhikuli                       | 198                    | 1020                    | 269                    | 1344                    |
| 49         |             |          | Haldwani          | Ladwachaur                    | 86                     | 467                     | 118                    | 623                     |
| 50         |             |          | Haldwani          | Neripura                      | 8                      | 46                      | 10                     | 58                      |
| 51         |             |          | Nainital          | Kheraula Pandey               | 40                     | 251                     | 43                     | 225                     |
| 52         |             |          | Haldwani          | Laduwarao                     | 7                      | 37                      | 1                      | 8                       |
| 53         |             |          | Haldwani          | Pauvalgarh                    | 137                    | 751                     | 177                    | 960                     |
| 54         |             |          | Haldwani          | Mankandpur                    | 181                    | 967                     | 192                    | 943                     |
| 55         |             |          | Haldwani          | Harisinghpur Urf Lachchhampur | 7                      | 34                      | 9                      | 51                      |
| 56         |             |          | Nainital          | Baniya                        | 17                     | 95                      | 27                     | 191                     |
| 57         |             |          | Nainital          | Moti Bang                     | 5                      | 17                      | 4                      | 17                      |
| 58         |             |          | Nainital          | Harinagar Chanddeva           | 39                     | 238                     | 40                     | 256                     |
| 59         |             |          | Nainital          | Salri                         | 89                     | 488                     | 102                    | 546                     |
| 60         |             |          | Dhari             | Bhauvasa                      | 114                    | 580                     | 119                    | 680                     |
| 61         |             |          | Haldwani          | Chhoti Haldwani               | 102                    | 531                     | 148                    | 779                     |
| 62         |             |          | Nainital          | Anrori                        | 7                      | 32                      | 5                      | 27                      |
| 63         |             |          | Nainital          | Purani Haat                   | 25                     | 133                     | 31                     | 162                     |

| Village<br>_ID | State | District | Tehsil   | Village                    | No of<br>Household<br>(2001) | Total<br>Population<br>(2001) | No of<br>Household<br>(2011) | Total<br>Population<br>(2011) |
|----------------|-------|----------|----------|----------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
| 64             |       |          | Haldwani | Basani                     | 121                          | 616                           | 131                          | 684                           |
| 65             |       |          | Nainital | Duhra                      | 30                           | 161                           | 31                           | 178                           |
| 66             |       |          | Nainital | Amritpur                   | 417                          | 1922                          | 350                          | 1480                          |
| 67             |       |          | Nainital | Amiya                      | 101                          | 535                           | 118                          | 598                           |
| 68             |       |          | Nainital | Hairi                      | 23                           | 132                           | 20                           | 113                           |
| 69             |       |          | Nainital | Ranibagh                   | 387                          | 1918                          | 463                          | 2066                          |
| 70             |       |          | Nainital | Balueti                    | 7                            | 39                            | 27                           | 147                           |
| 71             |       |          | Haldwani | Chausala                   | 46                           | 287                           | 73                           | 362                           |
| 72             |       |          | Haldwani | Meetha Anwala              | 29                           | 161                           | 37                           | 197                           |
| 73             |       |          | Nainital | Bhadueni                   | 32                           | 174                           | 39                           | 181                           |
| 74             |       |          | Nainital | Pasauli                    | 86                           | 488                           | 107                          | 539                           |
| 75             |       |          | Nainital | Rausil                     | 166                          | 952                           | 196                          | 996                           |
| 76             |       |          | Haldwani | Harigarh Dalipsingh        | 92                           | 472                           | 150                          | 697                           |
| 77             |       |          | Nainital | Gumalgaon                  | 27                           | 189                           | 31                           | 183                           |
| 78             |       |          | Haldwani | Beora                      | 85                           | 418                           | NA                           | NA                            |
| 79             |       |          | Haldwani | Korta                      | 30                           | 120                           | 13                           | 39                            |
| 80             |       |          | Haldwani | Damua Dhunga<br>Bandobasti | 249                          | 1232                          | NA                           | NA                            |
| 81             |       |          | Nainital | Mursele                    | 13                           | 75                            | 15                           | 89                            |
| 82             |       |          | Nainital | Baret Talla                | 27                           | 133                           | 38                           | 216                           |
| 83             |       |          | Haldwani | Dewala Talla               | 142                          | 850                           | 188                          | 1004                          |
| 84             |       |          | Nainital | Paniya Mahtar              | 37                           | 239                           | 43                           | 244                           |
| 85             |       |          | Haldwani | Damua Dhunga Kham          | 254                          | 1291                          | 121                          | 565                           |
| 86             |       |          | Dhari    | Pashtola                   | 59                           | 350                           | 73                           | 401                           |
| 87             |       |          | Haldwani | Bamori Malli               | 490                          | 2283                          | 874                          | 3751                          |
| 88             |       |          | Nainital | Paniya Bor                 | 21                           | 112                           | 22                           | 115                           |
| 89             |       |          | Nainital | Sirori                     | 16                           | 96                            | 16                           | 79                            |
| 90             |       |          | Dhari    | Baura                      | 2                            | 11                            | NA                           | NA                            |
| 91             |       |          | Nainital | Khamari                    | 18                           | 100                           | 14                           | 71                            |
| 92             |       |          | Nainital | Ganrar                     | 7                            | 46                            | 6                            | 53                            |
| 93             |       |          | Dhari    | Uduwa                      | 46                           | 331                           | 53                           | 399                           |
| 94             |       |          | Nainital | Okhal Dunga                | 62                           | 350                           | 59                           | 332                           |







| Village ID | State | District | Tehsil   | Village                | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|----------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| 95         |       |          | Haldwani | Khera                  | 438                    | 2671                    | 688                    | 3589                    |
| 96         |       |          | Nainital | Murkariya              | 97                     | 619                     | 95                     | 600                     |
| 97         |       |          | Nainital | Dungsira               | 4                      | 21                      | 7                      | 35                      |
| 98         |       |          | Nainital | Dida                   | 7                      | 42                      | 7                      | 37                      |
| 99         |       |          | Nainital | Gaga                   | 30                     | 185                     | 21                     | 137                     |
| 100        |       |          | Haldwani | Nawar Khera            | 175                    | 1108                    | 259                    | 1398                    |
| 101        |       |          | Nainital | Baret Malla            | 26                     | 157                     | 16                     | 107                     |
| 102        |       |          | Haldwani | Kishan Nagri           | 25                     | 124                     | 44                     | 230                     |
| 103        |       |          | Nainital | Suera                  | 50                     | 302                     | 58                     | 352                     |
| 104        |       |          | Haldwani | Vijaipur               | 38                     | 278                     | 68                     | 353                     |
| 105        |       |          | Dhari    | Kaunta                 | 92                     | 528                     | 85                     | 476                     |
| 106        |       |          | Haldwani | Dewala Malla           | 94                     | 565                     | 153                    | 804                     |
| 107        |       |          | Dhari    | Patrani                | 93                     | 653                     | 112                    | 799                     |
| 108        |       |          | Haldwani | Dewalamalla Simlar     | 26                     | 159                     | 33                     | 154                     |
| 109        |       |          | Haldwani | Dewla Talla Pajaya     | 84                     | 467                     | 91                     | 563                     |
| 110        |       |          | Haldwani | Nayagaon Sambal        | 60                     | 356                     | 67                     | 333                     |
| 111        |       |          | Haldwani | Kunwarpur              | 90                     | 529                     | 122                    | 699                     |
| 112        |       |          | Haldwani | Himmatpur Nakayal      | 35                     | 197                     | 67                     | 317                     |
| 113        |       |          | Haldwani | Gajepur                | 35                     | 236                     | 63                     | 327                     |
| 114        |       |          | Haldwani | Nayagaon Mehra         | 45                     | 271                     | 57                     | 322                     |
| 115        |       |          | Dhari    | Kakore                 | 112                    | 741                     | 141                    | 895                     |
| 116        |       |          | Haldwani | Lachhampur             | 173                    | 1016                    | 220                    | 1196                    |
| 117        |       |          | Haldwani | Selabhawar Triloksingh | 29                     | 138                     | 31                     | 163                     |
| 118        |       |          | Haldwani | Himmatpur Golapar      | 28                     | 171                     | 37                     | 214                     |
| 119        |       |          | Haldwani | Jwala Pokhri           | 38                     | 240                     | 45                     | 247                     |
| 120        |       |          | Haldwani | Lakhanpur              | 36                     | 211                     | 50                     | 251                     |
| 121        |       |          | Haldwani | Kishanpur Rekwal       | 75                     | 454                     | 72                     | 409                     |
| 122        |       |          | Haldwani | Kaladhungi             | NA                     | NA                      | NA                     | NA                      |
| 123        |       |          | Haldwani | Haldwani-Cum-Kathgodam | NA                     | NA                      | NA                     | NA                      |
| 124        |       |          | Haldwani | Daulatpur              | 25                     | 163                     | 37                     | 196                     |
| 125        |       |          | Haldwani | Sundarpur Rekwal       | 42                     | 239                     | 45                     | 240                     |

| Village<br>_ID | State         | District | Tehsil   | Village                | No of<br>Household<br>(2001) | Total<br>Population<br>(2001) | No of<br>Household<br>(2011) | Total<br>Population<br>(2011) |
|----------------|---------------|----------|----------|------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
| 126            |               |          | Haldwani | Gangapur               | 22                           | 164                           | 32                           | 226                           |
| 127            |               |          | Haldwani | Jeetpur Rekwai         | 25                           | 177                           | 34                           | 189                           |
| 128            |               |          | Haldwani | Padampur Rekuni        | 24                           | 172                           | 30                           | 169                           |
| 129            |               |          | Haldwani | Devpur Pokhriya        | 29                           | 182                           | 46                           | 220                           |
| 130            |               |          | Haldwani | Lakhan Mandi           | 110                          | 581                           | 133                          | 687                           |
| 131            |               |          | Haldwani | Malla Pachauliya       | 90                           | 454                           | 113                          | 545                           |
| 132            | Uttar Pradesh | Pilibhit | Puranpur | Majhara Bagha          | 60                           | 415                           | 61                           | 462                           |
| 133            |               |          | Puranpur | Ramnagra               | 195                          | 1083                          | 207                          | 991                           |
| 134            |               |          | Puranpur | Dhakia T. Maharajpur   | 207                          | 1131                          | 148                          | 898                           |
| 135            |               |          | Puranpur | Kanjia Singhpur Bhatia | 247                          | 1312                          | 270                          | 1440                          |
| 136            |               |          | Puranpur | Selha                  | 348                          | 1942                          | 409                          | 2285                          |
| 137            |               |          | Puranpur | Bandarbojh             | 184                          | 1018                          | 219                          | 1349                          |
| 138            |               |          | Puranpur | Naujalha Naktaha       | 569                          | 3570                          | 743                          | 3843                          |
| 139            |               |          | Puranpur | Bodi Bhoor             | 284                          | 2018                          | 415                          | 2564                          |
| 140            |               |          | Puranpur | Maharajpur             | 511                          | 3101                          | 637                          | 3390                          |
| 141            |               |          | Puranpur | Lagabhaga              | 3                            | 7                             | 1                            | 96                            |
| 142            |               |          | Puranpur | Bhoora Gorakh Dibbi    | 111                          | 693                           | 117                          | 668                           |
| 143            |               |          | Puranpur | Nagria Khurd Kalan     | 187                          | 948                           | 217                          | 1121                          |
| 144            |               |          | Puranpur | Gunhan                 | 18                           | 96                            | 8                            | 30                            |
| 145            |               |          | Puranpur | Manpur Tilhar          | NA                           | NA                            | NA                           | NA                            |
| 146            |               |          | Puranpur | Dhar Bargada           | NA                           | NA                            | NA                           | NA                            |
| 147            |               |          | Puranpur | Bijauri Khurd Kalan    | 7                            | 39                            | 4                            | 23                            |
| 148            |               |          | Puranpur | Bharari                | 10                           | 51                            | 12                           | 68                            |
| 149            |               |          | Puranpur | Murainia Gandhi Nagar  | 241                          | 1696                          | 363                          | 2242                          |
| 150            |               |          | Puranpur | Bamanpura Bhagirath    | 525                          | 3042                          | 873                          | 4520                          |
| 151            |               |          | Puranpur | Majhara T.maharajpur   | 164                          | 1082                          | 173                          | 1169                          |
| 152            |               |          | Puranpur | Birkhera T. Maharajpur | NA                           | NA                            | NA                           | NA                            |
| 153            |               |          | Puranpur | Sungarhi               | NA                           | NA                            | NA                           | NA                            |
| 154            |               |          | Puranpur | Chandpura Tarai        | NA                           | NA                            | NA                           | NA                            |
| 155            |               |          | Puranpur | Bailaha                | 593                          | 3286                          | 310                          | 1554                          |
| 156            |               |          | Puranpur | Ramkot                 | 30                           | 173                           | 75                           | 420                           |
| 157            |               |          | Puranpur | Pachpera T. Maharajpur | 109                          | 753                           | 175                          | 977                           |





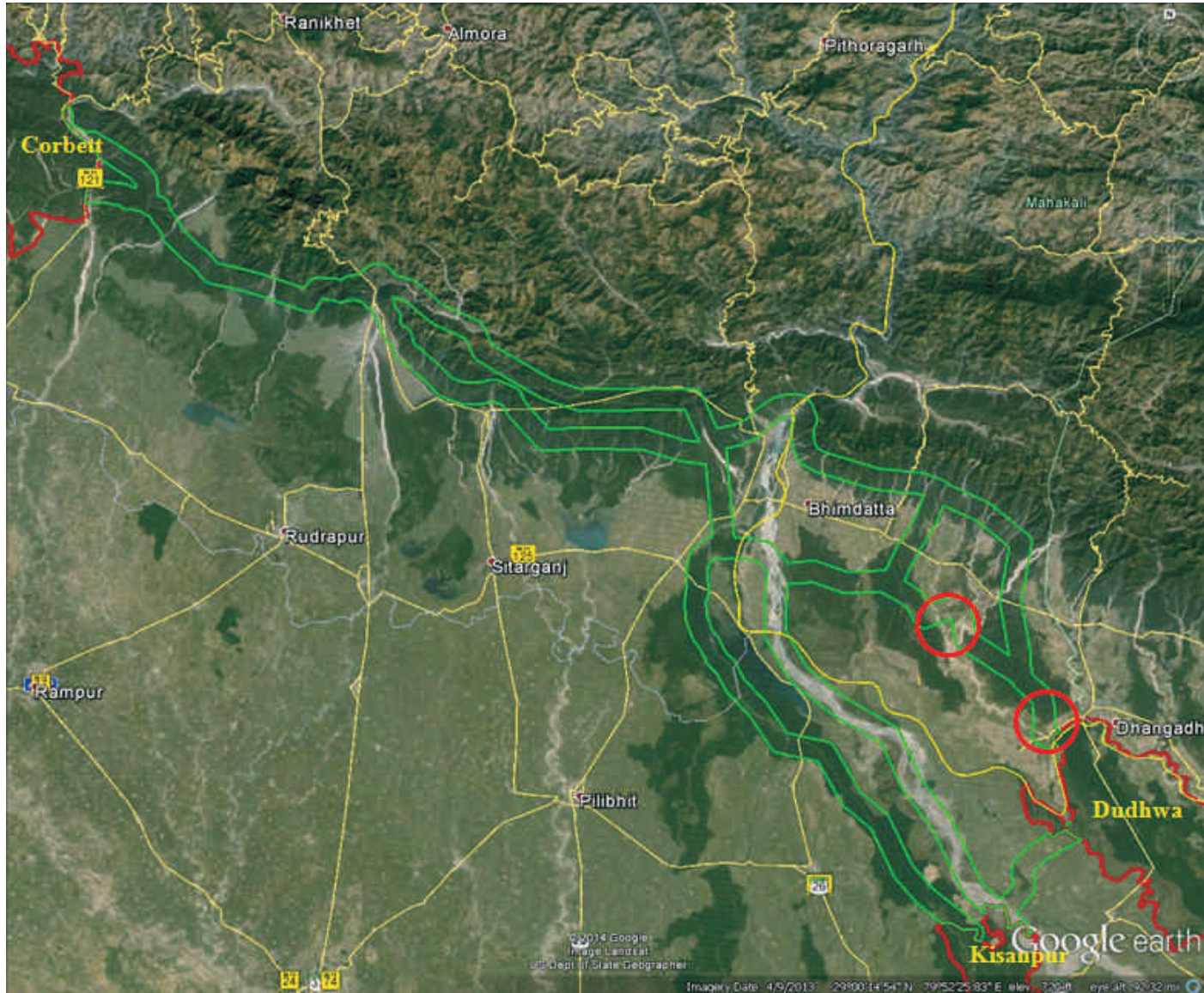
| Village ID | State       | District          | Tehsil   | Village                   | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------------|-------------------|----------|---------------------------|------------------------|-------------------------|------------------------|-------------------------|
| 158        |             |                   | Puranpur | Rajpur T. Maharajpur      | 141                    | 825                     | 210                    | 1129                    |
| 159        |             |                   | Puranpur | Simra T. Maharajpur       | 138                    | 744                     | 167                    | 943                     |
| 160        |             |                   | Puranpur | Fajjullaganj              | 68                     | 479                     | 144                    | 797                     |
| 161        |             |                   | Puranpur | Maini Gulria              | 83                     | 513                     | 103                    | 528                     |
| 162        |             |                   | Puranpur | Shastri Nagar             | 161                    | 1066                    | 150                    | 901                     |
| 163        |             |                   | Puranpur | Barua Kuthara             | 46                     | 346                     | 87                     | 485                     |
| 164        |             |                   | Puranpur | Laihari                   | 64                     | 402                     | 87                     | 451                     |
| 165        |             |                   | Puranpur | Ashok Nagar               | 169                    | 1041                    | 272                    | 1319                    |
| 166        |             |                   | Puranpur | Bharatpur                 | 431                    | 2863                    | 513                    | 2859                    |
| 167        |             |                   | Puranpur | Siddhnagar                | 221                    | 1545                    | 198                    | 1150                    |
| 168        |             |                   | Puranpur | Chandia Hajara            | 1363                   | 7360                    | 1590                   | 8477                    |
| 169        |             |                   | Puranpur | Katakware                 | NA                     | NA                      | NA                     | NA                      |
| 170        |             |                   | Puranpur | Musepur                   | 18                     | 176                     | 35                     | 209                     |
| 171        |             |                   | Puranpur | Shanti Nagar              | 205                    | 1371                    | 257                    | 1684                    |
| 172        |             |                   | Puranpur | Ramnagar                  | 565                    | 3986                    | 728                    | 4912                    |
| 173        |             |                   | Puranpur | Khirkia Bargadia          | 328                    | 1624                    | 216                    | 1324                    |
| 174        |             |                   | Puranpur | Kabeerganj                | 715                    | 4248                    | 910                    | 4801                    |
| 175        |             |                   | Puranpur | Azad Nagar                | 1                      | 5                       | 1                      | 1                       |
| 176        |             |                   | Puranpur | Grant No21 Urf Dhakkachat | 469                    | 2789                    | 620                    | 3678                    |
| 177        |             |                   | Puranpur | Kuthia Gudia              | 228                    | 1468                    | 349                    | 1785                    |
| 178        |             |                   | Puranpur | Harrapur                  | NA                     | NA                      | NA                     | NA                      |
| 179        |             |                   | Puranpur | Nehrosa                   | 415                    | 2648                    | 520                    | 3203                    |
| 180        |             |                   | Puranpur | Bharara                   | NA                     | NA                      | NA                     | NA                      |
| 181        |             |                   | Puranpur | Mustafabad                | NA                     | NA                      | NA                     | NA                      |
| 182        |             |                   | Puranpur | Sampurn Nagar             | NA                     | NA                      | NA                     | NA                      |
| 183        |             |                   | Puranpur | Barahi                    | NA                     | NA                      | NA                     | NA                      |
| 184        | Uttarakhand | Udham Singh Nagar | Khatima  | Jhan Kaieya               | 287                    | 1581                    | 503                    | 2724                    |
| 185        |             |                   | Khatima  | Khetal Sanda Mustnagar    | 463                    | 2703                    | 586                    | 2949                    |
| 186        |             |                   | Khatima  | Bilheeri                  | 491                    | 2632                    | NA                     | NA                      |
| 187        |             |                   | Khatima  | Unchi Mahuwar             | 251                    | 1540                    | 439                    | 2308                    |

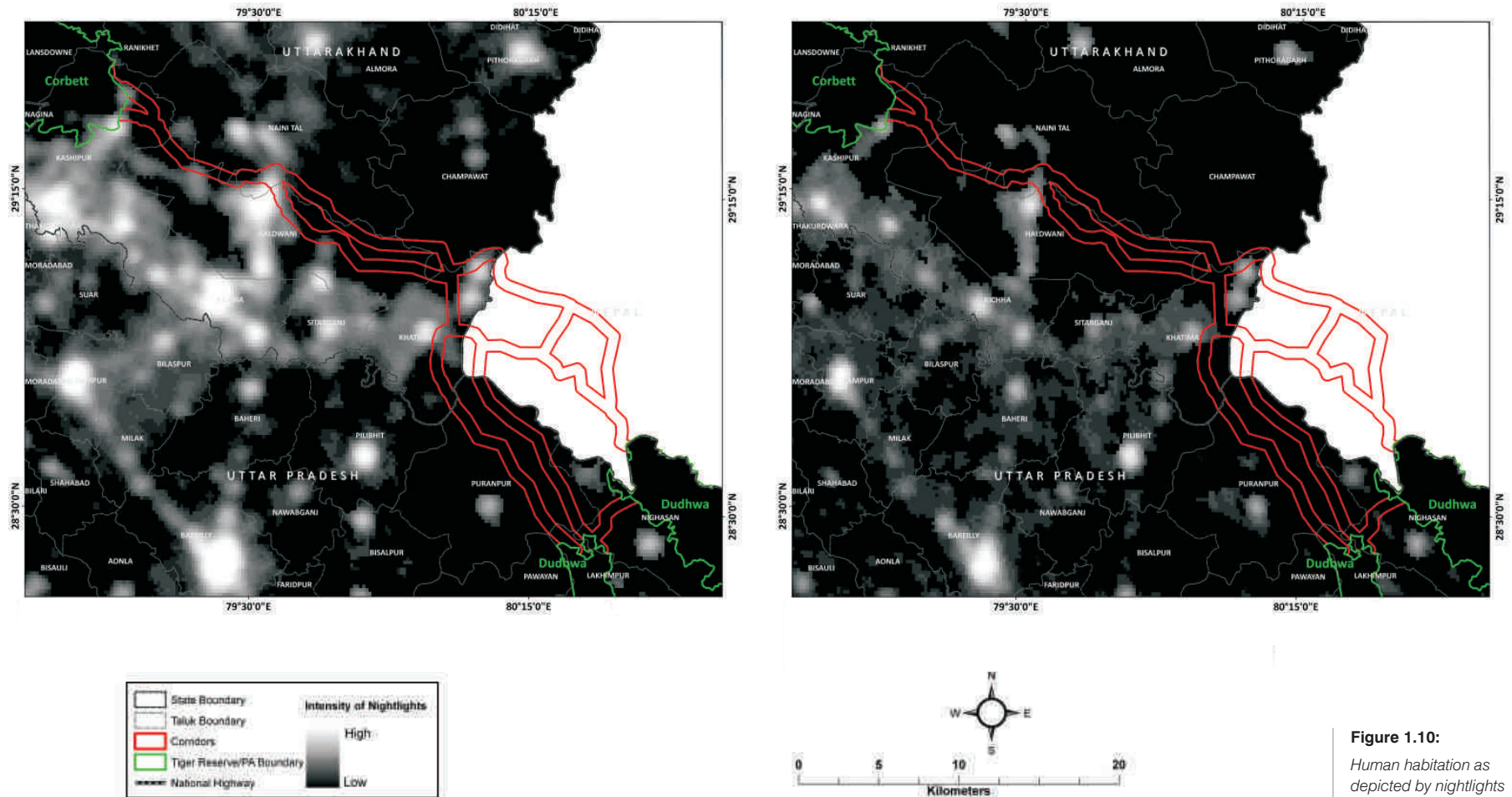
| Village<br>_ID | State | District | Tehsil  | Village                  | No of<br>Household<br>(2001) | Total<br>Population<br>(2001) | No of<br>Household<br>(2011) | Total<br>Population<br>(2011) |
|----------------|-------|----------|---------|--------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
| 188            |       |          | Khatima | Gosu Kuwan               | 167                          | 1064                          | NA                           | NA                            |
| 189            |       |          | Khatima | Mudai                    | 318                          | 1898                          | NA                           | NA                            |
| 190            |       |          | Khatima | Amaun                    | 851                          | 4299                          | 1544                         | 7233                          |
| 191            |       |          | Khatima | Sarada Sagar Jhau Parasa | 42                           | 256                           | 65                           | 324                           |



**Figure 1.9:**

*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Corbett-Dudhwa*





**Figure 1.10:**  
Human habitation as depicted by nightlights within the Corbett-Dudhwa landscape in the year 1992 and 2012

## DUDHWA-KISHANPUR-KATARNIAGHAT

**Figure 1.11:**

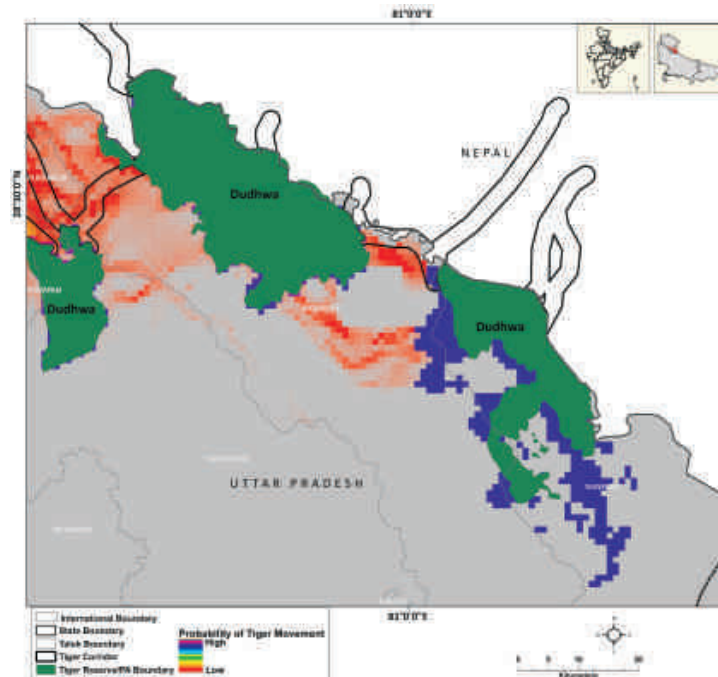
Potential habitat connectivity for tiger movement between Dudhwa-Kishanpur-Katarniaghat as depicted by CIRCUITSCAPE model

The connectivity between Dudhwa-Kishanpur Wildlife Sanctuary and River Sharda is highly fragmented with oxbow lakes and forest fragments in a primarily agricultural matrix (sugarcane). To the north, it is connected to the Churia hill forests of Nepal through a riverine corridor while to the west river channels and forest patches connect it to Suklaphanta. River Mohana acts as a corridor connecting Dudhwa to Katarniaghat in the east and to Bardia National Park of Nepal in the north.

The Dudhwa-Katarniaghat corridor along River Mohana has been greatly deforested and needs to be restored to allow movement of wildlife. The other important corridors in this region, essential for movement of animals between Nepal and India are the Basantha and Khata corridors. The Khata corridor along River Girwa also connects Katarniaghat to Bardia and is often used by elephants, tigers, and rhinos. The river channels in this landscape are also a conduit for the movement of gharials, crocodiles and Gangetic dolphins.

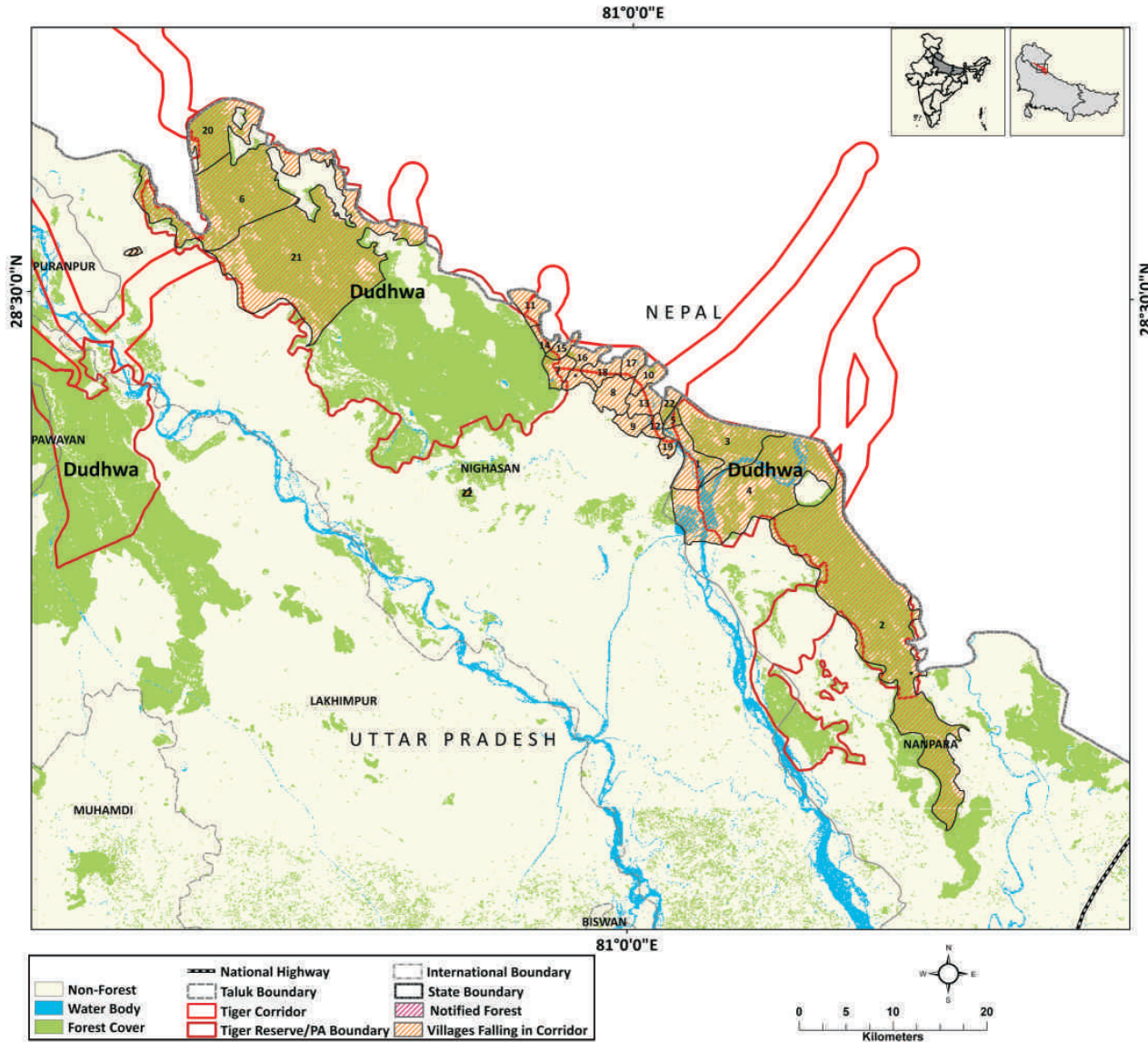
While connectivity between Dudhwa-Katarniaghat-Suhelwa and Sohagibarwa on the Indian side is almost non-existent, forests along the Nepal terai connect these areas.

The other important forested area in the State is Pilibhit Tiger Reserve which is connected to the Corbett Tiger Reserve in the north-west by the Surai Range and to Suklaphanta National Park in Nepal to the north-east via forests of Lagga-Bagga. It forms a continuous narrow corridor along the Sharda canal that stretches south-east into Kishanpur Wildlife Sanctuary. This corridor is well used by tigers forming a contiguous population from Surai Range in Uttarakhand to Pilibhit and Kishanpur.



### Dudhwa-Katarniaghat

|                          |                                     |
|--------------------------|-------------------------------------|
| <b>Habitat size</b>      | 24792 Km <sup>2</sup>               |
| <b>Source Population</b> | Dudhwa and Katarniaghat             |
| <b>Size of Source</b>    | 106-118 (Dudhwa-Kheri-Pilibhit)     |
| <b>Protected Areas</b>   | Dudhwa<br>Kishanpur<br>Katarniaghat |
| <b>Corridors</b>         | Dudhwa-Katarniaghat                 |



**Figure 1.12:** Least Cost Pathway corridor for Tiger movement between Dudhwa-Kishanpur-Katamiaghat overlaid by village map (the village numbers are referenced in Table 1.3)

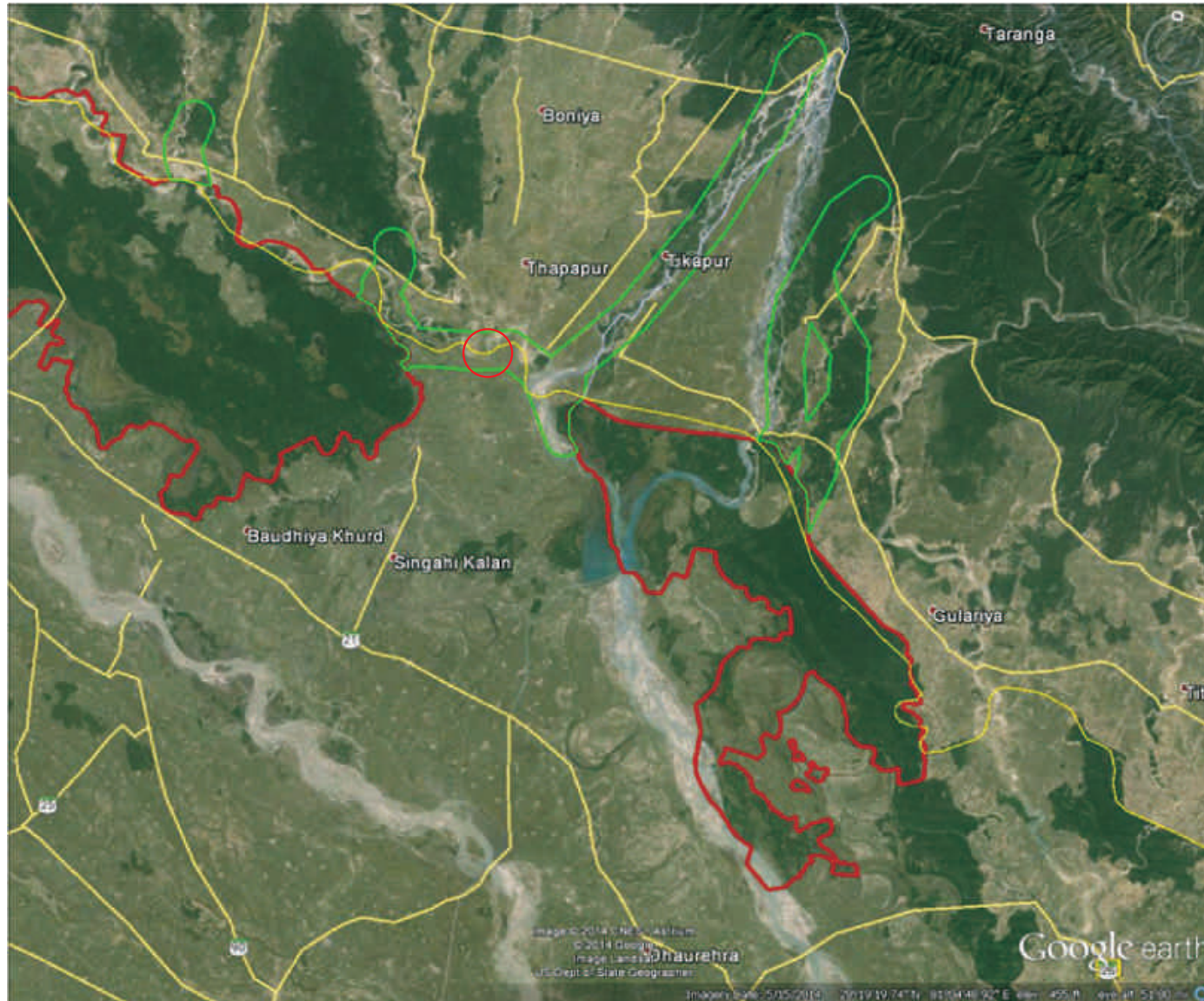




| Village_ID | State         | District | Tehsil  | Village              | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|---------------|----------|---------|----------------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          |               | Bahraich | Nanpara | Bharthapur           | 75                     | 441                     | 94                     | 490                     |
| 2          |               |          |         | Motipur Range        | 43                     | 106                     | 0                      | 0                       |
| 3          |               |          |         | Bandariya Gauri No.1 | 0                      | 0                       | 0                      | 0                       |
| 4          |               |          |         | Charda Range         | 0                      | 0                       | 0                      | 0                       |
| 5          |               |          |         | Bandariya Gauri No.2 | 0                      | 0                       | 0                      | 0                       |
| 6          |               |          |         | Sureya Para          | 93                     | 864                     | 133                    | 1124                    |
| 7          |               |          |         | Kadeya               | 451                    | 2412                    | 611                    | 2924                    |
| 8          |               |          |         | Banveer Pur          | 668                    | 4297                    | 1101                   | 5578                    |
| 9          |               |          |         | Barsola Kalan        | 744                    | 4142                    | 1141                   | 6172                    |
| 10         |               |          |         | Indra Nagar          | 67                     | 484                     | 165                    | 804                     |
| 11         |               |          |         | Bela Parsuwa         | 498                    | 3247                    | 709                    | 4848                    |
| 12         |               |          |         | Ram Nagar Sankalpa   | 117                    | 727                     | 19                     | 89                      |
| 13         |               |          |         | Surat Nagar          | 380                    | 2528                    | 729                    | 3812                    |
| 14         |               |          |         | Raghu Nagar          | 43                     | 277                     | 79                     | 488                     |
| 15         |               |          |         | Kisun Nagar          | 48                     | 284                     | 59                     | 406                     |
| 16         |               |          |         | Deep Nagar           | 89                     | 510                     | 87                     | 453                     |
| 17         |               |          |         | Ran Nagar            | 215                    | 1207                    | 283                    | 1499                    |
| 18         |               |          |         | Ganga Nagar          | 225                    | 1319                    | 288                    | 1599                    |
| 19         |               |          |         | Anup Nagar           | 67                     | 353                     | 19                     | 90                      |
| 20         |               |          |         | Gori Fanta           | 0                      | 0                       | 0                      | 0                       |
| 21         |               |          |         | Dudhauwa             | 0                      | 0                       | 0                      | 0                       |
| 22         | Uttar Pradesh | Kheri    | Nanpara |                      | 0                      | 0                       | 0                      | 0                       |

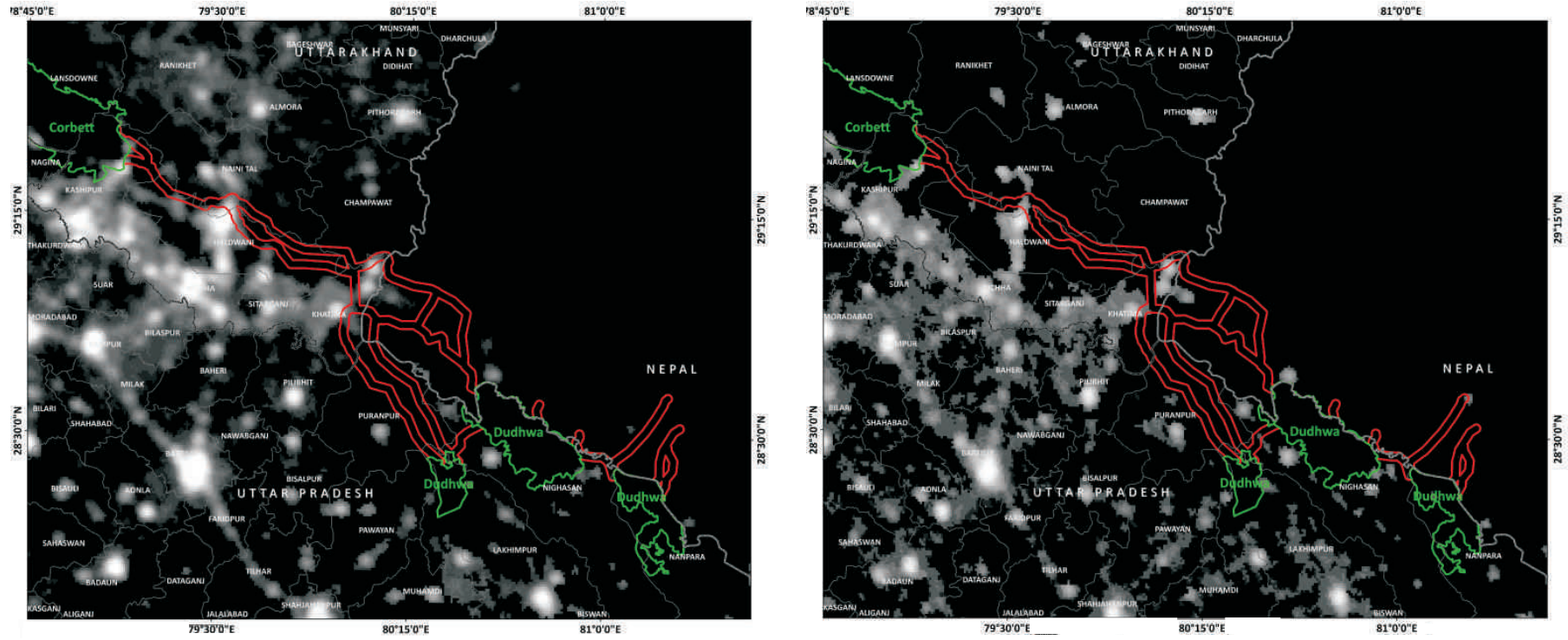
**Table 1.3:**

*Villages within the Least Cost Pathway Corridor between Corbett-Dudhwa as shown in Fig. 1.12*

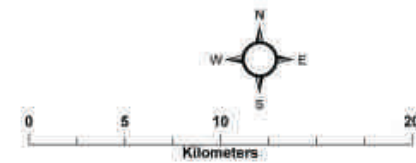


**Figure 1.13:**  
*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Dudhwa-Kisanpur-Katarniyaghat*





**Figure 1.14:**  
*Human habitation as depicted by nightlights within the Dudhwa-Kishanpur-Katarniaghat Corridor landscape in the year 1992 and 2012*





# CENTRAL INDIAN LANDSCAPE AND EASTERN GHATS

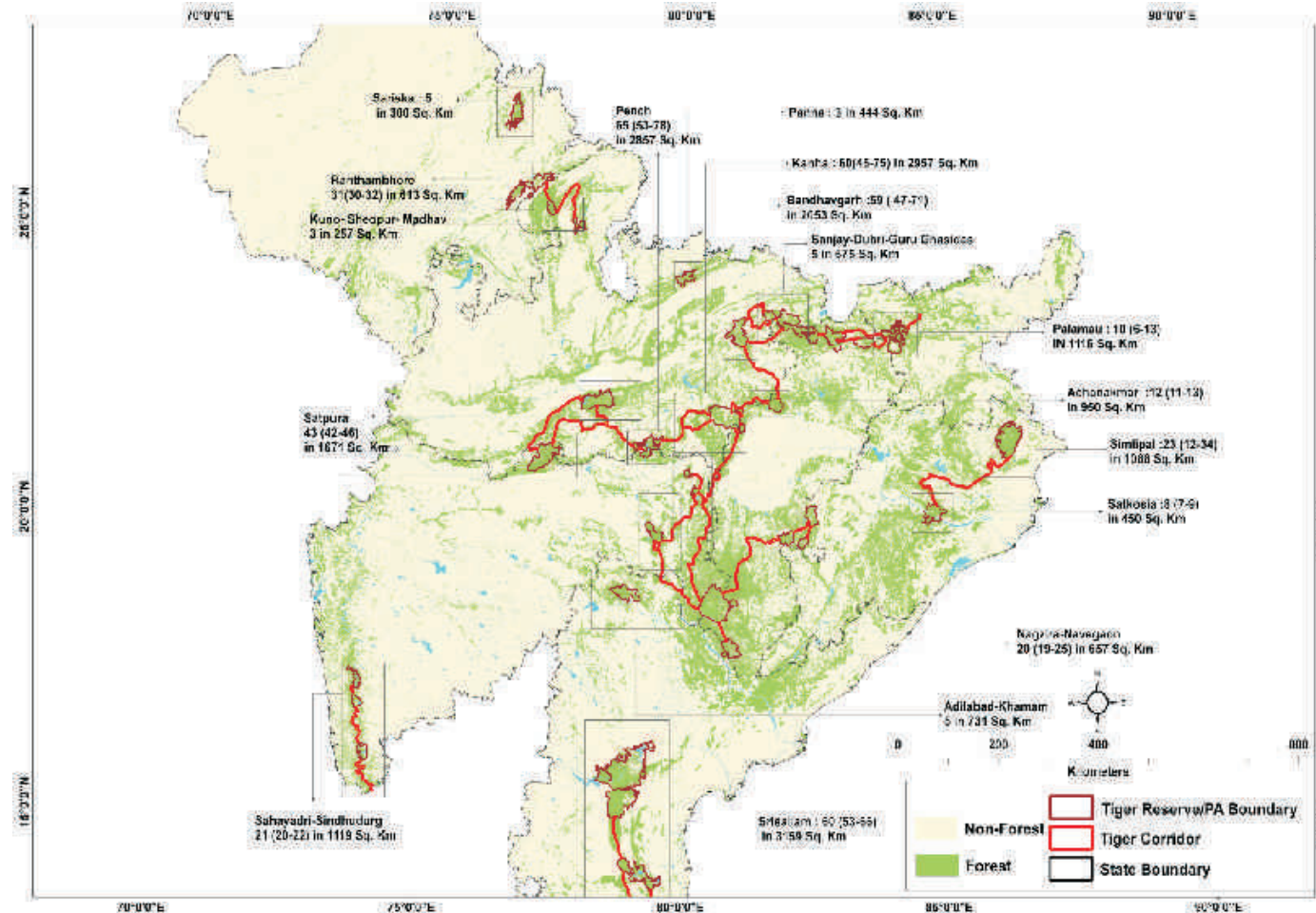


2



# CENTRAL INDIAN LANDSCAPE AND EASTERN GHATS

The Central Indian Landscape encompasses a large land mass covering Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Rajasthan and parts of Andhra Pradesh. The landscape harbors about 601 number of tigers in 19 tiger reserves and several other protected areas.

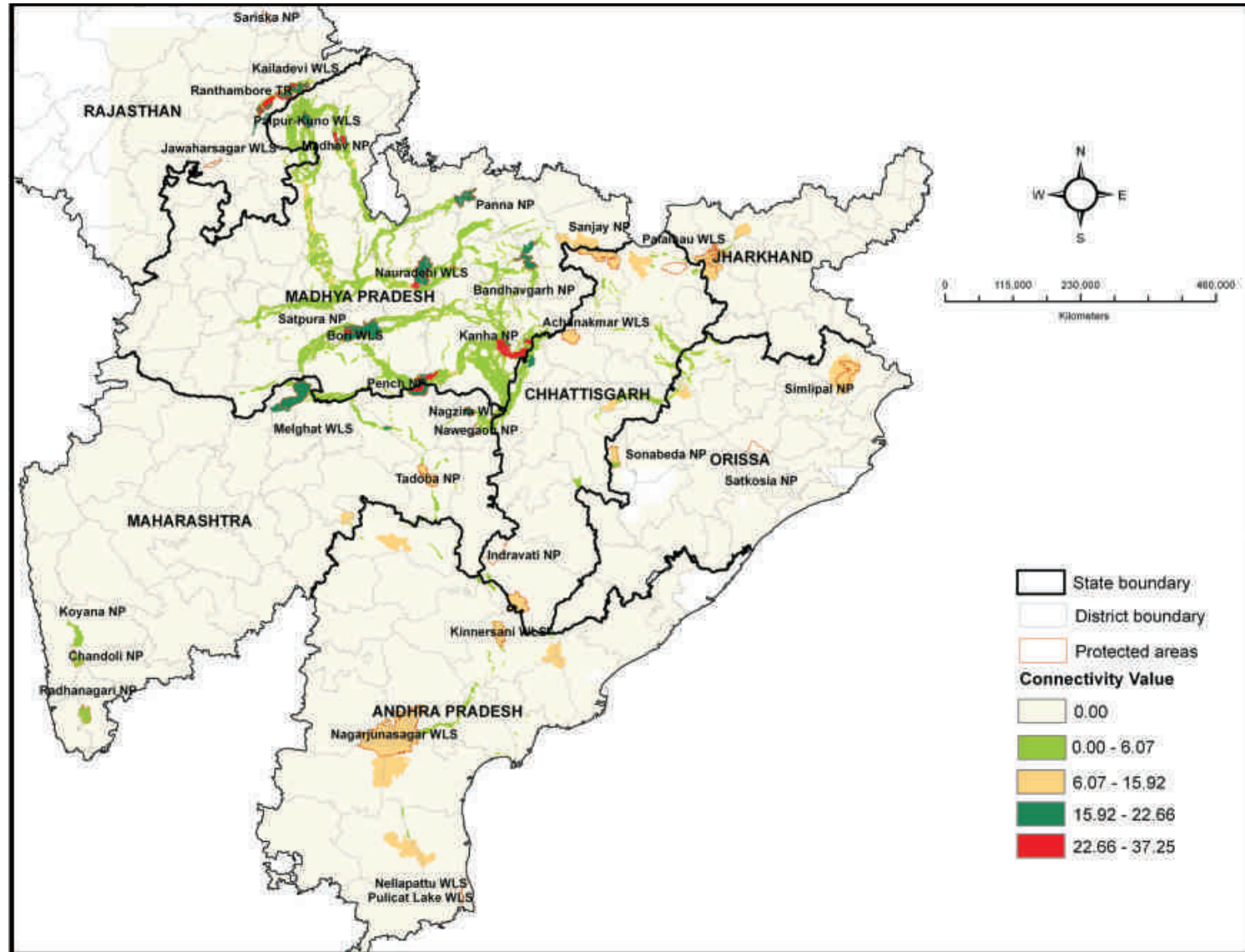


**Figure 2.1:**  
Tiger Populations and Corridors of Central India



**Figure 2.2:**

Map showing Landscape connectivity in Central India modeled Using CIRCUITSCAPE



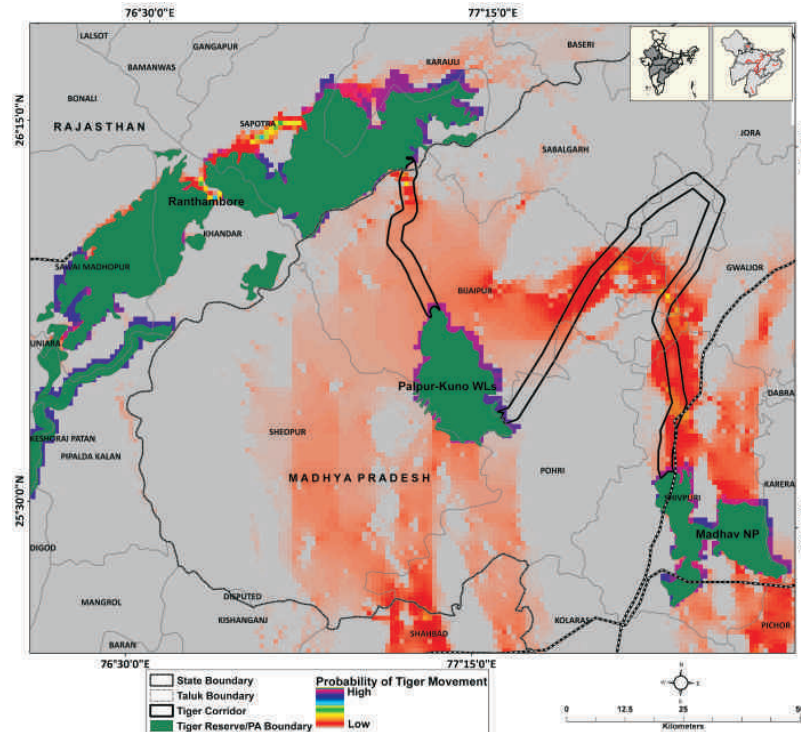
# CORRIDORS OF CENTRAL INDIAN LANDSCAPE

## RANTHAMBORE-KUNO-MADHAV NATIONAL PARK

The only source of tigers in this landscape is Ranthambore NP. Kailadevi, Kuno, Shivpur forest, Madhav National Park (NP) and Mukundra Hills Tiger Reserve (TR) are currently sink habitats. Given the size of this landscape with good habitat the region holds promise for future increase in tiger occupancy and numbers. This enhancement can happen only if the connecting corridors mentioned herein remain intact and functional. The crucial elements which need special attention are 1) curbing of development along the banks of the river Chambal especially protecting forest patches that are on the river banks. 2) a pinch point in the corridor is where highway number SH-23 crosses the river Kuno. This area needs attention and mitigation in the form of smart green infrastructure so that the road, railway and canal system along with urban sprawl does not become a barrier to wildlife movement. 3) Revitalization of Kailadevi WLS by relocation of villages, reduction of livestock and enhancement of prey would enhance the importance of Ranthambore TR as a source and increase the carrying capacity of the region for tigers. Kailadevi would also serve as staging ground for dispersal eastwards into Shivpur.

### Ranthambore-Kuno-Shivpuri-Madhav

|                          |   |
|--------------------------|---|
| <b>Habitat size</b>      | 9173 Km <sup>2</sup>  |
| <b>Source Population</b> | Ranthambore Tiger Reserve                                       |
| <b>Size of Source</b>    | 30-32   |
| <b>Protected Areas</b>   | Ranthambore<br>Kuno-Shivpuri WLS<br>Madhav NP                   |
| <b>Corridors</b>         | Ranthambore-Kuno<br>Kuno-Madhav<br>Ranthambore-Mukundhara Hills |

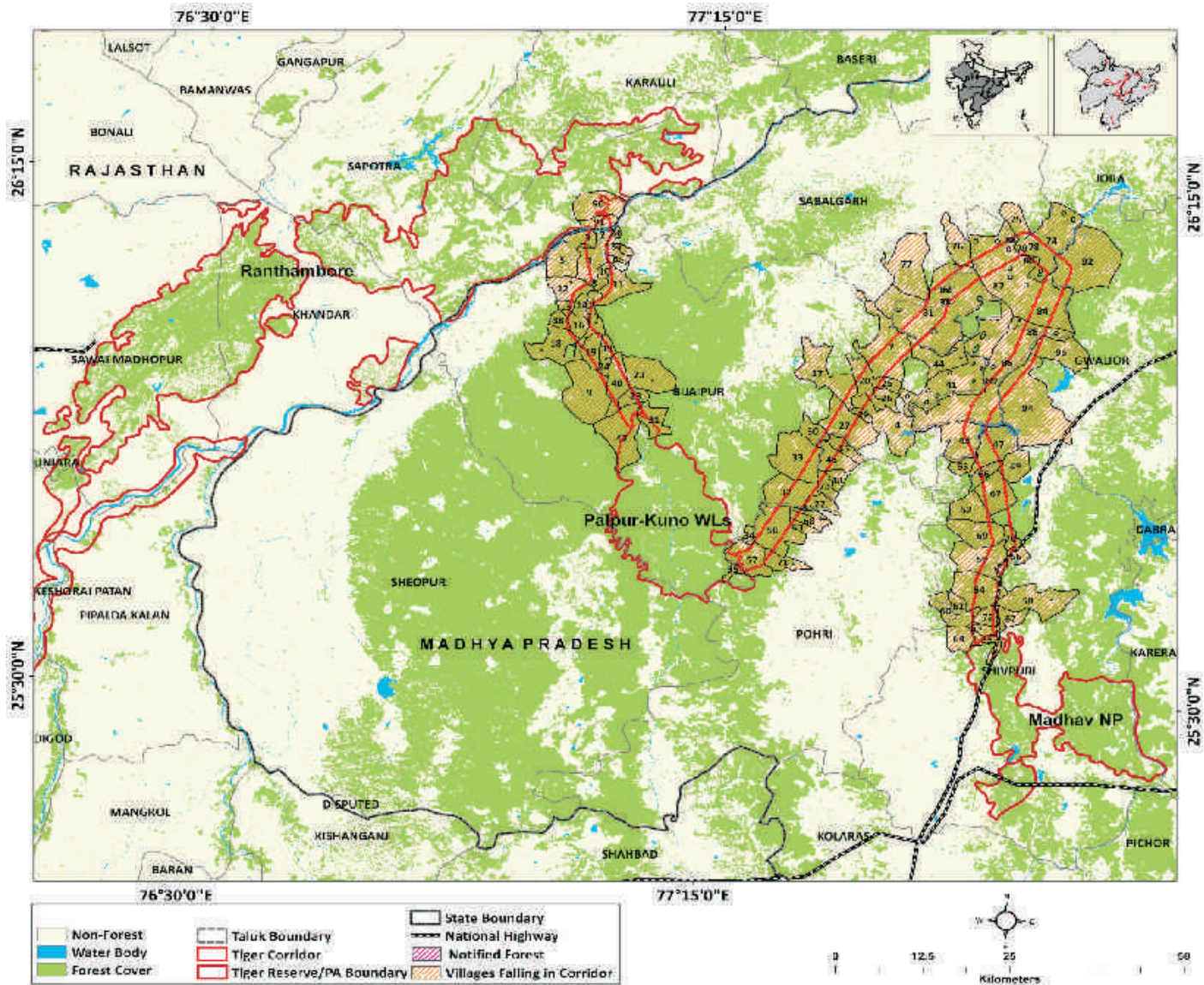


**Figure 2.3:**  
Potential habitat connectivity for tiger movement between Ranthambore-Kuno-Madhav National Park as depicted by CIRCUITScape model



**Figure 2.4:**

Least Cost Pathway corridor for Tiger movement between Ranthambore-Kuno-Madhav National Park overlaid with village map (the village numbers are referenced in Table 1.1)



| Village<br>_ID | State          | District | Tehsil   | Village                | No of<br>Household<br>(2001) | Total<br>Population<br>(2001) | No of<br>Household<br>(2011) | Total<br>Population<br>(2011) |
|----------------|----------------|----------|----------|------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
| 1              | Madhya Pradesh | Sheopur  | Vijaypur | Jimarchha              | 173                          | 1348                          | 326                          | 1713                          |
| 2              |                |          | Vijaypur | Harkul                 | 140                          | 824                           | 204                          | 891                           |
| 3              |                |          | Vijaypur | Badagaon               | 271                          | 1654                          | 523                          | 2102                          |
| 4              |                |          | Vijaypur | Dhobini                | 90                           | 500                           | 126                          | 587                           |
| 5              |                |          | Vijaypur | Syarda                 | 337                          | 2100                          | 614                          | 2912                          |
| 6              |                |          | Vijaypur | Gohar                  | 280                          | 1851                          | 509                          | 2205                          |
| 7              |                |          | Vijaypur | Gaswani                | 577                          | 3410                          | 937                          | 4038                          |
| 8              |                |          | Vijaypur | Nitanwas (bijaiapur)   | 282                          | 1580                          | 443                          | 2009                          |
| 9              |                |          | Vijaypur | Silpari                | NA                           | NA                            | NA                           | NA                            |
| 10             |                |          | Vijaypur | Pancho                 | 527                          | 3097                          | 919                          | 3731                          |
| 11             |                |          | Vijaypur | Birpur                 | 783                          | 4920                          | 1352                         | 6165                          |
| 12             |                |          | Vijaypur | Nadigaon               | 240                          | 1764                          | 450                          | 2221                          |
| 13             |                |          | Vijaypur | Milawali               | 124                          | 673                           | 199                          | 819                           |
| 14             |                |          | Vijaypur | Kheroda Khurd          | 73                           | 516                           | 110                          | 587                           |
| 15             |                |          | Vijaypur | Kheroda Kalan          | 103                          | 545                           | 179                          | 709                           |
| 16             |                |          | Vijaypur | Sudhara                | 292                          | 1541                          | 493                          | 1964                          |
| 17             |                |          | Vijaypur | Baroda Khurd           | 71                           | 469                           | 155                          | 607                           |
| 18             |                |          | Vijaypur | Basantpura             | 50                           | 195                           | NA                           | NA                            |
| 19             |                |          | Vijaypur | Lakshamanpura (dhodar) | 32                           | 203                           | 55                           | 272                           |
| 20             |                |          | Vijaypur | Binega                 | 55                           | 343                           | 101                          | 485                           |
| 21             |                |          | Vijaypur | Kinnapura              | 94                           | 775                           | 231                          | 1114                          |
| 22             |                |          | Vijaypur | Rawatpura              | 65                           | 346                           | 98                           | 419                           |
| 23             |                |          | Vijaypur | Kishanpura             | 48                           | 284                           | 345                          | 1574                          |
| 24             |                |          | Vijaypur | Mahuamar               | 72                           | 472                           | 115                          | 586                           |
| 25             |                |          | Vijaypur | Sehula                 | 75                           | 458                           | 132                          | 559                           |
| 26             |                |          | Vijaypur | Khurka                 | 105                          | 628                           | 154                          | 698                           |
| 27             |                |          | Vijaypur | Enta                   | 65                           | 477                           | 128                          | 613                           |
| 28             |                |          | Vijaypur | Hullpur                | 238                          | 1548                          | 335                          | 1667                          |
| 29             |                |          | Vijaypur | Sarangpur              | 172                          | 1004                          | 275                          | 1201                          |
| 30             |                |          | Vijaypur | Dongarpur (gaswani)    | 83                           | 487                           | 121                          | 574                           |
| 31             |                |          | Vijaypur | Paira                  | 165                          | 806                           | NA                           | NA                            |
| 32             |                |          | Vijaypur | Raghunathpur           | 759                          | 4760                          | 1131                         | 5621                          |



**Table 2.1:**  
Villages within the Least  
Cost Pathway Corridor  
between Ranthambore-  
Kuno-Madhav National  
Park as shown in  
Fig.2.4

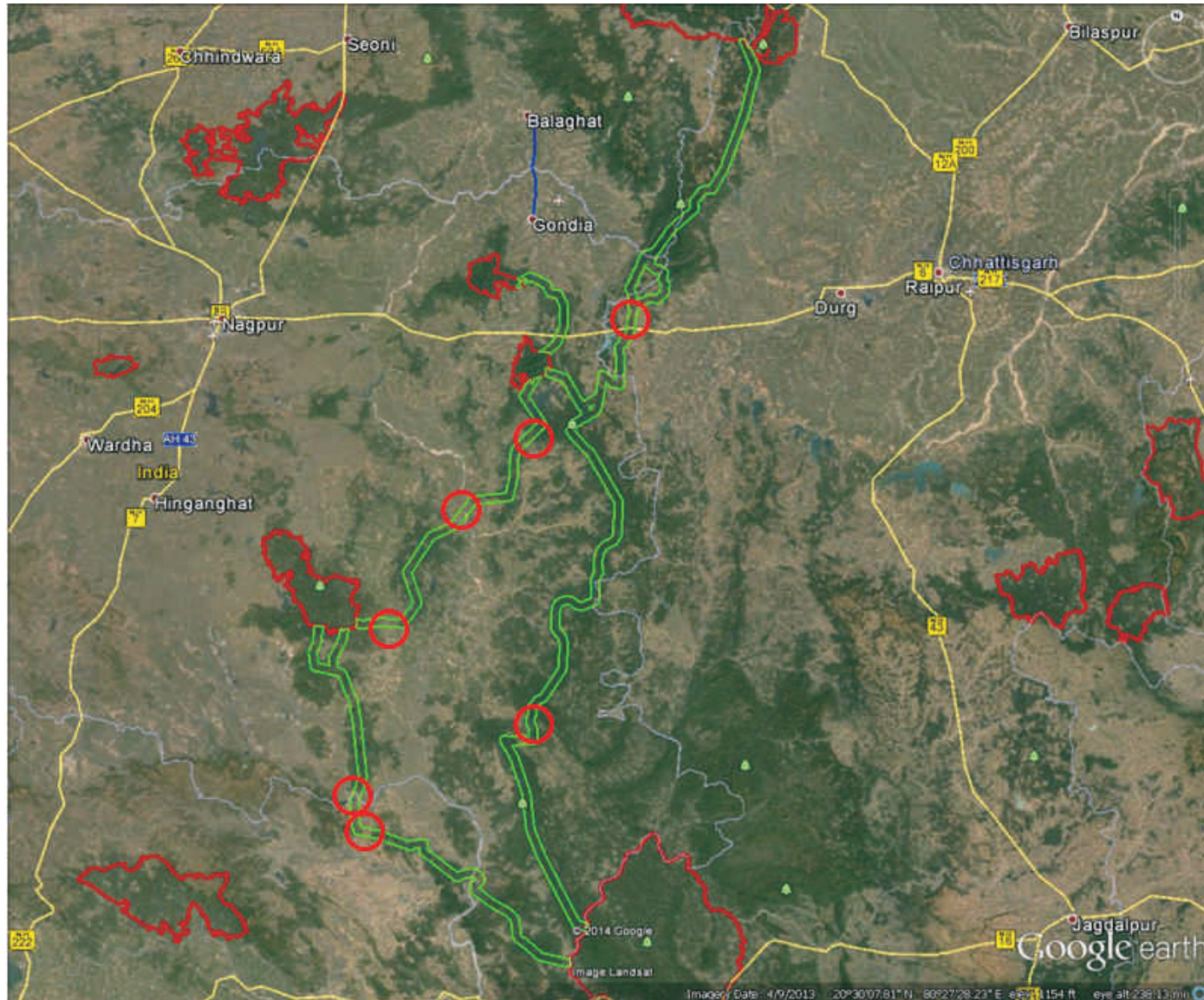
| Village ID | State | District | Tehsil   | Village            | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|----------|--------------------|------------------------|-------------------------|------------------------|-------------------------|
| 33         |       |          | Vijaypur | Sumrera            | 503                    | 3030                    | 814                    | 3568                    |
| 34         |       |          | Vijaypur | Kathon             | 391                    | 2537                    | 690                    | 3035                    |
| 35         |       |          | Vijaypur | Khadi F.2          | 95                     | 771                     | 131                    | 676                     |
| 36         |       |          | Vijaypur | Amarpura           | NA                     | NA                      | NA                     | NA                      |
| 37         |       |          | Vijaypur | Lalaiyapura        | NA                     | NA                      | NA                     | NA                      |
| 38         |       |          | Vijaypur | Deopur             | NA                     | NA                      | NA                     | NA                      |
| 39         |       |          | Vijaypur | Imalia             | NA                     | NA                      | NA                     | NA                      |
| 40         |       |          | Vijaypur | Ransinghpura       | NA                     | NA                      | NA                     | NA                      |
| 41         |       |          | Vijaypur | Tadawali           | NA                     | NA                      | NA                     | NA                      |
| 42         |       |          | Vijaypur | Todi               | NA                     | NA                      | NA                     | NA                      |
| 43         |       |          | Vijaypur | Gilai              | NA                     | NA                      | NA                     | NA                      |
| 44         |       |          | Vijaypur | Arrodari           | 299                    | 1779                    | 512                    | 2217                    |
| 45         |       | Shivpuri | Pohari   | Bhilodi            | 182                    | 1120                    | 320                    | 1416                    |
| 46         |       |          | Pohari   | Umari              | 78                     | 460                     | 153                    | 579                     |
| 47         |       |          | Pohari   | Basai              | 36                     | 191                     | 90                     | 373                     |
| 48         |       |          | Pohari   | Gohara             | 50                     | 262                     | 74                     | 357                     |
| 49         |       |          | Shivpuri | Nirman             | 76                     | 536                     | 172                    | 764                     |
| 50         |       |          | Pohari   | Raiyan             | 100                    | 611                     | 185                    | 750                     |
| 51         |       |          | Pohari   | Raghunathpura      | 26                     | 151                     | 53                     | 204                     |
| 52         |       |          | Shivpuri | Karyara            | 10                     | 62                      | 12                     | 41                      |
| 53         |       |          | Pohari   | Kemai              | 142                    | 795                     | 222                    | 968                     |
| 54         |       |          | Shivpuri | Padar Kheda        | 210                    | 1096                    | 277                    | 1370                    |
| 55         |       |          | Shivpuri | Sujiyapura         | 3                      | 21                      | 7                      | 22                      |
| 56         |       |          | Shivpuri | Khanda             | 9                      | 48                      | NA                     | NA                      |
| 57         |       |          | Pohari   | Beharda            | 47                     | 264                     | 89                     | 334                     |
| 58         |       |          | Shivpuri | Mudkheda Dholagarh | 71                     | 418                     | 108                    | 485                     |
| 59         |       |          | Shivpuri | Gopalpur           | 379                    | 2296                    | 507                    | 2815                    |
| 60         |       |          | Shivpuri | Khalara            | 24                     | 127                     | 30                     | 169                     |
| 61         |       |          | Shivpuri | Imaliya Gopalpur   | 33                     | 219                     | 55                     | 284                     |
| 62         |       |          | Shivpuri | Bilu Khoh          | 54                     | 379                     | 89                     | 433                     |
| 63         |       |          | Shivpuri | Rampur             | 11                     | 78                      | 19                     | 99                      |
| 64         |       |          | Shivpuri | Jamonia            | 68                     | 402                     | 109                    | 632                     |

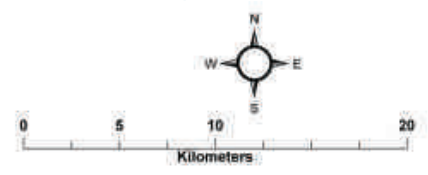
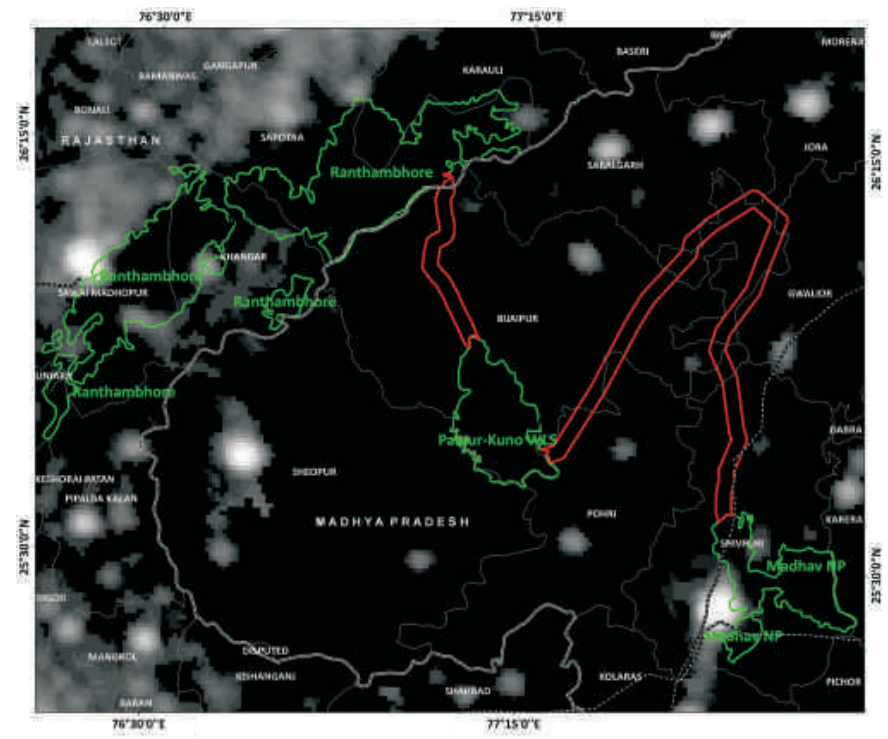
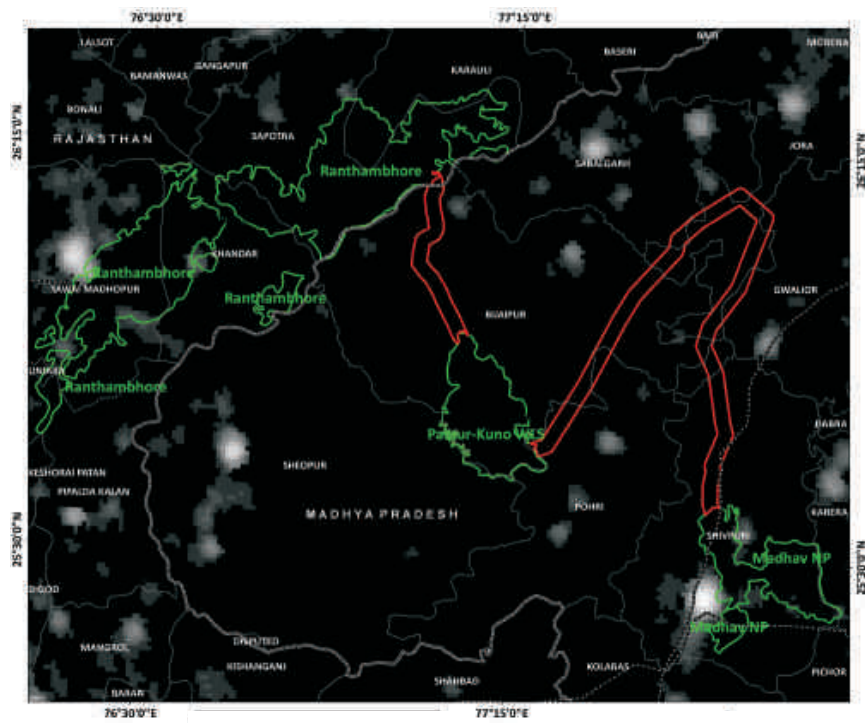
| Village<br>_ID | State          | District | Tehsil   | Village           | No of<br>Household<br>(2001) | Total<br>Population<br>(2001) | No of<br>Household<br>(2011) | Total<br>Population<br>(2011) |
|----------------|----------------|----------|----------|-------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
| 65             |                |          | Pohari   | Hanumanta         | NA                           | NA                            | NA                           | NA                            |
| 66             |                |          | Pohari   | Imlipura          | NA                           | NA                            | NA                           | NA                            |
| 67             |                |          | Shivpuri | Narshingpur F.v 1 | NA                           | NA                            | NA                           | NA                            |
| 68             |                |          | Pohari   | Ummedpura         | NA                           | NA                            | NA                           | NA                            |
| 69             |                |          | Shivpuri | Golarka           | NA                           | NA                            | NA                           | NA                            |
| 70             |                |          | Shivpuri | Kansarai F.3      | NA                           | NA                            | NA                           | NA                            |
| 71             |                |          | Pohari   | Godha             | NA                           | NA                            | NA                           | NA                            |
| 72             |                |          | Shivpuri | Satkiwadi F.4     | NA                           | NA                            | NA                           | NA                            |
| 73             |                |          | Pohari   | Karkhaua          | NA                           | NA                            | NA                           | NA                            |
| 74             |                | Morena   | Joura    | Baghebar          | 93                           | 456                           | 126                          | 605                           |
| 75             |                |          | Kailaras | Thathipura        | 229                          | 1377                          | 309                          | 1599                          |
| 76             |                |          | Kailaras | Beharara Gagir    | 343                          | 2042                          | 470                          | 2375                          |
| 77             |                |          | Kailaras | Golhari           | 436                          | 2738                          | 722                          | 3219                          |
| 78             |                |          | Joura    | Bahrai Upari      | 26                           | 176                           | 58                           | 221                           |
| 79             |                |          | Joura    | Jajipura          | 9                            | 81                            | 30                           | 152                           |
| 80             |                |          | Joura    | Manpur            | 98                           | 532                           | 107                          | 622                           |
| 81             |                |          | Joura    | Pali              | 7                            | 44                            | 37                           | 227                           |
| 82             |                |          | Joura    | Birkhapura        | 37                           | 279                           | 62                           | 351                           |
| 83             |                |          | Joura    | Ratki             | 4                            | 37                            | 16                           | 62                            |
| 84             |                |          | Joura    | Rakehara          | 40                           | 350                           | 58                           | 482                           |
| 85             |                |          | Joura    | Jaderu            | 105                          | 614                           | 183                          | 890                           |
| 86             |                |          | Joura    | Dhobini           | 88                           | 494                           | 178                          | 827                           |
| 87             |                |          | Joura    | Hariyapura        | NA                           | NA                            | NA                           | NA                            |
| 88             |                |          | Joura    | Barai Kote        | NA                           | NA                            | NA                           | NA                            |
| 89             |                |          | Joura    | Umari             | NA                           | NA                            | NA                           | NA                            |
| 90             | Rajasthan      | Karuai   | Sapotra  | Kased             | 331                          | 2370                          | 541                          | 2957                          |
| 91             |                |          | Sapotra  | Simora            | 111                          | 920                           | NA                           | NA                            |
| 92             | Madhya Pradesh | Gwalior  | Grid     | Basota            | 19                           | 135                           | 27                           | 149                           |
| 93             |                |          | Grid     | Bagwalagaon       | 76                           | 637                           | 125                          | 700                           |
| 94             |                |          | Grid     | Badagaonjagir     | 437                          | 2781                          | 722                          | 3298                          |



**Figure 2.5:**

*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Ranthambore-Kuno-Madhav National Park*





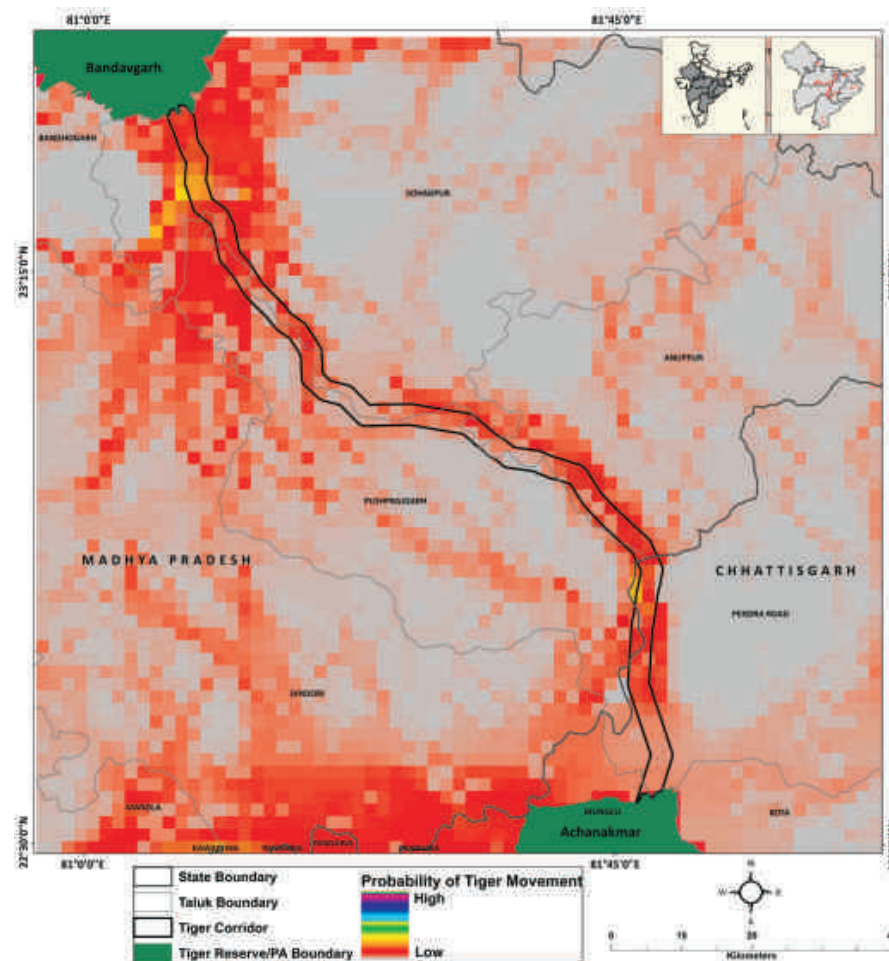
**Figure 2.6:**  
*Human habitation as depicted by nightlights within the Ranthambore-Kuno-Madhav National Park Corridor landscape in the year 1992 and 2012*

# BANDHAVGARH-ACHANAKMAR

**Figure 2.7:**

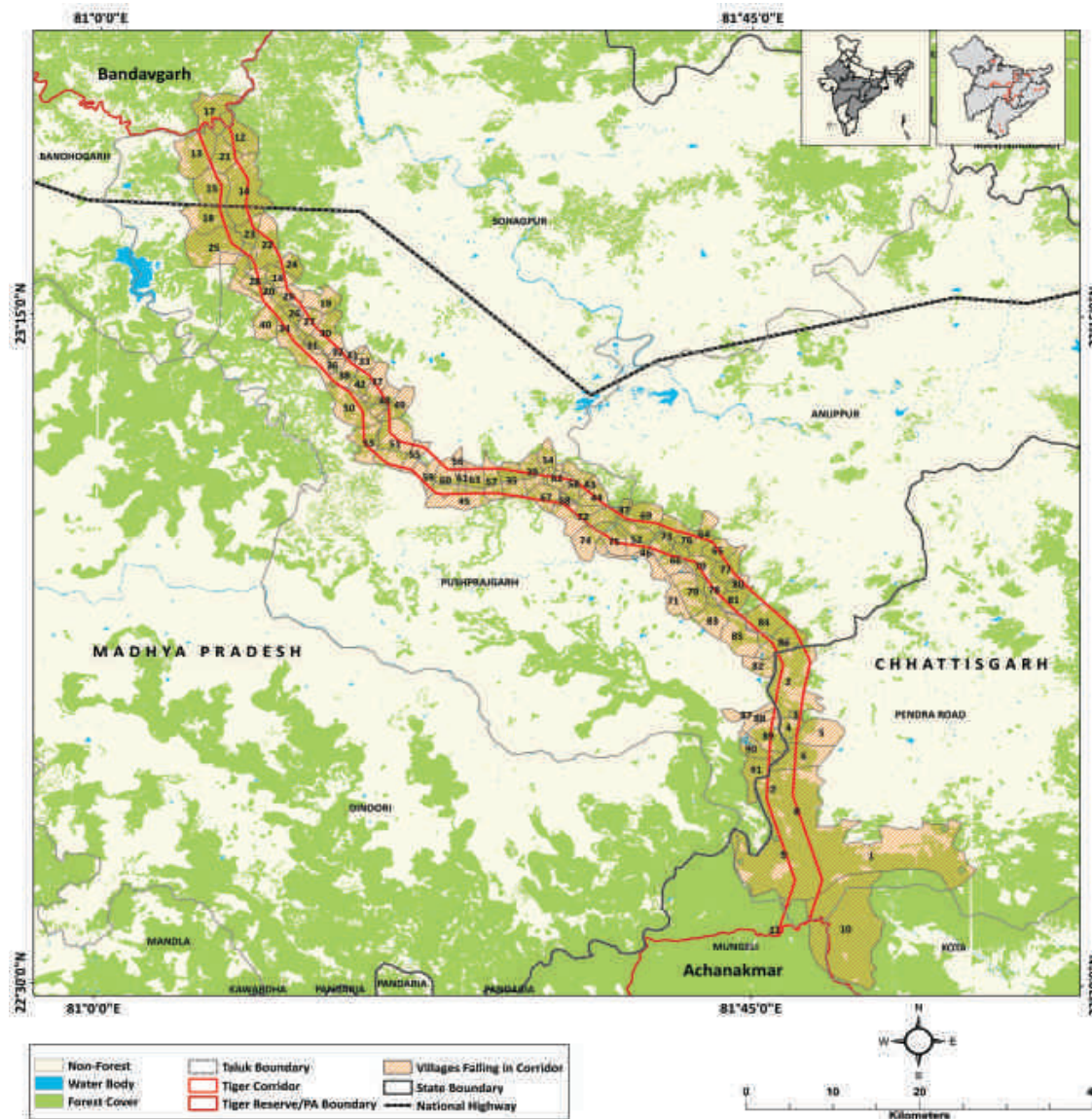
Potential habitat connectivity for tiger movement between Bandhavgarh-Achanakmar as depicted by CIRCUITSCAPE model

This corridor connects two very important sub-landscapes, the Kanha-Pench population with Bandhavgarh-Sanjay-Dubri populations. However, the corridor passes through tiger hostile landscape since some communities living in the vicinity are known for their poaching tendencies. The habitat through which the corridor passes is itself narrow ridge-top forest with high biotic pressures. Further, due to availability of coal in this landscape matrix there is ever present pressure from infrastructure development associated with coal mining. This corridor requires serious attention for restoration in terms of ecology as well as socio-economic inputs.



## Bandhavgarh-Achanakmar

|                          |   |
|--------------------------|---|
| <b>Habitat size</b>      | 19111 Sq. Km <sup>2</sup>                             |
| <b>Source Population</b> | Bandhavgarh Tiger Reserve                             |
| <b>Size of Source</b>    | 47-71   |
| <b>Protected Areas</b>   | Bandhavgarh Tiger Reserve<br>Achanakmar Tiger Reserve |
| <b>Corridors</b>         | Achanakmar-Bhandhavgarh                               |



**Figure 2.8:** Least Cost Pathway corridor for Tiger movement between Bandhavgarh-Achanakmar overlaid with village map (the village numbers are referenced in Table 2.2)





| Village ID | State          | District | Tehsil     | Village      | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|----------------|----------|------------|--------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Chhattisgarh   | Bilaspur | Pendraroad | Tawardabra   | 87                     | 413                     | 128                    | 476                     |
| 2          |                |          | Pendraroad | Salheghori   | 236                    | 1083                    | 297                    | 1270                    |
| 3          |                |          | Pendraroad | Karngara     | 59                     | 252                     | 133                    | 468                     |
| 4          |                |          | Pendraroad | Bedkhadera   | 34                     | 167                     | 19                     | 66                      |
| 5          |                |          | Pendraroad | Jhagra Khand | 282                    | 1284                    | 392                    | 1560                    |
| 6          |                |          | Pendraroad | Choktipani   | 260                    | 1272                    | 384                    | 1641                    |
| 7          |                |          | Pendraroad | Thengadand   | 204                    | 924                     | 308                    | 1096                    |
| 8          |                |          | Pendraroad | Thandpathra  | 160                    | 780                     | 239                    | 899                     |
| 9          |                |          | Pendraroad | Kewchi       | 292                    | 1200                    | 423                    | 1470                    |
| 10         |                |          | Kota       | Tatidhar     | 297                    | 1185                    | 402                    | 1400                    |
| 11         |                |          | Lormi      | F.22 Kuba    | 13                     | 49                      | NA                     | NA                      |
| 12         | Madhya Pradesh | Umaria   | Bandhogarh | Sans         | 78                     | 345                     | 98                     | 435                     |
| 13         |                |          | Bandhogarh | Parsaura     | 75                     | 391                     | 101                    | 496                     |
| 14         |                |          | Bandhogarh | Jamuhai      | 102                    | 457                     | 132                    | 548                     |
| 15         |                |          | Bandhogarh | Beli         | 162                    | 770                     | 220                    | 965                     |
| 16         |                |          | Bandhogarh | Baghannara   | 78                     | 386                     | 101                    | 435                     |
| 17         |                |          | Bandhogarh | Ramsohara    | NA                     | NA                      | NA                     | NA                      |
| 18         |                |          | Bandhogarh | Karkati      | 138                    | 670                     | 160                    | 736                     |
| 19         |                |          | Bandhogarh | Raugarh      | 194                    | 975                     | 238                    | 1048                    |
| 20         |                |          | Bandhogarh | Panwari      | 18                     | 86                      | 23                     | 95                      |
| 21         |                |          | Bandhogarh | Mudkatiya    | NA                     | NA                      | NA                     | NA                      |
| 22         |                |          | Bandhogarh | Ghun Ghuti   | 412                    | 1880                    | 541                    | 2088                    |
| 23         |                |          | Bandhogarh | Githauri     | 74                     | 388                     | 78                     | 308                     |
| 24         |                |          | Bandhogarh | Chandpur     | 136                    | 653                     | 183                    | 762                     |
| 25         |                |          | Bandhogarh | Barhai       | 147                    | 719                     | 214                    | 853                     |
| 26         |                |          | Bandhogarh | Audhera      | 191                    | 1031                    | 273                    | 1198                    |
| 27         |                |          | Bandhogarh | Malachua     | 228                    | 1182                    | 320                    | 1355                    |
| 28         |                |          | Bandhogarh | Kachodar     | 123                    | 534                     | 165                    | 651                     |
| 29         |                |          | Bandhogarh | Amgar        | 164                    | 781                     | 221                    | 915                     |
| 30         |                |          | Bandhogarh | Blackpadri   | 32                     | 179                     | 57                     | 251                     |

**Table 2.2:**

*Villages Within the Least Cost Pathway Corridor between Bandhavgarh-Achanakmar as shown in Fig. 2.8*

| Village<br>_ID | State | District | Tehsil        | Village       | No of<br>Household<br>(2001) | Total<br>Population<br>(2001) | No of<br>Household<br>(2011) | Total<br>Population<br>(2011) |
|----------------|-------|----------|---------------|---------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
| 31             |       |          | Bandhogarh    | Hathpura      | 179                          | 976                           | 248                          | 1173                          |
| 32             |       |          | Bandhogarh    | Kusmaha Khurd | 138                          | 708                           | 201                          | 874                           |
| 33             |       | Shahdol  | Sohagpur      | Khouhal       | 42                           | 192                           | 60                           | 230                           |
| 34             |       |          | Pushparajgarh | Mekal Pahad   | NA                           | NA                            | NA                           | NA                            |
| 35             |       |          | Sohagpur      | Silpari       | 92                           | 437                           | 119                          | 483                           |
| 36             |       |          | Sohagpur      | Lamro         | 147                          | 982                           | 242                          | 1175                          |
| 37             |       |          | Sohagpur      | Jugwari       | 300                          | 1502                          | 458                          | 1886                          |
| 38             |       |          | Sohagpur      | Majhagawan    | 255                          | 1327                          | 374                          | 1533                          |
| 39             |       |          | Sohagpur      | Arjhuli       | 81                           | 435                           | 139                          | 506                           |
| 40             |       |          | Pushparajgarh | Kharsol       | 139                          | 733                           | 175                          | 853                           |
| 41             |       |          | Sohagpur      | Pachdi        | 154                          | 716                           | 205                          | 841                           |
| 42             |       |          | Sohagpur      | Deori Tola    | 164                          | 812                           | 200                          | 941                           |
| 43             |       |          | Sohagpur      | Kapildhara    | 80                           | 354                           | 102                          | 374                           |
| 44             |       |          | Sohagpur      | Sonaha        | 104                          | 540                           | 150                          | 674                           |
| 45             |       |          | Sohagpur      | Mekal Pahad   | NA                           | NA                            | NA                           | NA                            |
| 46             |       |          | Pushparajgarh | Mekal Pahad   | NA                           | NA                            | NA                           | NA                            |
| 47             |       |          | Anuppur       | Chhira Patpar | 26                           | 121                           | 36                           | 160                           |
| 48             |       |          | Sohagpur      | Bandhawa Bada | 340                          | 1627                          | 438                          | 1878                          |
| 49             |       |          | Sohagpur      | Kelmaniya     | 373                          | 1678                          | 494                          | 2021                          |
| 50             |       |          | Pushparajgarh | Jaitahari     | 88                           | 484                           | 107                          | 483                           |
| 51             |       |          | Sohagpur      | Patkhai       | 323                          | 1551                          | 416                          | 1834                          |
| 52             |       |          | Anuppur       | Audhera       | 122                          | 567                           | 147                          | 603                           |
| 53             |       |          | Pushparajgarh | Ahircawan     | 111                          | 589                           | 133                          | 686                           |
| 54             |       |          | Sohagpur      | Koilaha       | 77                           | 417                           | 120                          | 558                           |
| 55             |       |          | Sohagpur      | Bamura        | 185                          | 843                           | 249                          | 992                           |
| 56             |       |          | Sohagpur      | Samatpur      | 275                          | 1403                          | 421                          | 1671                          |
| 57             |       |          | Sohagpur      | Kathai        | 57                           | 259                           | 75                           | 318                           |
| 58             |       |          | Sohagpur      | Turri         | 124                          | 600                           | 170                          | 656                           |
| 59             |       |          | Sohagpur      | Amha Tola     | 144                          | 665                           | 213                          | 876                           |
| 60             |       |          | Sohagpur      | Kathautiya    | 306                          | 1406                          | 411                          | 1721                          |



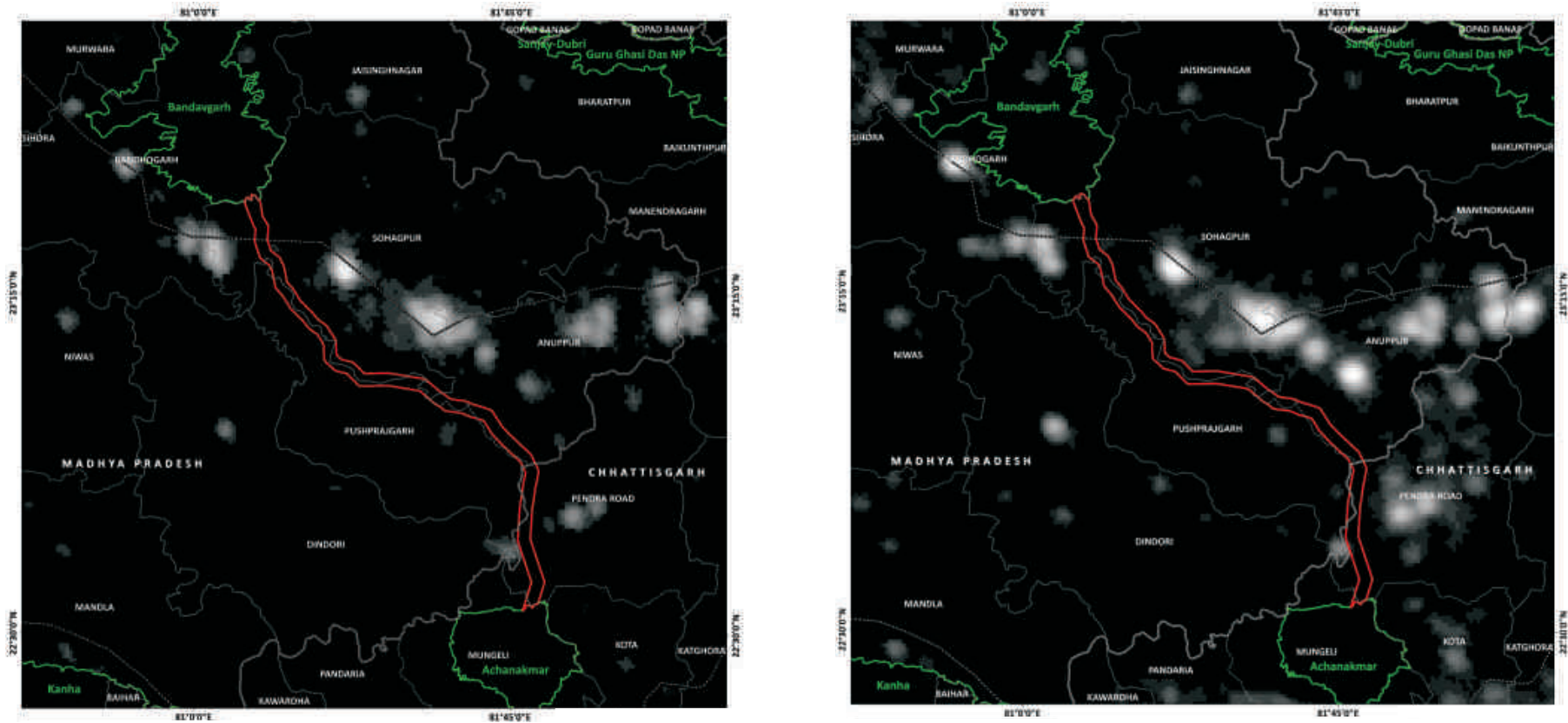


| Village ID | State | District | Tehsil        | Village      | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|---------------|--------------|------------------------|-------------------------|------------------------|-------------------------|
| 62         |       |          | Sohagpur      | Chhirhati    | 34                     | 172                     | 47                     | 209                     |
| 63         |       |          | Sohagpur      | Kodwar Kalan | 137                    | 657                     | 199                    | 797                     |
| 64         |       |          | Anuppur       | Dudhmaniya   | 128                    | 685                     | 176                    | 779                     |
| 65         |       |          | Jaithari      | Gaurela      | 210                    | 949                     | 271                    | 1145                    |
| 66         |       |          | Jaithari      | Daleddeh     | 34                     | 160                     | 37                     | 181                     |
| 67         |       |          | Pushparajgarh | Padri        | 124                    | 626                     | 176                    | 714                     |
| 68         |       |          | Pushparajgarh | Bilai Kher   | 25                     | 128                     | 36                     | 162                     |
| 69         |       |          | Anuppur       | Didwapani    | 101                    | 543                     | 122                    | 613                     |
| 70         |       |          | Jaithari      | Thehi        | 59                     | 313                     | 82                     | 384                     |
| 71         |       |          | Pushparajgarh | Girwi        | 109                    | 525                     | 137                    | 584                     |
| 72         |       |          | Sohagpur      | Khoh         | 256                    | 1264                    | 306                    | 1387                    |
| 73         |       |          | Anuppur       | Akua         | 168                    | 731                     | 69                     | 322                     |
| 74         |       |          | Anuppur       | Badhar       | 120                    | 555                     | 157                    | 678                     |
| 75         |       |          | Anuppur       | Kirar        | 55                     | 272                     | 73                     | 303                     |
| 76         |       |          | Jaithari      | Kholaiya     | 67                     | 328                     | 120                    | 445                     |
| 77         |       |          | Jaithari      | Padari       | 131                    | 588                     | 143                    | 639                     |
| 78         |       |          | Jaithari      | Chhirpani    | 27                     | 139                     | 44                     | 175                     |
| 79         |       |          | Jaithari      | Baihar       | 184                    | 886                     | 239                    | 1086                    |
| 80         |       |          | Jaithari      | Behnadawar   | 95                     | 494                     | 146                    | 665                     |
| 81         |       |          | Jaithari      | Dodhipani    | 172                    | 905                     | 241                    | 1012                    |
| 82         |       |          | Pushparajgarh | Mekal Pahad  | 31                     | 152                     | 34                     | 156                     |
| 83         |       |          | Jaithari      | Khursa       | 94                     | 429                     | 126                    | 463                     |
| 84         |       |          | Jaithari      | Padripani    | 135                    | 728                     | 170                    | 850                     |
| 85         |       |          | Jaithari      | Bhelma       | 151                    | 814                     | 164                    | 890                     |
| 86         |       |          | Jaithari      | Pondi        | 318                    | 1502                    | 440                    | 1680                    |
| 87         |       |          | Pushparajgarh | Tali         | 135                    | 675                     | 169                    | 822                     |
| 88         |       |          | Pushparajgarh | Bharni       | 102                    | 502                     | 130                    | 608                     |
| 89         |       |          | Pushparajgarh | Pamra        | 140                    | 762                     | 190                    | 900                     |
| 90         |       |          | Pushparajgarh | Bijauri      | 124                    | 623                     | 192                    | 793                     |
| 91         |       |          | Pushparajgarh | Umargohan    | 82                     | 336                     | 114                    | 425                     |

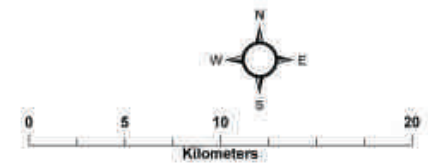
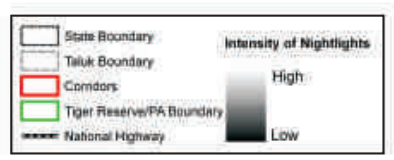


**Figure 2.9:**  
*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Bandhavgarh-Achanakmar*



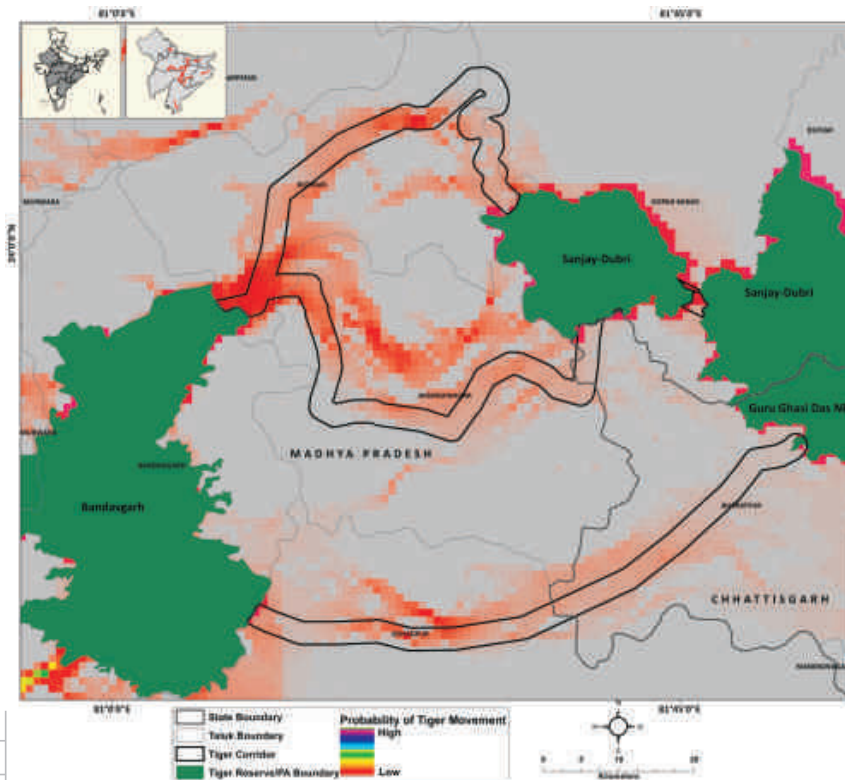


**Figure 2.10:**  
 Human habitation as depicted by nightlights within the Bandhavgarh-Achanakmar Corridor landscape in the year 1992 and 2012



# BANDHAVGARH-SANJAY-DUBRI-GURU GHASI DAS

Two habitat linkages exist that serve as corridors for connecting source population of Bandhavgarh to sink habitats of Sanjay-Dubri and Guru Ghasi Das. The major threats in this landscape to habitat linkages are linear developments of structures associated with mining activities. The second important threat is biotic pressures and poaching of prey and tigers. A vigil needs to be kept at all times while granting approvals to projects in this region so that appropriate mitigation measures are ensured from the planning phase of projects. Inputs in the form of restorative ecology and eco development are needed to keep/ make the corridors functional. The importance of this linkage cannot be undermined as towards the east large habitat still exists but can only be populated by tigers if connectivity with Bandhavgarh remains intact. Bandhavgarh-Sanjay-Dubri-Guru Ghasi Das holds promise for long term tiger conservation but only if this connectivity remains functional.



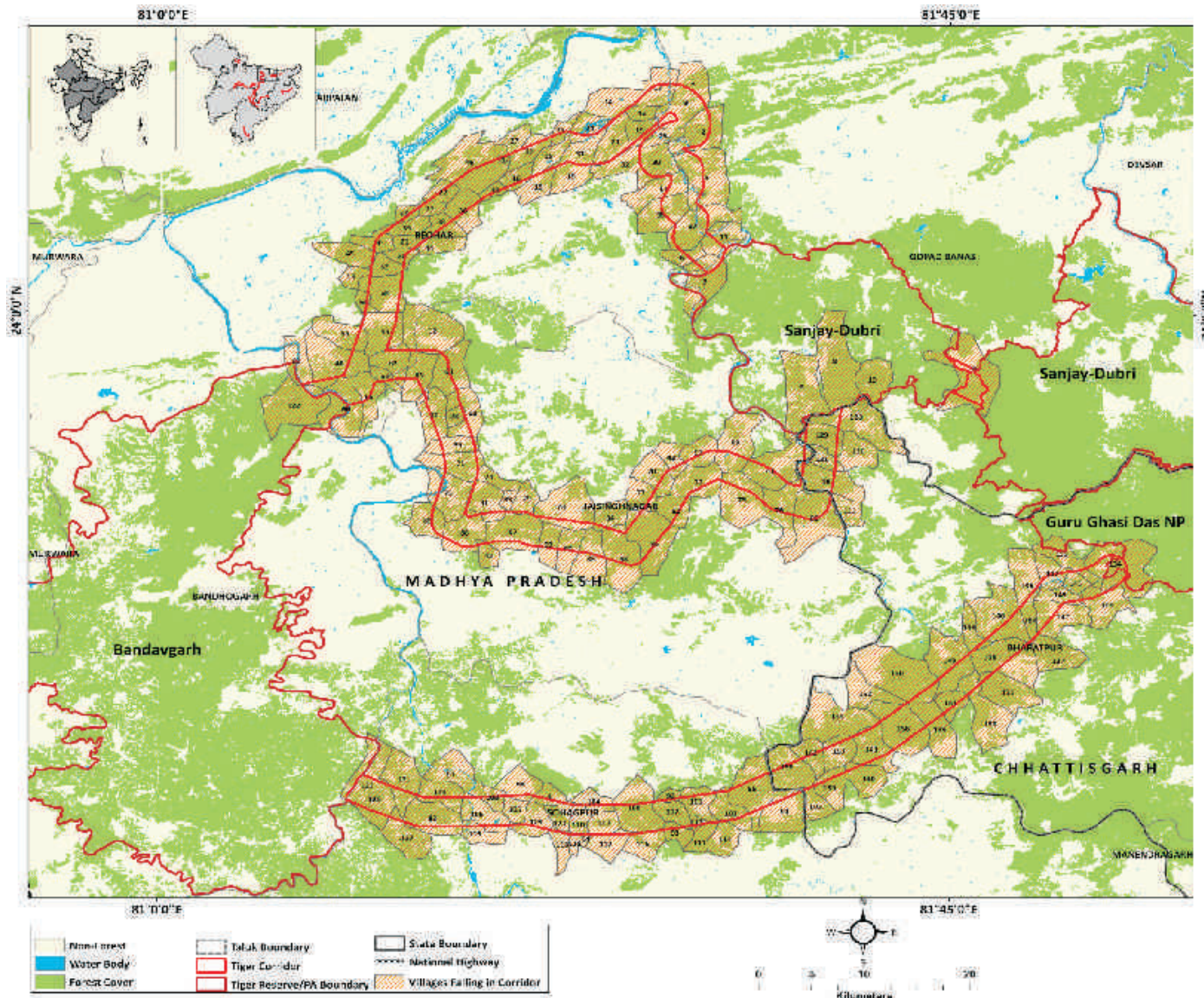
**Figure 2.11:**  
Potential habitat connectivity for tiger movement between Bandhavgarh-Sanjay-Dubri-Guru Ghasi Das as depicted by CIRCUITSCAPE model

## Bandhavgarh-Sanjay-Dubri-Guru Ghasidas

|                          |   |
|--------------------------|---|
| <b>Habitat size</b>      | 21607 Km <sup>2</sup>   |
| <b>Source Population</b> | Bandhavgarh Tiger Reserve                                     |
| <b>Size of Source</b>    | 47-71   |
| <b>Protected Areas</b>   | Bandhavgarh Tiger Reserve<br>Sanjay-Dubri<br>Guru Ghasidas NP |
| <b>Corridors</b>         | Bandhavgarh -Sanjay-Dubri                                     |

**Figure 2.12:**

Least Cost Pathway corridor for Tiger movement between Bandhavgarh-Sanjay-Dubri-Guru Ghasi Das overlaid with village map (the village numbers are referenced in Table 2.3)



| Village_ID | State          | District | Tehsil        | Village       | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|----------------|----------|---------------|---------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Madhya Pradesh | Sidhi    | Majholi       | Ghoghi        | 41                     | 241                     | 68                     | 338                     |
| 2          |                |          | Majholi       | Parsili       | 193                    | 1100                    | 306                    | 1329                    |
| 3          |                |          | Majholi       | Naudhiya      | 556                    | 2838                    | 858                    | 3970                    |
| 4          |                |          | Kusmi         | Amjhar        | NA                     | NA                      | 174                    | 748                     |
| 4          |                |          | Kusmi         | Amjhar        | NA                     | NA                      | NA                     | NA                      |
| 5          |                |          | Majholi       | Chamradol     | 387                    | 1785                    | 522                    | 2354                    |
| 6          |                |          | Kusmi         | Goindwar      | 29                     | 173                     | 71                     | 264                     |
| 7          |                |          | Kusmi         | Dubari Kalan  | 162                    | 717                     | 215                    | 831                     |
| 8          |                |          | Kusmi         | Lawahi        | 74                     | 393                     | 105                    | 522                     |
| 9          |                |          | Kusmi         | Deomath       | 104                    | 545                     | 191                    | 707                     |
| 10         |                |          | Kusmi         | Kota          | 252                    | 1227                    | 359                    | 1513                    |
| 11         |                |          | Kusmi         | Khaira        | 35                     | 188                     | 60                     | 261                     |
| 12         |                | Shahdol  | Jaisinghnagar | Pathrahta     | 220                    | 1159                    | 378                    | 1881                    |
| 13         |                |          | Beohari       | Sathni        | 254                    | 1270                    | 368                    | 1654                    |
| 14         |                |          | Beohari       | Magardaha     | 274                    | 1347                    | 401                    | 1688                    |
| 15         |                |          | Beohari       | Bhanni        | 449                    | 2173                    | 621                    | 2819                    |
| 16         |                |          | Beohari       | Sejhari       | 31                     | 164                     | 67                     | 273                     |
| 17         |                |          | Beohari       | Sarwahi Khurd | 220                    | 1195                    | 334                    | 1597                    |
| 18         |                |          | Beohari       | Bhamraha      | 461                    | 2280                    | 662                    | 2712                    |
| 19         |                |          | Beohari       | Khari         | 150                    | 650                     | 185                    | 903                     |
| 20         |                |          | Beohari       | Deori         | 208                    | 1125                    | 261                    | 1405                    |
| 21         |                |          | Beohari       | Mair          | 93                     | 445                     | 117                    | 569                     |
| 22         |                |          | Beohari       | Ambar         | NA                     | NA                      | 241                    | 1004                    |
| 22         |                |          | Beohari       | Ambar         | NA                     | NA                      | NA                     | NA                      |
| 23         |                |          | Jaisinghnagar | Patehara Tola | 63                     | 377                     | 118                    | 514                     |
| 24         |                |          | Beohari       | Nakuni        | 213                    | 1096                    | 331                    | 1482                    |
| 25         |                |          | Beohari       | Judmani       | 55                     | 268                     | 88                     | 363                     |
| 26         |                |          | Beohari       | Hathwar       | 86                     | 488                     | 161                    | 660                     |
| 27         |                |          | Beohari       | Nado          | 151                    | 764                     | 221                    | 1039                    |
| 28         |                |          | Beohari       | Karaundiya    | 141                    | 685                     | 190                    | 851                     |



**Table 2.3:**  
Villages within the Least Cost Pathway Corridor connecting Bandhavgarh-Sanjay-Dubri-Gurughasi Das as show in Fig. 2.12





| Village ID | State | District | Tehsil        | Village       | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|---------------|---------------|------------------------|-------------------------|------------------------|-------------------------|
| 29         |       |          | Beohari       | Jagmal        | 154                    | 763                     | 263                    | 1110                    |
| 30         |       |          | Beohari       | Boddiha       | 162                    | 924                     | 280                    | 1133                    |
| 31         |       |          | Beohari       | Gada          | 228                    | 1141                    | 328                    | 1453                    |
| 32         |       |          | Beohari       | Papredi       | 375                    | 1914                    | 597                    | 2379                    |
| 34         |       |          | Beohari       | Tikhawa       | 387                    | 1996                    | 497                    | 2482                    |
| 35         |       |          | Beohari       | Sarwahi Kalan | 153                    | 792                     | 228                    | 1214                    |
| 36         |       |          | Beohari       | Charka        | 255                    | 1378                    | 440                    | 1869                    |
| 37         |       |          | Beohari       | Bocharo       | 211                    | 1122                    | 379                    | 1606                    |
| 38         |       |          | Beohari       | Hanumanpur    | 163                    | 842                     | 289                    | 1041                    |
| 39         |       |          | Beohari       | Kharhara      | 54                     | 309                     | 85                     | 425                     |
| 40         |       |          | Beohari       | Mahdeva       | 100                    | 304                     | 295                    | 1299                    |
| 41         |       |          | Jaisinghnagar | Khadgadi      | 173                    | 754                     | 204                    | 806                     |
| 42         |       |          | Jaisinghnagar | Umarkhohi     | 101                    | 484                     | 147                    | 622                     |
| 43         |       |          | Jaisinghnagar | Aunta         | 47                     | 238                     | 69                     | 282                     |
| 44         |       |          | Beohari       | Devarda       | 146                    | 725                     | 219                    | 920                     |
| 45         |       |          | Beohari       | Pondi Khurd   | 104                    | 485                     | 173                    | 792                     |
| 46         |       |          | Beohari       | Chandrmadol   | NA                     | NA                      | NA                     | NA                      |
| 47         |       |          | Beohari       | Bhainstal     | NA                     | NA                      | NA                     | NA                      |
| 48         |       |          | Beohari       | Newari        | NA                     | NA                      | NA                     | NA                      |
| 49         |       |          | Beohari       | Bhutha Tola   | NA                     | NA                      | NA                     | NA                      |
| 50         |       |          | Beohari       | Karri         | NA                     | NA                      | NA                     | NA                      |
| 51         |       |          | Beohari       | Parsel        | NA                     | NA                      | NA                     | NA                      |
| 52         |       |          | Beohari       | Padui         | NA                     | NA                      | NA                     | NA                      |
| 53         |       |          | Beohari       | Mudchaur      | NA                     | NA                      | NA                     | NA                      |
| 54         |       |          | Beohari       | Davraunha     | 73                     | 347                     | 105                    | 547                     |
| 55         |       |          | Beohari       | Chhatwa       | 63                     | 286                     | 104                    | 455                     |
| 56         |       |          | Beohari       | Jamuniha      | 39                     | 191                     | 70                     | 302                     |
| 57         |       |          | Jaisinghnagar | Pipari        | 123                    | 629                     | 196                    | 765                     |
| 58         |       |          | Jaisinghnagar | Bansa         | 336                    | 1562                    | 493                    | 1930                    |
| 59         |       |          | Jaisinghnagar | Tetka         | 255                    | 1267                    | 359                    | 1686                    |

| Village<br>_ID | State | District | Tehsil        | Village       | No of<br>Household<br>(2001) | Total<br>Population<br>(2001) | No of<br>Household<br>(2011) | Total<br>Population<br>(2011) |
|----------------|-------|----------|---------------|---------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
| 60             |       |          | Jaisinghnagar | Basahi        | 169                          | 846                           | 249                          | 1090                          |
| 61             |       |          | Beohari       | Khari Badi    | 119                          | 599                           | 208                          | 853                           |
| 62             |       |          | Jaisinghnagar | Ghori Ghat    | 116                          | 496                           | 94                           | 428                           |
| 62             |       |          | Jaisinghnagar | Ghori Ghat    | 38                           | 156                           | 121                          | 543                           |
| 63             |       |          | Jaisinghnagar | Dhaneda       | 150                          | 713                           | 186                          | 933                           |
| 65             |       |          | Beohari       | Banasi        | 79                           | 402                           | 143                          | 611                           |
| 66             |       |          | Beohari       | Khusariya     | 73                           | 319                           | 104                          | 461                           |
| 67             |       |          | Jaisinghnagar | Charkwah      | 98                           | 486                           | 169                          | 794                           |
| 68             |       |          | Jaisinghnagar | Hidwah        | 34                           | 243                           | 67                           | 280                           |
| 69             |       |          | Jaisinghnagar | Jamudi        | 232                          | 1131                          | 305                          | 1416                          |
| 70             |       |          | Jaisinghnagar | Malauti       | 102                          | 540                           | 159                          | 706                           |
| 71             |       |          | Jaisinghnagar | Thadi Pathar  | 53                           | 296                           | 73                           | 338                           |
| 72             |       |          | Jaisinghnagar | Tali Kalan    | 182                          | 930                           | 244                          | 1080                          |
| 73             |       |          | Jaisinghnagar | Pahadiya      | 223                          | 1021                          | 302                          | 1166                          |
| 74             |       |          | Jaisinghnagar | Narghi        | 69                           | 336                           | 95                           | 423                           |
| 75             |       |          | Jaisinghnagar | Ghiyar        | 87                           | 463                           | 127                          | 582                           |
| 76             |       |          | Jaisinghnagar | Mudariya Tola | 194                          | 874                           | 257                          | 1072                          |
| 77             |       |          | Jaisinghnagar | Bataudi       | 87                           | 479                           | 134                          | 588                           |
| 78             |       |          | Jaisinghnagar | Karki         | 527                          | 2510                          | 701                          | 2902                          |
| 79             |       |          | Jaisinghnagar | Kolhua        | 18                           | 83                            | 33                           | 138                           |
| 80             |       |          | Jaisinghnagar | Bansukli      | 343                          | 1570                          | 446                          | 1813                          |
| 81             |       |          | Jaisinghnagar | Kothigarh     | 164                          | 856                           | 271                          | 1039                          |
| 82             |       |          | Jaisinghnagar | Gajwahi       | 143                          | 666                           | 187                          | 808                           |
| 83             |       |          | Jaisinghnagar | Mungaha       | 44                           | 220                           | 53                           | 254                           |
| 84             |       |          | Jaisinghnagar | Pathrapani    | 81                           | 397                           | 114                          | 487                           |
| 85             |       |          | Jaisinghnagar | Antoli        | 130                          | 674                           | 193                          | 864                           |
| 86             |       |          | Jaisinghnagar | Bartua        | 38                           | 179                           | 48                           | 224                           |
| 87             |       |          | Jaisinghnagar | Kanadi Kalan  | 325                          | 1595                          | 491                          | 1910                          |
| 88             |       |          | Jaisinghnagar | Nadna         | 132                          | 639                           | 206                          | 817                           |
| 89             |       |          | Jaisinghnagar | Bineka        | 200                          | 942                           | 240                          | 1076                          |

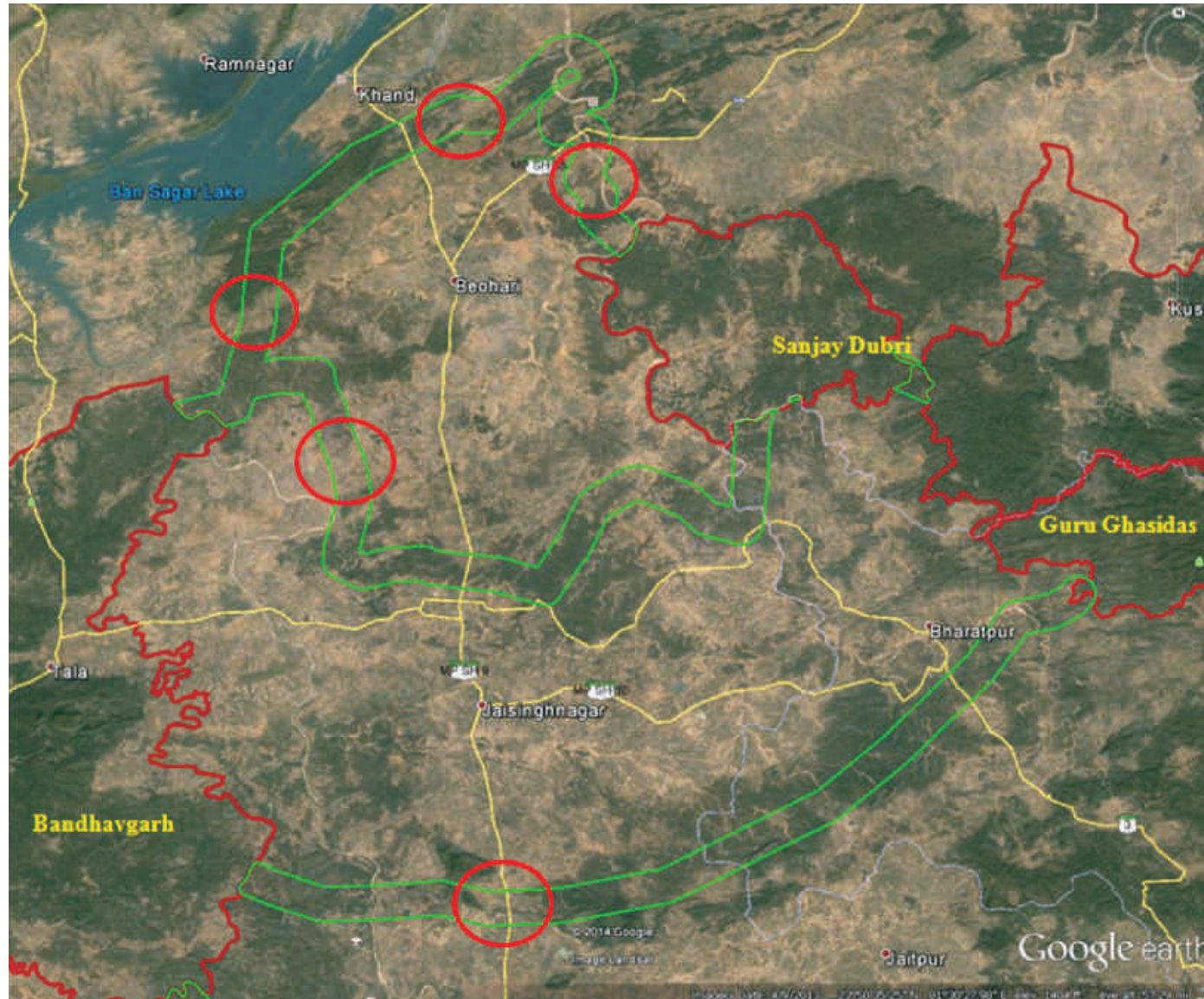


| Village ID | State          | District | Tehsil        | Village       | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|----------------|----------|---------------|---------------|------------------------|-------------------------|------------------------|-------------------------|
| 90         |                |          | Jaisinghnagar | Basnagri      | 174                    | 849                     | 199                    | 1043                    |
| 91         |                |          | Sohagpur      | Beliya        | 162                    | 641                     | 194                    | 762                     |
| 92         |                |          | Sohagpur      | Amohali       | NA                     | NA                      | NA                     | NA                      |
| 93         |                |          | Sohagpur      | Gadh (garh)   | NA                     | NA                      | NA                     | NA                      |
| 94         |                |          | Sohagpur      | Hardiha Kalan | NA                     | NA                      | NA                     | NA                      |
| 95         |                |          | Jaisinghnagar | Jhalra        | NA                     | NA                      | NA                     | NA                      |
| 96         |                |          | Beohari       | KHAND         | 2373                   | 10921                   | 2305                   | 10653                   |
| 97         |                |          | Sohagpur      | Ankuri        | 252                    | 1144                    | 333                    | 1330                    |
| 98         |                |          | Sohagpur      | Bela          | 215                    | 950                     | 285                    | 1166                    |
| 98         | Chhattisgarh   | Koriya   | Bharatpur     | Bela          | 126                    | 570                     | 200                    | 719                     |
| 99         | Madhya Pradesh | Shahdol  | Sohagpur      | Dadratola     | 164                    | 792                     | 224                    | 993                     |
| 100        |                |          | Sohagpur      | Duladar       | 147                    | 666                     | 184                    | 744                     |
| 101        |                |          | Sohagpur      | Pondi         | 92                     | 386                     | 108                    | 451                     |
| 102        |                |          | Sohagpur      | Bhadwahi      | 156                    | 669                     | 201                    | 775                     |
| 104        |                |          | Sohagpur      | Dhaunha       | 156                    | 667                     | 192                    | 768                     |
| 105        |                |          | Sohagpur      | Chandela      | 105                    | 437                     | 145                    | 571                     |
| 105        | Chhattisgarh   | Koriya   | Bharatpur     | Chandela      | 34                     | 145                     | 57                     | 166                     |
| 106        | Madhya Pradesh | Shahdol  | Sohagpur      | Mehrauda      | 55                     | 238                     | 68                     | 317                     |
| 107        |                |          | Sohagpur      | Bhitri        | 22                     | 102                     | 26                     | 105                     |
| 108        |                |          | Sohagpur      | Kudra Tola    | 59                     | 297                     | 92                     | 378                     |
| 109        |                |          | Sohagpur      | Patori        | 93                     | 469                     | 123                    | 569                     |
| 110        |                |          | Sohagpur      | Semra         | 136                    | 667                     | 167                    | 774                     |
| 111        |                |          | Sohagpur      | Kodar         | 51                     | 223                     | 67                     | 239                     |
| 112        |                |          | Sohagpur      | Lamar         | 75                     | 355                     | 125                    | 467                     |
| 113        |                |          | Sohagpur      | Harri Dol     | 78                     | 359                     | 95                     | 444                     |
| 114        |                |          | Sohagpur      | Kudari        | 168                    | 757                     | 208                    | 918                     |
| 115        |                |          | Sohagpur      | Bochaki       | 182                    | 987                     | 251                    | 1153                    |
| 116        |                |          | Sohagpur      | Kholka        | 84                     | 400                     | 95                     | 421                     |
| 117        |                |          | Sohagpur      | Sudwar        | 163                    | 874                     | 201                    | 1005                    |
| 118        |                |          | Sohagpur      | Karua         | 318                    | 1484                    | 433                    | 1742                    |

| Village<br>_ID | State        | District | Tehsil     | Village       | No of<br>Household<br>(2001) | Total<br>Population<br>(2001) | No of<br>Household<br>(2011) | Total<br>Population<br>(2011) |
|----------------|--------------|----------|------------|---------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
| 119            |              |          | Sohagpur   | Hardiha Khurd | 8                            | 60                            | 3                            | 33                            |
| 120            |              |          | Sohagpur   |               | NA                           | NA                            | NA                           | NA                            |
| 121            |              | Umaria   | Bandhogarh | Kichkhidi     | 124                          | 594                           | 199                          | 726                           |
| 122            |              |          | Bandhogarh | Ramna No. 2   | NA                           | NA                            | NA                           | NA                            |
| 123            |              |          | Bandhogarh | Chorha        | 46                           | 240                           | 69                           | 318                           |
| 124            |              |          | Bandhogarh | Paili         | 29                           | 172                           | 41                           | 213                           |
| 126            |              |          | Bandhogarh | Makra         | 55                           | 265                           | 82                           | 335                           |
| 127            |              |          | Bandhogarh | Baradadhar    | 90                           | 458                           | 116                          | 533                           |
| 128            | Chhattisgarh | Koriya   | Bharatpur  | Badwahi       | 238                          | 1091                          | 387                          | 1448                          |
| 129            |              |          | Bharatpur  | Barchha       | 25                           | 109                           | 38                           | 142                           |
| 130            |              |          | Bharatpur  | Mehdauli      | 116                          | 578                           | 195                          | 771                           |
| 131            |              |          | Bharatpur  | Satkiyari     | 54                           | 249                           | 78                           | 348                           |
| 133            |              |          | Bharatpur  | Udaki         | 164                          | 737                           | 244                          | 904                           |
| 134            |              |          | Bharatpur  | Chuil         | 81                           | 404                           | 105                          | 476                           |
| 135            |              |          | Bharatpur  | Patasi        | 48                           | 245                           | 74                           | 292                           |
| 136            |              |          | Bharatpur  | Semriha       | 173                          | 830                           | 242                          | 1104                          |
| 137            |              |          | Bharatpur  | Kudra         | 76                           | 451                           | 126                          | 522                           |
| 138            |              |          | Bharatpur  | Masaura       | 89                           | 369                           | 129                          | 465                           |
| 139            |              |          | Bharatpur  | Ara           | 100                          | 445                           | 152                          | 540                           |
| 140            |              |          | Bharatpur  | Tilauli       | 143                          | 534                           | 202                          | 579                           |
| 141            |              |          | Bharatpur  | Godhaura      | 144                          | 611                           | 200                          | 734                           |
| 142            |              |          | Bharatpur  | Hathwari      | 80                           | 367                           | 106                          | 519                           |
| 143            |              |          | Bharatpur  | Katharradol   | 22                           | 104                           | 28                           | 130                           |
| 144            |              |          | Bharatpur  | Aktawar       | 198                          | 1017                          | 263                          | 1196                          |
| 145            |              |          | Bharatpur  | Badhwar       | 14                           | 62                            | 22                           | 86                            |
| 146            |              |          | Bharatpur  | Janakpur      | 824                          | 3773                          | 1167                         | 4849                          |
| 147            |              |          | Bharatpur  | Bhagwanpur    | 373                          | 1820                          | 532                          | 2101                          |
| 148            |              |          | Bharatpur  | Jardol        | 37                           | 148                           | 56                           | 165                           |
| 149            |              |          | Bharatpur  | Ganjar        | 69                           | 281                           | 83                           | 324                           |
| 150            |              |          | Bharatpur  | Jamthan       | 251                          | 1080                          | 391                          | 1365                          |

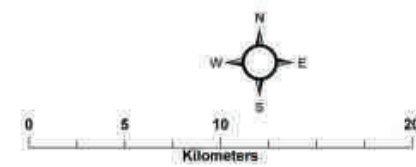
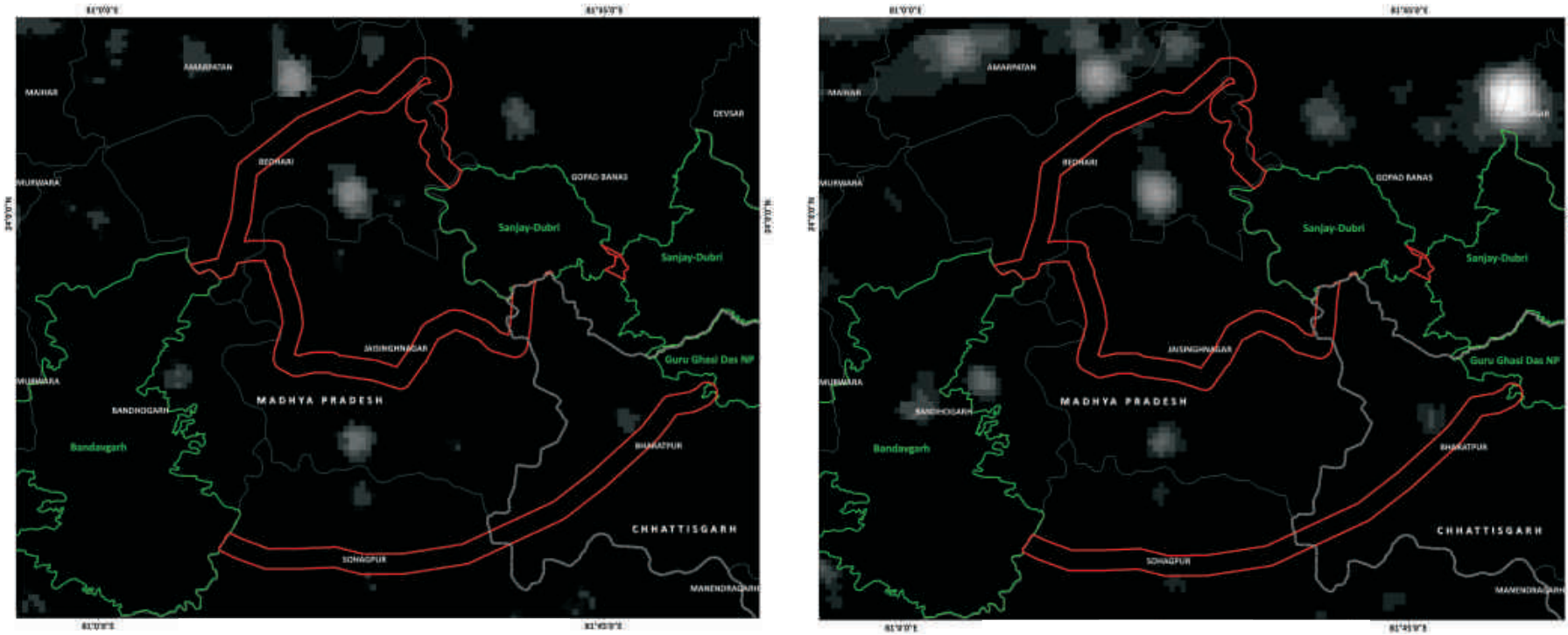


| Village_ID | State | District | Tehsil    | Village     | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|-----------|-------------|------------------------|-------------------------|------------------------|-------------------------|
| 151        |       |          | Bharatpur | Tartora     | 73                     | 296                     | 101                    | 386                     |
| 152        |       |          | Bharatpur | Kanjia      | 363                    | 1571                    | 454                    | 1802                    |
| 153        |       |          | Bharatpur | Jolgi       | 106                    | 506                     | 186                    | 632                     |
| 154        |       |          | Bharatpur | Usta        | NA                     | NA                      | NA                     | NA                      |
| 155        |       |          | Bharatpur | Malakdol    | 192                    | 860                     | 257                    | 951                     |
| 156        |       |          | Bharatpur | Kuwarpur    | 194                    | 715                     | 293                    | 930                     |
| 157        |       |          | Bharatpur | Bhumka      | 56                     | 251                     | 101                    | 370                     |
| 158        |       |          | Bharatpur | Mannodh     | 118                    | 509                     | 173                    | 643                     |
| 159        |       |          | Bharatpur | Patpartola  | 77                     | 318                     | 112                    | 395                     |
| 161        |       |          | Bharatpur | Matiya      | NA                     | NA                      | NA                     | NA                      |
| 162        |       |          | Bharatpur | Pipariyadol | NA                     | NA                      | NA                     | NA                      |



**Figure 2.13:**  
*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Bandhavgarh-Sanjay-Dubri-Guru Ghasi Das*





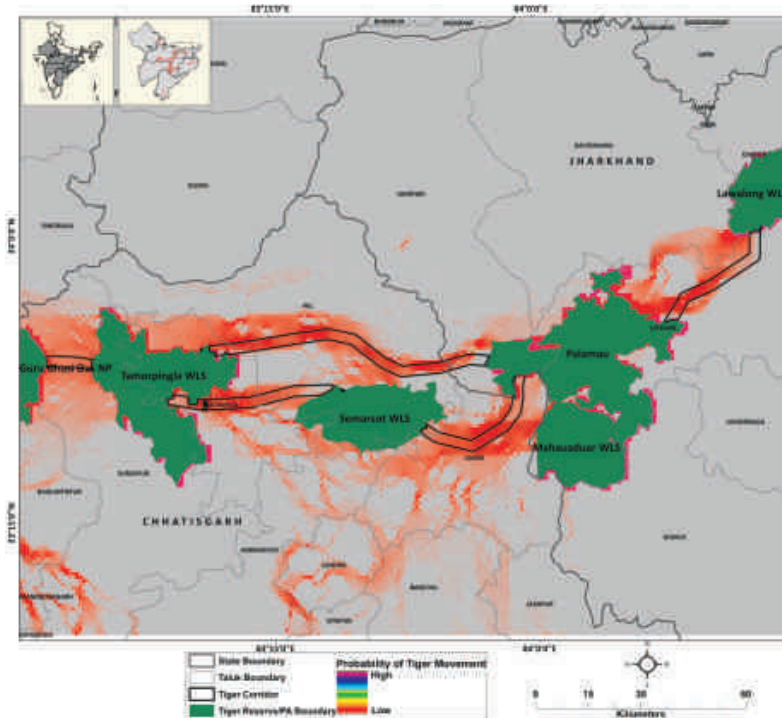
**Figure 2.14:**  
 Human habitation as depicted by nightlights within the Bandhavgarh-Sanjay-Dubri-Guru Ghasi Das Corridor landscape in the year 1992 and 2012

# GURU GHASI DAS-PALAMAU-LAWALONG

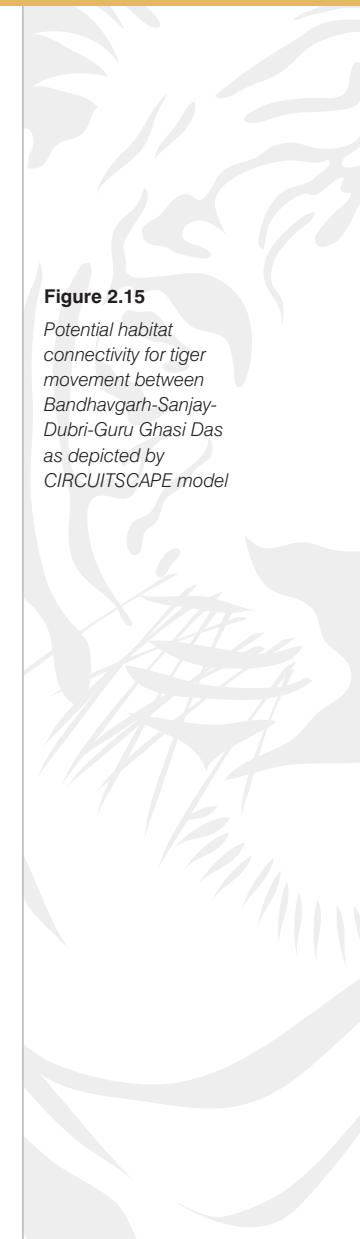
Sanjay TR and Guru Ghasi Das NP are a contiguous forest patch, this patch continuous further as Tamoringla WLS. From Tamoringla WLS two forested arms project eastwards and serve as corridors to connect with Palamau TR. This entire area is rich in minerals specially coal. Utmost care needs to be taken to ensure that the corridor value of these habitats is not compromised while granting permissions for mineral extraction. This habitat holds great potential for recovering tiger populations as currently they have low density of tigers but with management inputs and connection with Bandhavgarh source they can be revived. Sanjay has started showing recovery of tiger populations after being declared tiger reserve.

## Guru Ghasidas-Palamau-Lawalong

|                          |   |
|--------------------------|---|
| <b>Habitat size</b>      | 18759 Km <sup>2</sup>   |
| <b>Source Population</b> | Palamau   |
| <b>Size of Source</b>    | 6-13  |
| <b>Protected Areas</b>   | Guru Ghasidas NP<br>Tamoringla WLS<br>Semarsot WLS<br>Palamau<br>Mahauaduar WLS<br>Lawalong WLS |
| <b>Corridors</b>         | Guru Ghasidas - Tamoringla<br>Tamoringla-Palamau-Semarsot WLS<br>Palamau-Lawalong WLS           |



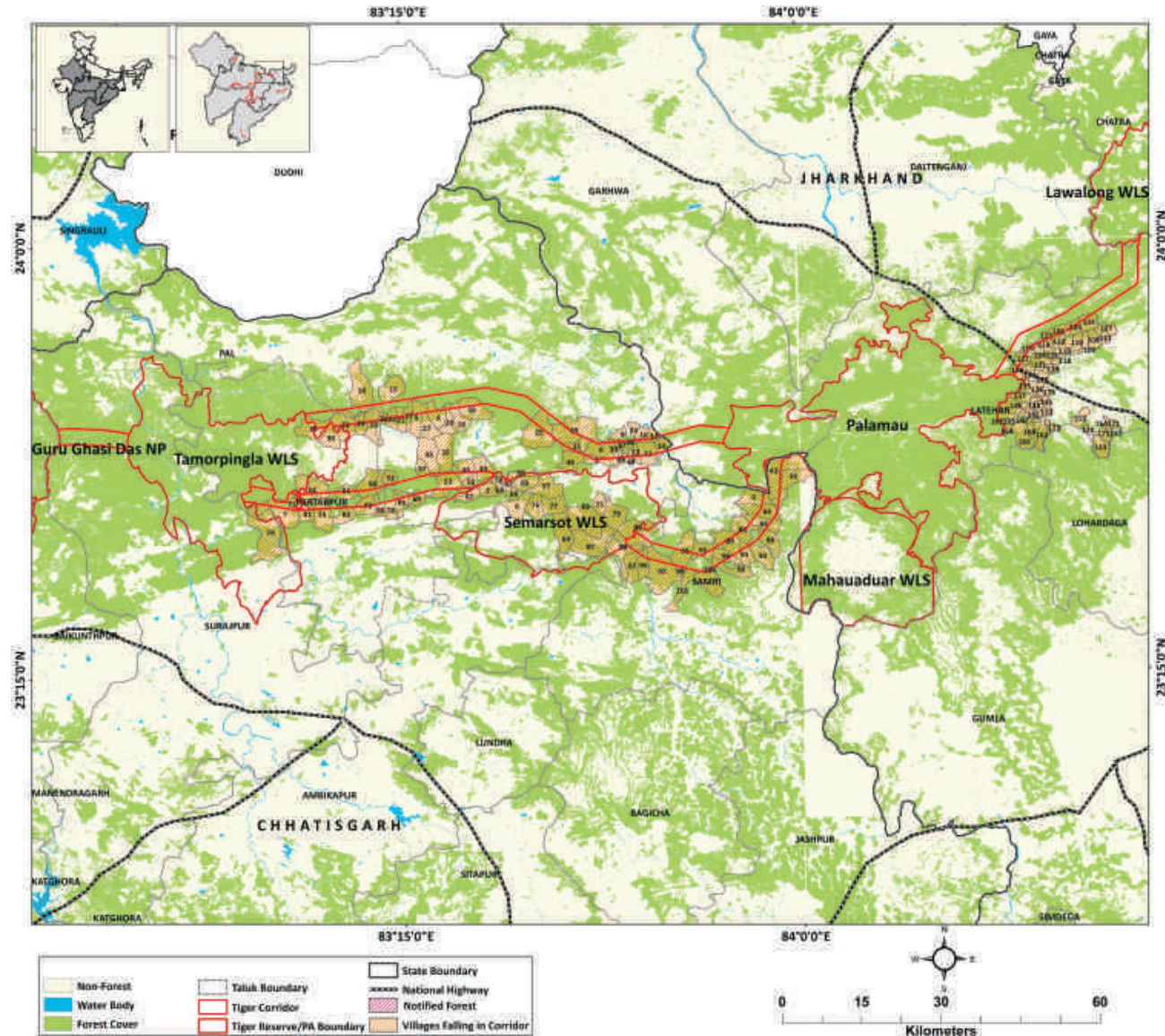
**Figure 2.15**  
Potential habitat connectivity for tiger movement between Bandhavgarh-Sanjay-Dubri-Guru Ghasi Das as depicted by CIRCUITScape model





**Figure 2.16:**

Least Cost Pathway corridor for Tiger movement between Guru Ghasi Das-Palamau-Lawalong overlaid with village map (the village numbers are referenced in Table 2.4)



| Village_ID | State        | District | Tehsil      | Village        | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|--------------|----------|-------------|----------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Chhattisgarh | Surguja  | Pal         | Bhanora        | 321                    | 1752                    | 578                    | 2412                    |
| 2          |              |          | Pal         | Kapaut         | 83                     | 437                     | 119                    | 483                     |
| 3          |              |          | Samari      | Kurdih         | 299                    | 1486                    | 395                    | 1847                    |
| 4          |              |          | Wadrafnagar | Dhadhia        | 249                    | 1308                    | 327                    | 1543                    |
| 5          |              |          | Wadrafnagar | Budhatand      | 229                    | 1173                    | 348                    | 1426                    |
| 6          |              |          | Pal         | Dumarkhola     | 318                    | 1618                    | 428                    | 1938                    |
| 7          |              |          | Pratappur   | Jajawal        | 313                    | 1533                    | 365                    | 1740                    |
| 8          |              |          | Pal         | Adhaura        | 80                     | 335                     | 173                    | 655                     |
| 9          |              |          | Pal         | Lurghuta       | 109                    | 488                     | 150                    | 632                     |
| 10         |              |          | Pal         | Dhaneshpur     | 72                     | 393                     | 112                    | 506                     |
| 11         |              |          | Pal         | Bardar         | 192                    | 925                     | 289                    | 1245                    |
| 12         |              |          | Pal         | Vishramnagar   | 131                    | 626                     | 179                    | 779                     |
| 13         |              |          | Pal         | Chitvishrampur | 73                     | 405                     | 129                    | 453                     |
| 14         |              |          | Wadrafnagar | Kotrahi        | 390                    | 2330                    | 572                    | 2905                    |
| 15         |              |          | Wadrafnagar | Rajkheta       | 403                    | 2143                    | 584                    | 2804                    |
| 16         |              |          | Wadrafnagar | Manpur         | 188                    | 817                     | 218                    | 938                     |
| 17         |              |          | Wadrafnagar | Dhodhi         | 132                    | 639                     | 220                    | 821                     |
| 18         |              |          | Wadrafnagar | Alka           | 228                    | 1155                    | 308                    | 1436                    |
| 19         |              |          | Pratappur   | Dhondha        | 188                    | 912                     | 226                    | 1013                    |
| 20         |              |          | Wadrafnagar | Kachhia        | 103                    | 507                     | 138                    | 599                     |
| 21         |              |          | Wadrafnagar | Pansara        | 131                    | 654                     | 169                    | 665                     |
| 22         |              |          | Wadrafnagar | Kailashpur     | 122                    | 592                     | 159                    | 694                     |
| 23         |              |          | Pratappur   | Narola         | 371                    | 1990                    | 452                    | 2251                    |
| 24         |              |          | Pratappur   | Batai          | 80                     | 421                     | 133                    | 557                     |
| 25         |              |          | Pal         | Manikpur       | 286                    | 1366                    | 409                    | 1598                    |
| 26         |              |          | Wadrafnagar | Bhaisamunda    | 9                      | 49                      | 18                     | 72                      |
| 27         |              |          | Wadrafnagar | Odari          | 301                    | 1502                    | 420                    | 1794                    |
| 28         |              |          | Pratappur   | Bonga          | 322                    | 1639                    | 417                    | 1964                    |
| 29         |              |          | Pal         | Sendur         | 318                    | 1584                    | 528                    | 1978                    |
| 30         |              |          | Pratappur   | Govindpur      | 329                    | 1750                    | 396                    | 1989                    |



**Table 2.4:**  
Villages within the Least Cost Pathway Corridor connecting Guru Ghasi Das-Palamau-Lawalong as shown in Fig.2.16



| Village_ID | State | District | Tehsil      | Village              | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|-------------|----------------------|------------------------|-------------------------|------------------------|-------------------------|
| 31         |       |          | Pal         | Sarangpur            | 118                    | 727                     | 188                    | 876                     |
| 32         |       |          | Wadrafnagar | Badkagaon            | 277                    | 1363                    | 377                    | 1648                    |
| 33         |       |          | Wadrafnagar | Shardapur            | 376                    | 1943                    | 516                    | 2415                    |
| 34         |       |          | Pal         | Piprahi              | 56                     | 267                     | 80                     | 352                     |
| 35         |       |          | Pal         | Jabrahi              | 21                     | 102                     | 30                     | 131                     |
| 36         |       |          | Pal         | Obari                | 125                    | 718                     | 162                    | 776                     |
| 37         |       |          | Pal         | Khurra               | 10                     | 47                      | 21                     | 95                      |
| 38         |       |          | Pal         | Alagdiha             | 72                     | 348                     | 93                     | 359                     |
| 39         |       |          | Pal         | Semali               | 84                     | 420                     | 106                    | 446                     |
| 40         |       |          | Pal         | Jatro                | 110                    | 687                     | 224                    | 827                     |
| 41         |       |          | Pal         | Banaur               | 97                     | 429                     | 160                    | 578                     |
| 42         |       |          | Pal         | NawadihKhurd         | 62                     | 267                     | 51                     | 235                     |
| 43         |       |          | Samari      | Pundag               | 160                    | 821                     | 239                    | 1067                    |
| 44         |       |          | Pal         | Sonhara              | 125                    | 617                     | 169                    | 827                     |
| 45         |       |          | Pal         | Kapildevpur          | 326                    | 1659                    | 392                    | 1935                    |
| 46         |       |          | Pal         | Pindra               | 91                     | 468                     | 134                    | 534                     |
| 47         |       |          | Wadrafnagar | Sursa (bhandarpura)  | 118                    | 552                     | 146                    | 679                     |
| 48         |       |          | Pal         | Surra                | 127                    | 649                     | 181                    | 811                     |
| 49         |       |          | Wadrafnagar | ChalgaliKhas         | 288                    | 1485                    | 380                    | 1869                    |
| 50         |       |          | Pratappur   | PahadKarwa           | 131                    | 576                     | 169                    | 666                     |
| 51         |       |          | Samari      | Chunchuna            | 132                    | 646                     | 170                    | 802                     |
| 52         |       |          | Wadrafnagar | Bhaui Alias Jhor     | 107                    | 459                     | 139                    | 571                     |
| 53         |       |          | Wadrafnagar | Duwari               | 112                    | 659                     | 168                    | 808                     |
| 54         |       |          | Pratappur   | Gorgi (neelkanthpur) | 250                    | 1241                    | 288                    | 1314                    |
| 55         |       |          | Pal         | Dhanwar Kalan        | 131                    | 631                     | 207                    | 1284                    |
| 56         |       |          | Wadrafnagar | Rampur               | 202                    | 924                     | 257                    | 1085                    |
| 57         |       |          | Pal         | Tarkakhand           | 151                    | 774                     | 208                    | 964                     |
| 58         |       |          | Pal         | Gamhariya            | 57                     | 259                     | 68                     | 265                     |
| 59         |       |          | Samari      | Bairdih Kalan        | 91                     | 457                     | 152                    | 648                     |
| 60         |       |          | Pal         | Champapur            | 133                    | 634                     | 210                    | 812                     |

| Village<br>_ID | State | District | Tehsil    | Village       | No of<br>Household<br>(2001) | Total<br>Population<br>(2001) | No of<br>Household<br>(2011) | Total<br>Population<br>(2011) |
|----------------|-------|----------|-----------|---------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
| 61             |       |          | Pratappur | Nawadhakki    | 73                           | 347                           | 106                          | 377                           |
| 62             |       |          | Pal       | Lurgi Kalan   | 160                          | 785                           | 207                          | 880                           |
| 63             |       |          | Pal       | Banda         | 85                           | 386                           | 103                          | 407                           |
| 64             |       |          | Pal       | Padhi         | 145                          | 697                           | 189                          | 886                           |
| 65             |       |          | Samari    | NawadihKhurd  | 72                           | 386                           | 112                          | 493                           |
| 66             |       |          | Pratappur | Majhgawan     | 114                          | 643                           | 145                          | 756                           |
| 67             |       |          | Pal       | Chandaura     | 234                          | 1007                          | 309                          | 1272                          |
| 68             |       |          | Pal       | Pathari       | 64                           | 305                           | 83                           | 336                           |
| 69             |       |          | Pratappur | Lolki         | 214                          | 1113                          | 321                          | 1385                          |
| 71             |       |          | Pratappur | Giriya        | 42                           | 210                           | 65                           | 275                           |
| 72             |       |          | Pratappur | GhatPendari   | 41                           | 236                           | 63                           | 263                           |
| 73             |       |          | Pratappur | Pakni         | 299                          | 1566                          | 361                          | 1767                          |
| 74             |       |          | Surajpur  | Chikni        | 247                          | 1144                          | 293                          | 1379                          |
| 75             |       |          | Pal       | Jhapra        | 112                          | 566                           | 192                          | 710                           |
| 76             |       |          | Pal       | Ghaghara      | 163                          | 882                           | 246                          | 1115                          |
| 77             |       |          | Pal       | Jhalariya     | 189                          | 955                           | 244                          | 976                           |
| 78             |       |          | Pratappur | Khunshi       | 135                          | 648                           | 176                          | 779                           |
| 79             |       |          | Pal       | Budhudih      | 87                           | 474                           | 126                          | 529                           |
| 80             |       |          | Pratappur | Pahiya        | 209                          | 944                           | 242                          | 1119                          |
| 81             |       |          | Pratappur | Anjani        | 82                           | 380                           | 98                           | 431                           |
| 82             |       |          | Pratappur | Deori         | 175                          | 823                           | 190                          | 946                           |
| 83             |       |          | Pal       | Kanda         | 123                          | 565                           | 159                          | 686                           |
| 84             |       |          | Samari    | Chatniya      | 176                          | 823                           | 220                          | 1021                          |
| 85             |       |          | Samari    | Jariyo        | 85                           | 426                           | 108                          | 520                           |
| 86             |       |          | Pal       | Kotpali       | 160                          | 806                           | 209                          | 950                           |
| 87             |       |          | Pal       | Sitampur      | 165                          | 732                           | 181                          | 884                           |
| 88             |       |          | Samari    | Bata          | 193                          | 1126                          | 248                          | 1339                          |
| 89             |       |          | Samari    | Karamdih      | 66                           | 359                           | 85                           | 367                           |
| 90             |       |          | Samari    | Lahasoon Path | 177                          | 968                           | 221                          | 1079                          |
| 91             |       |          | Samari    | Megaji        | 139                          | 625                           | 169                          | 796                           |





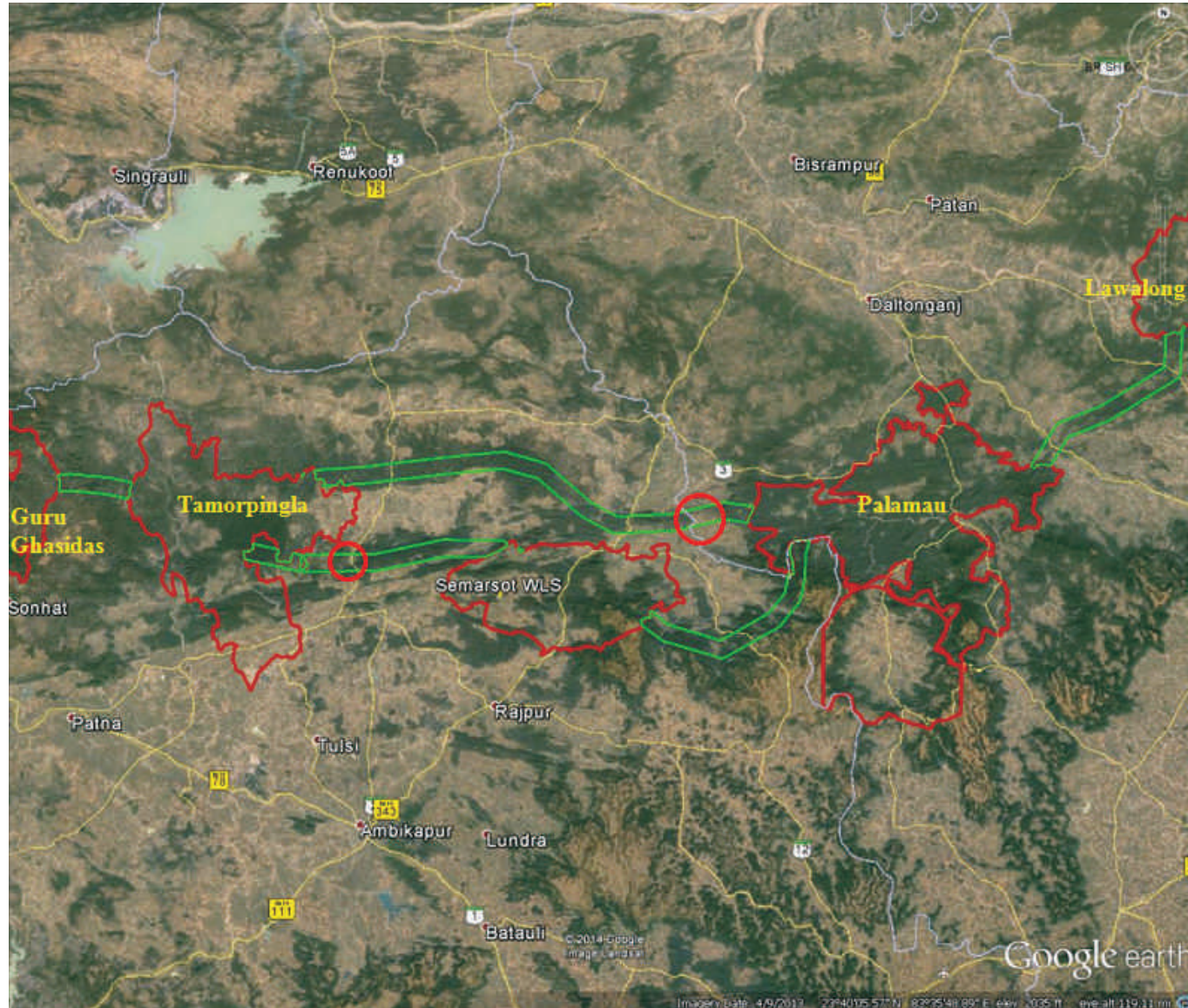
| Village_ID | State     | District | Tehsil  | Village        | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-----------|----------|---------|----------------|------------------------|-------------------------|------------------------|-------------------------|
| 92         |           |          | Samari  | Kothali        | 377                    | 1735                    | 437                    | 1996                    |
| 93         |           |          | Samari  | Dattram        | 157                    | 915                     | 198                    | 981                     |
| 94         |           |          | Samari  | Dumarkholi     | 260                    | 1348                    | 325                    | 1617                    |
| 95         |           |          | Samari  | Samudri        | 33                     | 193                     | 61                     | 249                     |
| 96         |           |          | Samari  | Idaripath      | 123                    | 611                     | 142                    | 617                     |
| 97         |           |          | Samari  | Asanpani       | 115                    | 598                     | 164                    | 625                     |
| 98         |           |          | Samari  | Charahat Kalan | 132                    | 715                     | 181                    | 795                     |
| 99         |           |          | Samari  | BairdihKhurd   | 15                     | 64                      | 140                    | 431                     |
| 100        |           |          | Samari  | Laxmanpur      | 117                    | 589                     | 138                    | 633                     |
| 101        |           |          | Samari  | Chainpur       | 272                    | 1361                    | 206                    | 801                     |
| 102        | Jharkhand | Palamu   | Latehar | Largari        | 126                    | 722                     | 140                    | 851                     |
| 103        |           |          | Latehar | Hethpochra     | 270                    | 1561                    | 355                    | 2052                    |
| 104        |           |          | Latehar | Sohdag         | 93                     | 514                     | 145                    | 888                     |
| 105        |           |          | Latehar | Hesiklbar      | 27                     | 227                     | 47                     | 287                     |
| 106        |           |          | Latehar | Marabar        | 49                     | 256                     | 62                     | 383                     |
| 107        |           |          | Latehar | Dihi           | 387                    | 2391                    | 498                    | 2985                    |
| 108        |           |          | Latehar | Tubed          | 162                    | 843                     | 210                    | 1225                    |
| 109        |           |          | Latehar | Kaima          | 137                    | 642                     | 149                    | 1012                    |
| 110        |           |          | Latehar | Sasang         | 258                    | 1628                    | 345                    | 1983                    |
| 111        |           |          | Latehar | Ambajharan     | 54                     | 268                     | 77                     | 391                     |
| 112        |           |          | Latehar | Jaram          | 47                     | 264                     | 65                     | 337                     |
| 113        |           |          | Latehar | Manjar         | 89                     | 634                     | 140                    | 861                     |
| 114        |           |          | Latehar | Sukri          | 196                    | 1030                    | 239                    | 1257                    |
| 115        |           |          | Latehar | Baridih        | 72                     | 360                     | 86                     | 409                     |
| 116        |           |          | Latehar | Nawari         | 193                    | 1337                    | 285                    | 1373                    |
| 117        |           |          | Latehar | DhobiaTharan   | 29                     | 181                     | 37                     | 218                     |
| 118        |           |          | Latehar | Hutar          | 129                    | 684                     | 158                    | 844                     |
| 119        |           |          | Latehar | Sotam          | 107                    | 645                     | 153                    | 869                     |
| 120        |           |          | Latehar | Korhas         | 121                    | 846                     | 203                    | 1235                    |
| 121        |           |          | Latehar | Patuki         | 40                     | 231                     | 53                     | 343                     |

| Village_ID | State | District | Tehsil  | Village               | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|---------|-----------------------|------------------------|-------------------------|------------------------|-------------------------|
| 122        |       |          | Latehar | Oden                  | 60                     | 372                     | 84                     | 411                     |
| 123        |       |          | Latehar | Lohisini alias Tulbul | 70                     | 422                     | 91                     | 527                     |
| 124        |       |          | Latehar | Matnag                | 27                     | 187                     | 44                     | 250                     |
| 125        |       |          | Latehar | Labarpur              | 63                     | 322                     | 91                     | 467                     |
| 126        |       |          | Latehar | Bendi                 | 167                    | 841                     | 237                    | 1312                    |
| 127        |       |          | Latehar | DurangiKhurd          | 83                     | 474                     | 129                    | 720                     |
| 128        |       |          | Latehar | Parsahi               | 238                    | 1482                    | 354                    | 2003                    |
| 129        |       |          | Latehar | Bachra                | 29                     | 144                     | 33                     | 171                     |
| 130        |       |          | Latehar | Kend                  | 61                     | 326                     | 86                     | 459                     |
| 131        |       |          | Latehar | Hotwag                | 200                    | 1173                    | 269                    | 1513                    |
| 132        |       |          | Latehar | Dumariatnr            | 30                     | 161                     | 44                     | 243                     |
| 133        |       |          | Latehar | Ledhpa                | 131                    | 637                     | 166                    | 912                     |
| 134        |       |          | Latehar | Durangi Kalan         | 108                    | 565                     | 150                    | 789                     |
| 135        |       |          | Latehar | Jer                   | 76                     | 407                     | 84                     | 502                     |
| 136        |       |          | Latehar | Godna                 | 106                    | 563                     | 153                    | 791                     |
| 137        |       |          | Latehar | Kodag                 | 59                     | 341                     | 81                     | 434                     |
| 138        |       |          | Latehar | TupuKhurd             | 118                    | 571                     | 164                    | 827                     |
| 139        |       |          | Latehar | Hesla                 | 80                     | 470                     | 105                    | 589                     |
| 140        |       |          | Latehar | Semariatnr            | 69                     | 357                     | 79                     | 430                     |
| 141        |       |          | Latehar | Kothila               | 17                     | 129                     | 27                     | 140                     |
| 142        |       |          | Latehar | Richughutu            | 107                    | 406                     | 110                    | 557                     |
| 143        |       |          | Latehar | Peshrar               | 161                    | 908                     | 178                    | 1081                    |
| 144        |       |          | Latehar | Uparpochra            | NA                     | NA                      | NA                     | NA                      |
| 145        |       |          | Latehar | Patariachotag         | 70                     | 370                     | 120                    | 669                     |
| 146        |       |          | Latehar | Lundi                 | 94                     | 460                     | 121                    | 620                     |
| 147        |       |          | Latehar | Tupu Kalan            | 47                     | 245                     | 66                     | 324                     |
| 148        |       |          | Latehar | Tarwadih              | 320                    | 1747                    | 473                    | 2358                    |
| 149        |       |          | Latehar | Orwai                 | 81                     | 446                     | 113                    | 535                     |
| 150        |       |          | Latehar | Gurgu alias Irgu      | 103                    | 585                     | 130                    | 734                     |
| 151        |       |          | Latehar | Hartua                | 62                     | 278                     | 77                     | 386                     |





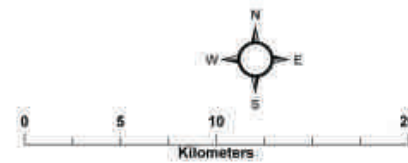
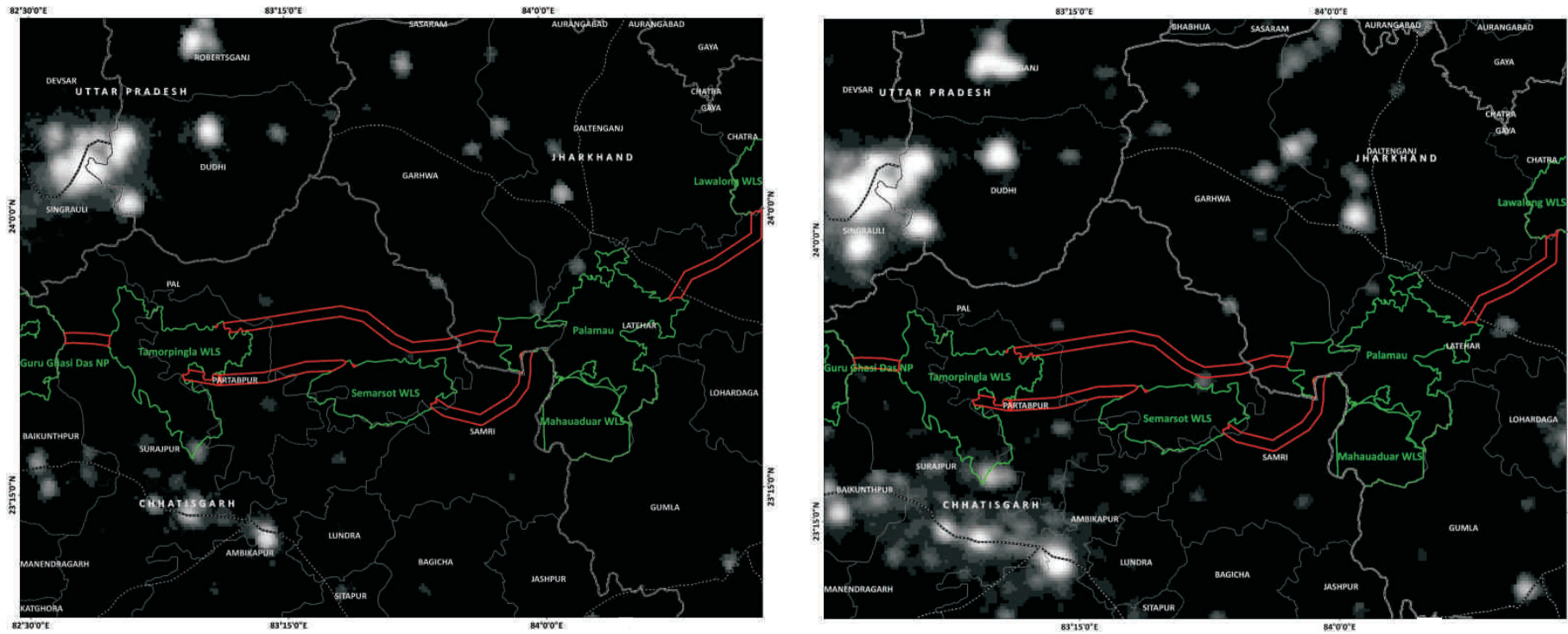
| Village_ID | State | District | Tehsil  | Village      | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|---------|--------------|------------------------|-------------------------|------------------------|-------------------------|
| 152        |       |          | Latehar | Nawagarh     | 555                    | 3312                    | 779                    | 4059                    |
| 153        |       |          | Latehar | Bingara      | 155                    | 746                     | 190                    | 913                     |
| 154        |       |          | Latehar | Beraini      | 21                     | 91                      | 30                     | 137                     |
| 155        |       |          | Latehar | Demu         | 296                    | 1653                    | 520                    | 2808                    |
| 156        |       |          | Latehar | MankeriJagir | 30                     | 146                     | 40                     | 177                     |
| 157        |       |          | Latehar | MankeriKhas  | 46                     | 260                     | 53                     | 324                     |
| 158        |       |          | Latehar | Dubiahi      | 17                     | 83                      | 19                     | 99                      |
| 159        |       |          | Latehar | Khairajagir  | 65                     | 335                     | 63                     | 293                     |
| 160        |       |          | Latehar | Kone         | 80                     | 438                     | 104                    | 446                     |
| 161        |       |          | Latehar | Khaira       | 14                     | 85                      | 21                     | 88                      |
| 162        |       |          | Latehar | Narayanpur   | 48                     | 223                     | 87                     | 461                     |
| 163        |       |          | Latehar | Baheratanr   | 24                     | 110                     | 27                     | 123                     |
| 164        |       |          | Latehar | Hosir        | 83                     | 483                     | 117                    | 604                     |
| 165        |       |          | Latehar | Murgidih     | 49                     | 271                     | 72                     | 394                     |
| 166        |       |          | Latehar | Nareshgarh   | 157                    | 754                     | 176                    | 909                     |
| 167        |       |          | Latehar | Nawadih      | 1                      | 6                       | 1                      | 4                       |
| 168        |       |          | Latehar | Ghanghri     | 27                     | 123                     | 32                     | 128                     |
| 169        |       |          | Latehar | Orea         | 65                     | 325                     | 73                     | 399                     |
| 170        |       |          | Latehar | Salaia       | 38                     | 181                     | 50                     | 225                     |
| 171        |       |          | Latehar | Patratu      | 74                     | 422                     | 107                    | 636                     |
| 172        |       |          | Latehar | Gulariatanr  | 23                     | 81                      | 38                     | 208                     |
| 173        |       |          | Latehar | Ichabar      | 39                     | 196                     | 65                     | 315                     |
| 174        |       |          | Latehar | Labarpur     | 56                     | 243                     | 93                     | 468                     |
| 175        |       |          | Latehar | Batat Kalan  | 87                     | 282                     | 95                     | 475                     |
| 176        |       |          | Latehar | Durub        | NA                     | NA                      | NA                     | NA                      |
| 177        |       |          | Latehar | TeniaKhar    | NA                     | NA                      | NA                     | NA                      |
| 178        |       |          | Latehar | Parwatanr    | NA                     | NA                      | NA                     | NA                      |
| 179        |       |          | Latehar | Rehrah       | NA                     | NA                      | NA                     | NA                      |
| 180        |       |          | Latehar | Pachamba     | NA                     | NA                      | NA                     | NA                      |
| 181        |       |          | Latehar | Parahiatola  | NA                     | NA                      | NA                     | NA                      |



**Figure 2.17:**  
Potential bottlenecks,  
obstacles and weak  
links within the Least  
Cost Pathway corridor  
connecting  
Bandhavgarh-Sanjay-  
Dubri-Guru Ghasi Das







**Figure 2.18:**

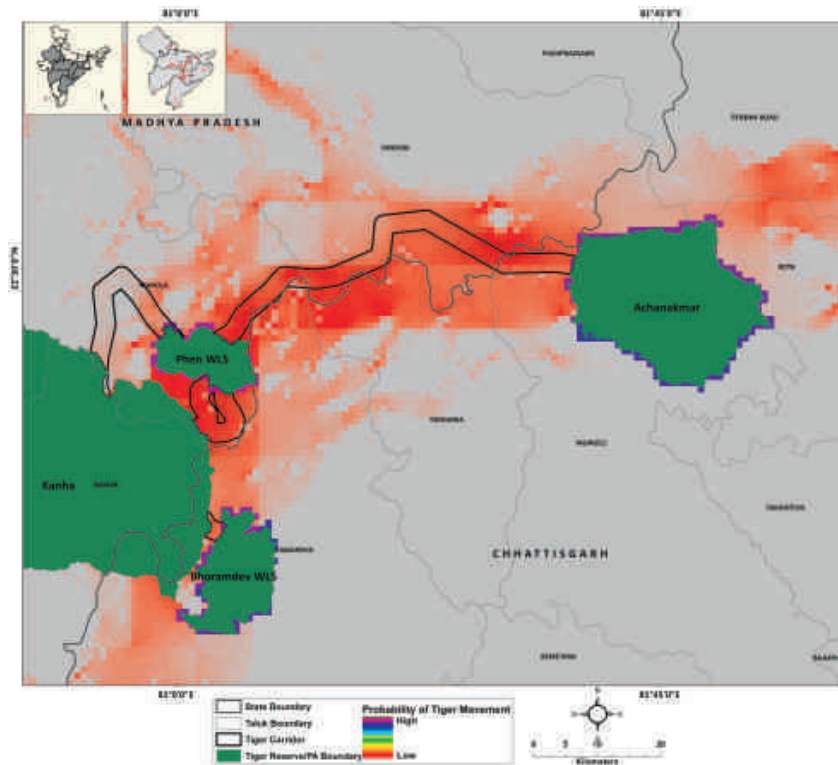
*Human habitation as depicted by nightlights within the Guru Ghasi Das-Palamau-Lawalong Corridor landscape in the year 1992 and 2012*

# KANHA-ACHANAKMAR

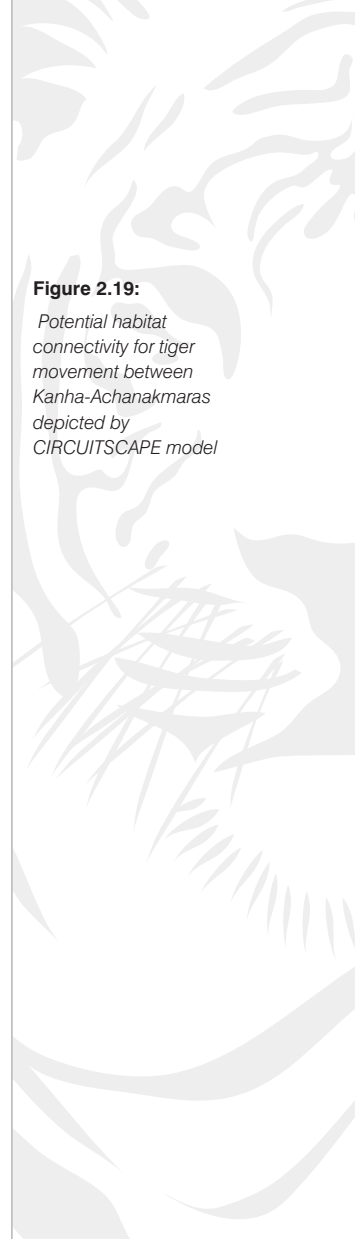
This corridor is vital for sustenance of the Achanakmar tiger population and for meta-population management of pench -Kanha - Achanakmar tiger populations. The corridor is part of an intact forest patch between Kanha-Phen-Achanakmar. However the state governments use the intervening forest for commercial forestry activities . It is important to ensure that these activities do not undermine the functionality of this habitat as a wildlife corridor. Other threats in this corridor are biotic pressures from forest dwelling and neighboring communities which can be alleviated by restorative ecology and eco-development inputs.

## Kanha-Achanakmar

|                          |   |
|--------------------------|---|
| <b>Habitat size</b>      | 16623 Km <sup>2</sup>   |
| <b>Source Population</b> | Kanha Tiger Reserve   |
| <b>Size of Source</b>    | 45-75   |
| <b>Protected Areas</b>   | Kanha Tiger Reserve<br>Phen WLS<br>Achanakmar Tiger Reserve<br>Bhoramdeo NP |
| <b>Corridors</b>         | Kanha-Achanakmar<br>Kanha-Bhoramdeo<br>Kanha-Phen                           |

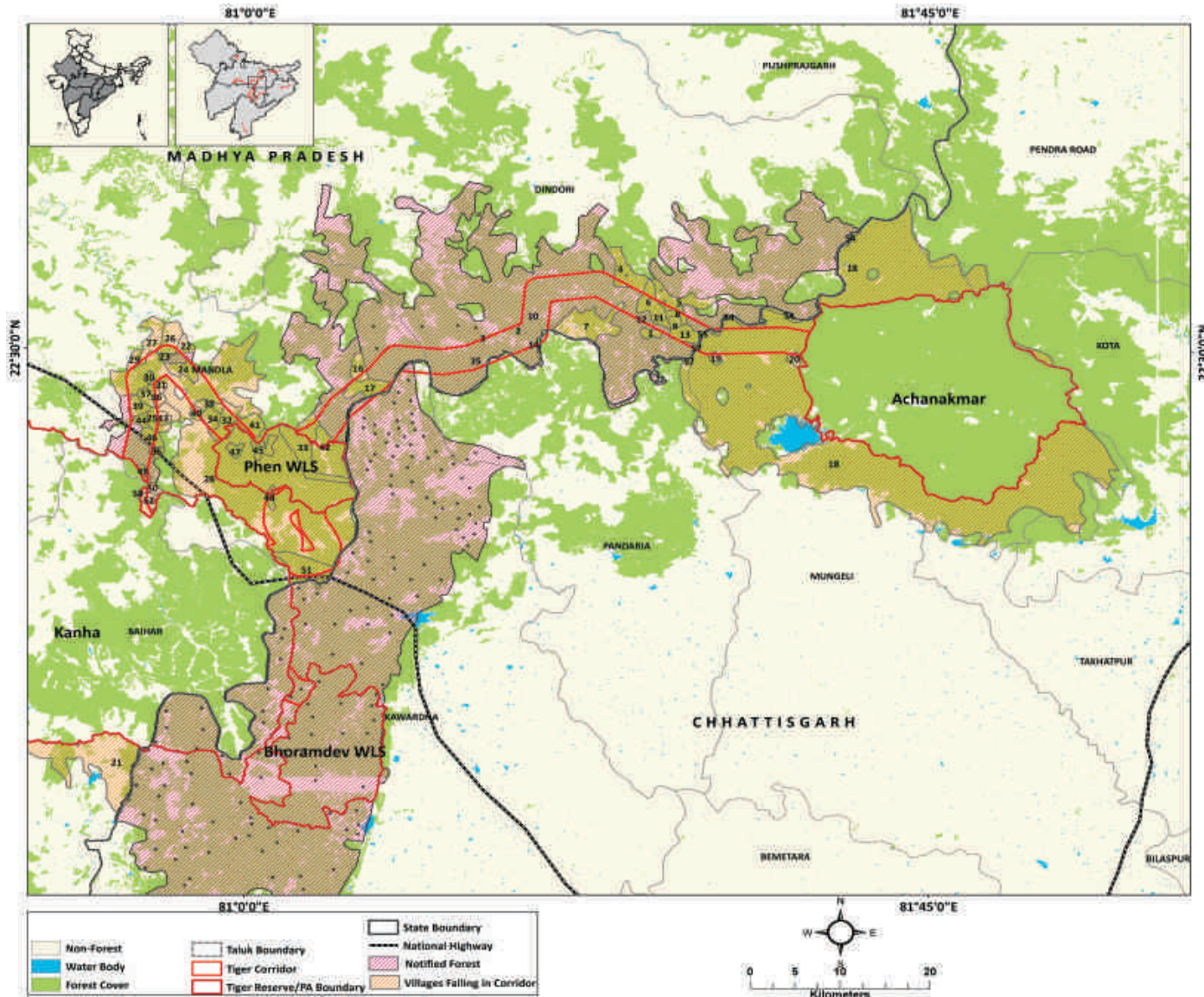


**Figure 2.19:**  
*Potential habitat connectivity for tiger movement between Kanha-Achanakmaras depicted by CIRCUITScape model*



**Figure 2.20:**

Least Cost Pathway corridor for Tiger movement between Kanha-Achanakmar overlaid with village map (the village numbers are referenced in Table 2.5)



| Village_ID | State          | District | Tehsil   | Village                                    | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|----------------|----------|----------|--|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Madhya Pradesh | Dindori  | Dindori  | F 58 Kindra<br>Kindra (kendra)<br>behraF.v | 59                     | 246                     | 58                     | 264                     |
| 2          |                | Dindori  | Dindori  | F 23 SilpidiF.v.                           | 140                    | 670                     | 184                    | 815                     |
| 3          |                | Dindori  | Dindori  | F 17 Kandawani F V                         | 45                     | 249                     | 57                     | 287                     |
| 4          |                | Dindori  | Dindori  | KarondiRyt                                 | 44                     | 201                     | 66                     | 302                     |
| 5          |                | Dindori  | Dindori  | Ufri Mal                                   | 75                     | 378                     | 86                     | 379                     |
| 6          |                | Dindori  | Dindori  | KhamharKhudraRyt                           | 115                    | 624                     | 142                    | 675                     |
| 7          |                | Dindori  | Dindori  | F 25 TarachF.v.                            | 132                    | 707                     | 225                    | 909                     |
| 8          |                | Dindori  | Dindori  | Chakmi Mal                                 | 48                     | 290                     | 70                     | 325                     |
| 9          |                | Dindori  | Dindori  | ChakmiRyt                                  | 72                     | 384                     | 96                     | 438                     |
| 10         |                | Dindori  | Dindori  | F 22 ChandaF.v.                            | 173                    | 889                     | 226                    | 951                     |
| 11         |                | Dindori  | Dindori  | SahajanaRyt                                | 95                     | 485                     | 139                    | 579                     |
| 12         |                | Dindori  | Dindori  | F 52 Uddhor(udhor)f.v.                     | 108                    | 546                     | 138                    | 632                     |
| 13         |                | Dindori  | Dindori  | F 54 DaldalKapatiF.v.                      | 58                     | 279                     | 79                     | 383                     |
| 14         |                | Dindori  | Dindori  | F 24 TantarF.v                             | 189                    | 838                     | 228                    | 954                     |
| 15         |                | Dindori  | Dindori  | F 38 GhurkutaF.v.                          | 134                    | 677                     | 201                    | 764                     |
| 16         |                | Mandla   | Bichhiya | Masna                                      | 93                     | 410                     | 135                    | 475                     |
| 17         |                | Mandla   | Bichhiya | MurtaRyt                                   | 117                    | 590                     | 155                    | 636                     |
| 18         | Chhattisgarh   | Bilaspur | Lormi    | F.34 Chhaparwa                             | 81                     | 357                     | NA                     | NA                      |
| 19         |                | Bilaspur | Lormi    | F.9 Aurapani                               | 76                     | 339                     | NA                     | NA                      |
| 20         |                | Bilaspur | Lormi    | F.10 Boiraha                               | 66                     | 361                     | NA                     | NA                      |
| 21         | Madhya Pradesh | Balaghat | Baihar   | F.v.(37) Benda                             | 29                     | 157                     | 42                     | 193                     |
| 22         |                | Mandla   | Bichhiya | KewlariRyt                                 | 69                     | 328                     | 93                     | 421                     |
| 23         |                | Mandla   | Bichhiya | AnjaniRyt                                  | 74                     | 373                     | 103                    | 472                     |
| 24         |                | Mandla   | Bichhiya | HarratolaRyt                               | 172                    | 823                     | 216                    | 1014                    |



**Table 2.5:**  
Villages within the Least  
Cost Pathway Corridor  
connecting  
Bandhavgarh-  
Achanakmar as shown  
in Fig. 2.20

| Village_ID | State | District | Tehsil   | Village                    | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|----------|----------------------------|------------------------|-------------------------|------------------------|-------------------------|
| 25         |       | Mandla   | Bichhiya | F 33 SurajpuraF.v.         | 118                    | 599                     | 164                    | 731                     |
| 26         |       | Mandla   | Bichhiya | Anjani Mal                 | 268                    | 1185                    | 281                    | 1324                    |
| 27         |       | Mandla   | Bichhiya | Chandwara Mal              | 37                     | 180                     | 47                     | 204                     |
| 28         |       | Mandla   | Bichhiya | F 26 AmgahanF.v.           | 28                     | 132                     | 54                     | 231                     |
| 29         |       | Mandla   | Bichhiya | Amagahan                   | 47                     | 218                     | 45                     | 167                     |
| 30         |       | Mandla   | Bichhiya | Dhenko                     | 49                     | 264                     | 76                     | 332                     |
| 31         |       | Mandla   | Bichhiya | Simariya                   | 24                     | 119                     | 34                     | 178                     |
| 32         |       | Mandla   | Bichhiya | Pondi Alias BaharMunda     | 349                    | 1546                    | 477                    | 1823                    |
| 33         |       | Mandla   | Bichhiya | Rohta Alias Muhania        | 13                     | 86                      | 23                     | 105                     |
| 34         |       | Mandla   | Bichhiya | Majhgaon Mal               | 166                    | 777                     | 252                    | 1081                    |
| 35         |       | Mandla   | Bichhiya | F 36 BaigaKhedaF.v.        | 72                     | 363                     | 93                     | 426                     |
| 36         |       | Mandla   | Bichhiya | Jamgaon                    | 179                    | 751                     | 230                    | 857                     |
| 37         |       | Mandla   | Bichhiya | Luri                       | 127                    | 588                     | 175                    | 682                     |
| 38         |       | Mandla   | Bichhiya | F 28 RahangiF.v.           | 75                     | 337                     | 118                    | 464                     |
| 39         |       | Mandla   | Bichhiya | Jaitpuri                   | 56                     | 272                     | 86                     | 350                     |
| 40         |       | Mandla   | Bichhiya | F 29 SaidaF.v.             | 130                    | 540                     | 164                    | 653                     |
| 41         |       | Mandla   | Bichhiya | BasniRyt.                  | 193                    | 952                     | 274                    | 1150                    |
| 42         |       | Mandla   | Bichhiya | Patpara Jar                | 15                     | 78                      | 18                     | 86                      |
| 43         |       | Mandla   | Bichhiya | BilaiKhar                  | 83                     | 325                     | 119                    | 436                     |
| 44         |       | Mandla   | Bichhiya | Medha                      | 162                    | 646                     | 201                    | 744                     |
| 45         |       | Mandla   | Bichhiya | F 32 SathiyaF.v.           | 70                     | 364                     | 115                    | 434                     |
| 46         |       | Mandla   | Bichhiya | Badwar                     | 101                    | 441                     | 147                    | 564                     |
| 47         |       | Mandla   | Bichhiya | F 30 AuraiKheda F.v(oreay) | 59                     | 273                     | 96                     | 366                     |

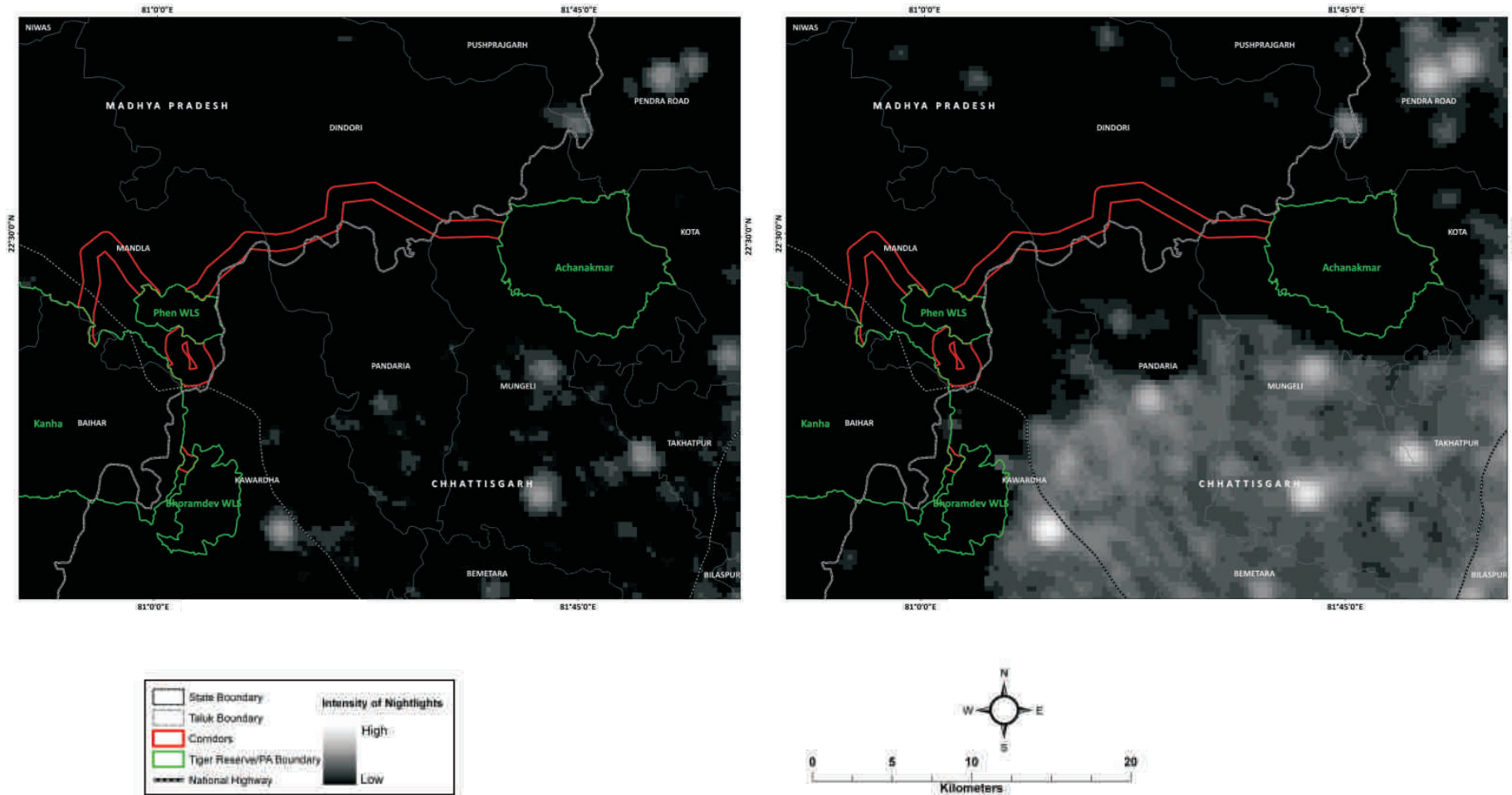
| Village<br>_ID | State | District | Tehsil   | Village                           | No of<br>Household<br>(2001) | Total<br>Population<br>(2001) | No of<br>Household<br>(2011) | Total<br>Population<br>(2011) |
|----------------|-------|----------|----------|-----------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
| 48             |       | Mandla   | Bichhiya | F 35 Sajalagan<br>(sajalaghan)f.v | 80                           | 408                           | 102                          | 512                           |
| 49             |       | Mandla   | Bichhiya | F 38 Pharikheda Alias<br>Nawnadar | 109                          | 551                           | 100                          | 473                           |
| 50             |       | Mandla   | Bichhiya | SaliwadaRyt                       | 58                           | 279                           | 96                           | 384                           |
| 51             |       | Mandla   | Bichhiya | F 42 DeogaonF.v.                  | 69                           | 359                           | 81                           | 457                           |
| 52             |       | Mandla   | Bichhiya | Khamhariya Mal                    | 79                           | 394                           | 107                          | 451                           |
| 53             |       | Dindori  | Dindori  | F 54 DaldalKapatiF.v.             | 58                           | 279                           | 79                           | 383                           |
| 55             |       | Dindori  | Dindori  | F 54 DaldalKapatiF.v.             | 58                           | 279                           | 79                           | 383                           |
| 58             |       | Mandla   | Bichhiya | SaliwadaRyt                       | 58                           | 279                           | 96                           | 384                           |
| 59             |       | Mandla   | Bichhiya | Khamhariya Mal                    | 79                           | 394                           | 107                          | 451                           |
| 60             |       | Dindori  | Dindori  | F 54 DaldalKapatiF.v.             | 58                           | 279                           | 79                           | 383                           |
| 62             |       | Dindori  | Dindori  | F 54 DaldalKapatiF.v.             | 58                           | 279                           | 79                           | 383                           |



**Figure 2.21:**

*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Kanha-Achanakmar*





**Figure 2.22:**  
Human habitation as depicted by nightlights within the Kanha-Achanakmar Corridor landscape in the year 1992 and 2012

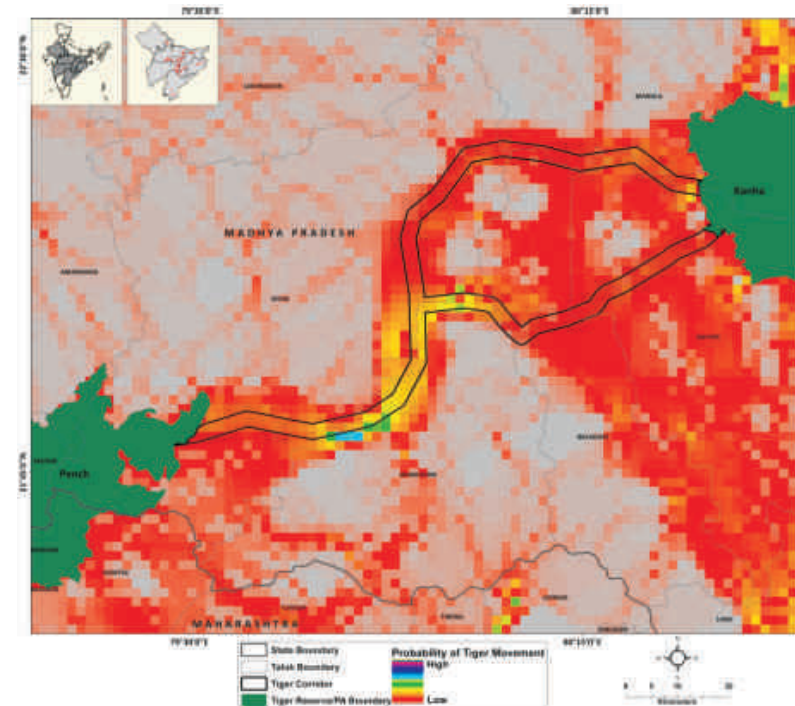


## KANHA-PENCH

**Figure 2.23:**

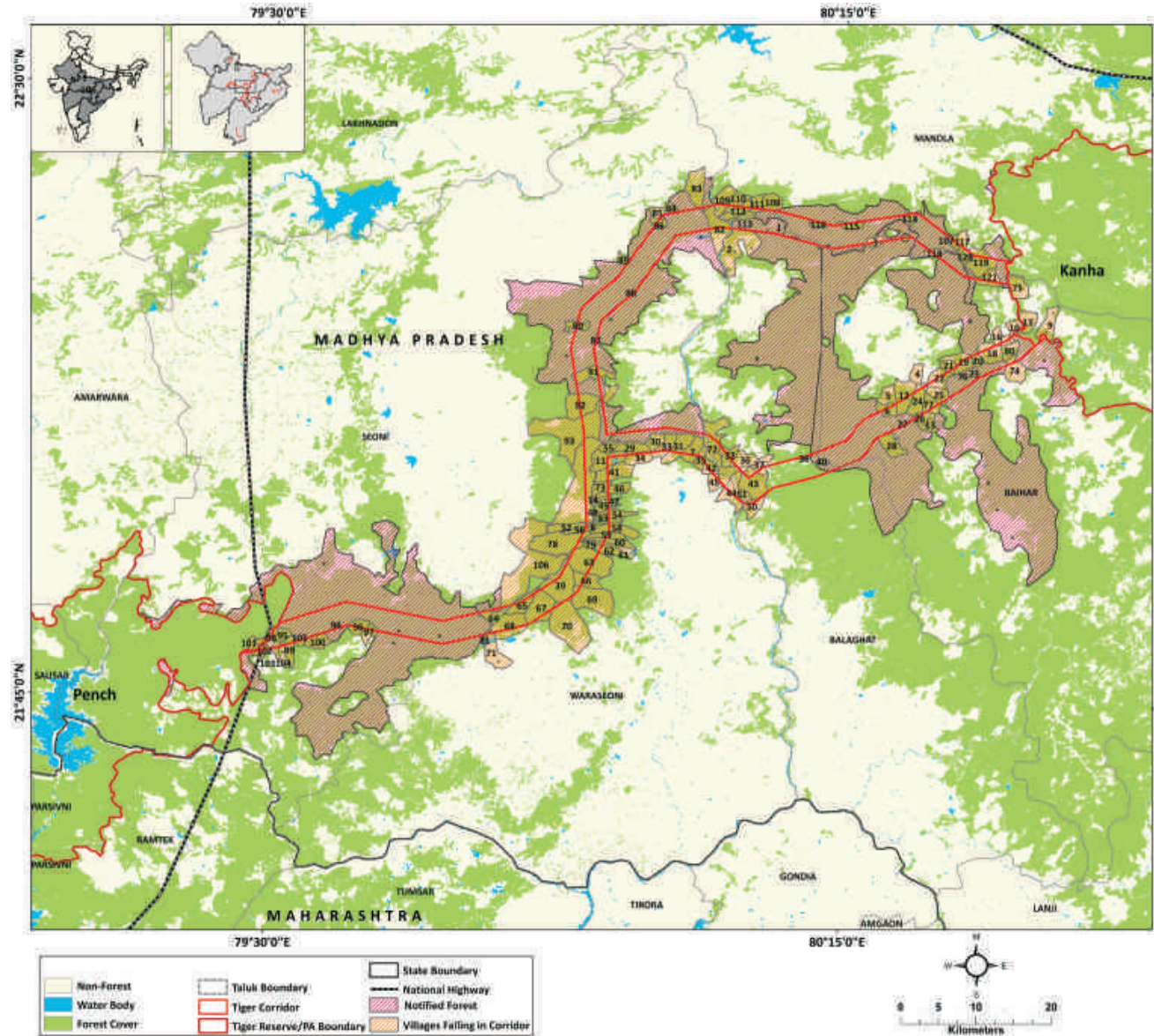
Potential habitat connectivity for tiger movement between Kanha-Pench as depicted by CIRCUITSCAPE model

This corridor is an example of a two source populations of tigers can be managed as meta-population. There is evidence from telemetry and camera trapping to show that tigers regularly use this corridor to move between Kanha and Pench. The corridor at places is sufficiently wide so as to support prey species and patches of habitat that serve as temporary refuges for dispersing tigers. However the corridor has come in focus due to the proposed widening of the National Highway -7 to six lanes. Three state highways and railway lines intersect this corridor. The widening of these along with infrastructure development that accompanies such projects is major threat to this vital corridor habitat. If permissions are granted for such activities then appropriate mitigation measures need to be put in place to safeguard the functionality of this corridor for tigers and other wildlife such as Gaur and Wild dog.



### Kanha-Pench

|                          |   |
|--------------------------|---|
| <b>Habitat size</b>      | 16623 Km <sup>2</sup>                       |
| <b>Source Population</b> | Kanha Tiger Reserve and Pench Tiger Reserve |
| <b>Size of Source</b>    | (45-75 ) Kanha<br>(53-78) Pench             |
| <b>Protected Areas</b>   | Kanha Tiger Reserve and Pench Tiger Reserve |
| <b>Corridors</b>         | Kanha- Pench I<br>Kanha-Pench II            |



**Figure 2.24:** Least Cost Pathway corridor for Tiger movement between Kanha-Pench overlaid with village map (the village numbers are referenced in Table 2.6)



| Village_ID | State          | District | Tehsil    | Village       | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|----------------|----------|-----------|---------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Madhya Pradesh | Balaghat | Balaghat  | F.v.(1) Kota  | 18                     | 85                      | 28                     | 121                     |
| 2          |                |          | Balaghat  | Padriganj     | 232                    | 955                     | 273                    | 1133                    |
| 3          |                |          | Baihar    | Bariya        | 118                    | 551                     | 167                    | 737                     |
| 4          |                |          | Baihar    | Pondi         | 264                    | 1152                    | 361                    | 1494                    |
| 5          |                |          | Baihar    | Dorli         | 66                     | 280                     | 77                     | 376                     |
| 6          |                |          | Baihar    | Salhe         | 32                     | 126                     | 34                     | 159                     |
| 7          |                |          | Waraseoni | Selwa         | 161                    | 915                     | 260                    | 966                     |
| 8          |                |          | Waraseoni | Khairgondi    | 48                     | 233                     | 53                     | 245                     |
| 9          |                |          | Baihar    | Akashmiri     | 87                     | 419                     | 121                    | 494                     |
| 10         |                |          | Baihar    | Sandha        | 93                     | 433                     | 114                    | 597                     |
| 11         |                |          | Waraseoni | Bhandamurri   | 368                    | 1783                    | 532                    | 1992                    |
| 12         |                |          | Baihar    | Chini         | 264                    | 1329                    | 318                    | 1552                    |
| 13         |                |          | Baihar    | Fatehpur Ryt. | 22                     | 111                     | 36                     | 144                     |
| 14         |                |          | Waraseoni | Chawarpani    | 2                      | 9                       | 7                      | 27                      |
| 15         |                |          | Baihar    | Charegaon     | 120                    | 586                     | 158                    | 730                     |
| 16         |                |          | Baihar    | Tirgaon       | 127                    | 571                     | 169                    | 668                     |
| 17         |                |          | Baihar    | Majgaon Mal.  | 122                    | 624                     | 168                    | 702                     |
| 18         |                |          | Baihar    | Korja         | 234                    | 1199                    | 277                    | 1322                    |
| 19         |                |          | Baihar    | Dhipur Ryt.   | 48                     | 225                     | 63                     | 285                     |
| 20         |                |          | Baihar    | Gararibahera  | 8                      | 37                      | 9                      | 52                      |
| 21         |                |          | Baihar    | Khursitola    | 29                     | 130                     | 36                     | 113                     |
| 22         |                |          | Baihar    | Jhiriya       | 137                    | 603                     | 190                    | 768                     |
| 23         |                |          | Baihar    | Bhada Mal.    | 141                    | 690                     | 188                    | 869                     |
| 24         |                |          | Baihar    | Bhidi         | 246                    | 1283                    | 360                    | 1489                    |
| 25         |                |          | Baihar    | Bagholi       | 296                    | 1272                    | 366                    | 1450                    |
| 26         |                |          | Baihar    | Fatehpurtheke | 60                     | 274                     | 87                     | 299                     |
| 27         |                |          | Baihar    | Kukada        | 38                     | 161                     | 40                     | 181                     |
| 28         |                |          | Baihar    | Baroorgota    | 12                     | 62                      | 11                     | 54                      |
| 29         |                |          | Waraseoni | Tengni Khurd  | 225                    | 1045                    | 307                    | 1274                    |
| 30         |                |          | Waraseoni | Salebharri    | 139                    | 620                     | 170                    | 785                     |

**Table 2.6:**

*Villages Within the Least Cost Pathway Corridor connecting Bandhavgarh-Achanakmar as shown in Fig. 2.24*

| Village_ID | State | District | Tehsil    | Village     | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|-----------|-------------|------------------------|-------------------------|------------------------|-------------------------|
| 31         |       |          | Waraseoni | Bagdehi     | 89                     | 447                     | 105                    | 469                     |
| 32         |       |          | Balaghat  | Chacheri    | 81                     | 397                     | 130                    | 518                     |
| 33         |       |          | Waraseoni | Dohara      | 68                     | 364                     | 111                    | 458                     |
| 34         |       |          | Waraseoni | Bandri      | 296                    | 1500                    | 396                    | 1780                    |
| 35         |       |          | Waraseoni | Khairgaon   | 145                    | 809                     | 218                    | 972                     |
| 36         |       |          | Balaghat  | Laweri      | 78                     | 372                     | 92                     | 399                     |
| 37         |       |          | Balaghat  | Manpur      | 65                     | 313                     | 88                     | 338                     |
| 38         |       |          | Balaghat  | Katurli     | 10                     | 58                      | 21                     | 86                      |
| 39         |       |          | Waraseoni | Katanghari  | 628                    | 2952                    | 804                    | 3665                    |
| 40         |       |          | Baihar    | Tikariya    | 24                     | 120                     | 39                     | 177                     |
| 41         |       |          | Waraseoni | Kanjai      | 480                    | 2165                    | 606                    | 2482                    |
| 42         |       |          | Waraseoni | Chhindlai   | 189                    | 953                     | 248                    | 1079                    |
| 43         |       |          | Balaghat  | Kategaon    | 147                    | 716                     | 198                    | 848                     |
| 44         |       |          | Balaghat  | Titwa       | 137                    | 672                     | 228                    | 840                     |
| 45         |       |          | Waraseoni | Pipariya    | 223                    | 1146                    | 285                    | 1330                    |
| 46         |       |          | Waraseoni | Dharawasi   | 200                    | 956                     | 323                    | 1322                    |
| 47         |       |          | Waraseoni | Malgondi    | 2                      | 6                       | 2                      | 4                       |
| 48         |       |          | Waraseoni | Gankheda    | 10                     | 68                      | 16                     | 67                      |
| 49         |       |          | Waraseoni | Ranikuthar  | 194                    | 988                     | 261                    | 1055                    |
| 50         |       |          | Balaghat  | Dongarbodi  | 53                     | 251                     | 67                     | 270                     |
| 51         |       |          | Balaghat  | Hirmutola   | 52                     | 246                     | 71                     | 264                     |
| 52         |       |          | Waraseoni | Tekadi      | 161                    | 818                     | 234                    | 905                     |
| 53         |       |          | Waraseoni | Pandhrapani | 124                    | 596                     | 171                    | 680                     |
| 54         |       |          | Waraseoni | Bagholi     | 429                    | 2021                    | 541                    | 2149                    |
| 55         |       |          | Waraseoni | Mahurjhari  | 0                      | 0                       | 0                      | 0                       |
| 56         |       |          | Waraseoni | Chichgaon   | 227                    | 1135                    | 277                    | 1178                    |
| 57         |       |          | Waraseoni | Salhe       | 197                    | 869                     | 243                    | 1020                    |
| 58         |       |          | Waraseoni | Bori        | 451                    | 2139                    | 613                    | 2326                    |
| 59         |       |          | Waraseoni | Bahiyatikur | 214                    | 1022                    | 247                    | 1077                    |
| 60         |       |          | Waraseoni | Marhera     | 127                    | 683                     | 176                    | 686                     |



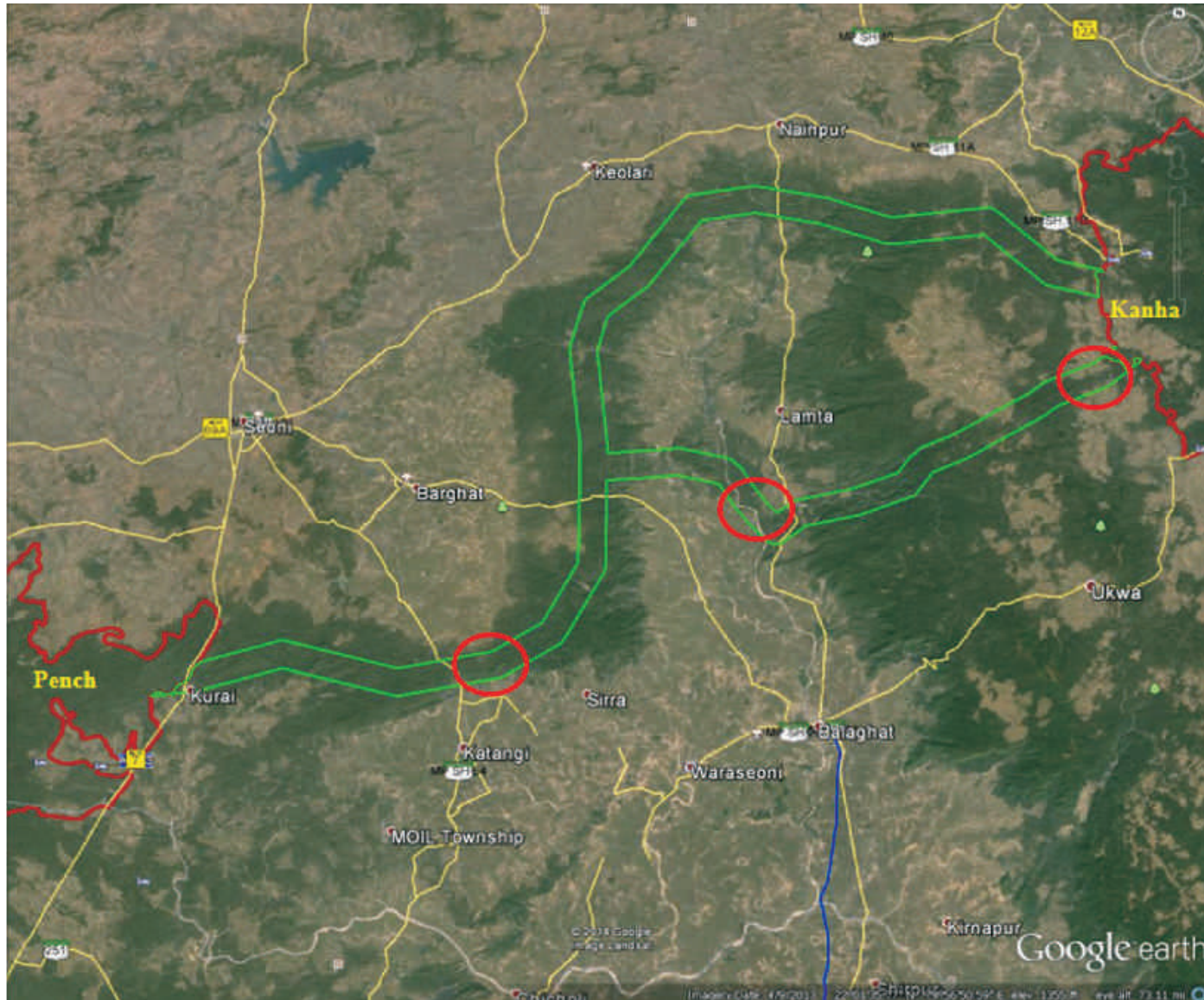
| Village_ID | State | District | Tehsil    | Village              | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|-----------|----------------------|------------------------|-------------------------|------------------------|-------------------------|
| 61         |       |          | Waraseoni | Garapuri             | 116                    | 569                     | 137                    | 598                     |
| 62         |       |          | Waraseoni | Khursodi             | 102                    | 499                     | 121                    | 535                     |
| 63         |       |          | Waraseoni | Naitra               | 333                    | 1642                    | 424                    | 1755                    |
| 64         |       |          | Waraseoni | Nagjhar              | 130                    | 649                     | 158                    | 701                     |
| 65         |       |          | Waraseoni | Sirra                | 328                    | 1471                    | 397                    | 1572                    |
| 66         |       |          | Waraseoni | Pipariya             | 309                    | 1455                    | 285                    | 1330                    |
| 67         |       |          | Waraseoni | Botejhari            | 411                    | 2138                    | 529                    | 2286                    |
| 68         |       |          | Waraseoni | Nandgaon             | 322                    | 1488                    | 444                    | 1733                    |
| 69         |       |          | Waraseoni | Tekadi               | 417                    | 2050                    | 507                    | 2403                    |
| 70         |       |          | Waraseoni | Budbuda              | 906                    | 4391                    | 1134                   | 4867                    |
| 71         |       |          | Katangi   | Sirpur               | 511                    | 2265                    | 601                    | 2510                    |
| 72         |       |          | Balaghat  | F.v.(4) Pandhra Tola | 0                      | 0                       | 0                      | 0                       |
| 73         |       |          | Waraseoni | Kuwagarh             | 0                      | 0                       | 0                      | 0                       |
| 74         |       |          | Baihar    |                      | 0                      | 0                       | 0                      | 0                       |
| 75         |       |          | Baihar    | Narna                | 151                    | 676                     | 171                    | 751                     |
| 76         |       |          | Baihar    | Pongarjhodi          | 166                    | 803                     | 225                    | 991                     |
| 77         |       |          | Baihar    | Dalwada              | 60                     | 233                     | 80                     | 290                     |
| 78         |       |          | Waraseoni |                      | 0                      | 0                       | 0                      | 0                       |
| 79         |       |          | Waraseoni |                      | 0                      | 0                       | 0                      | 0                       |
| 80         |       |          | Baihar    |                      | 0                      | 0                       | 0                      | 0                       |
| 81         |       |          | Katangi   | Tekadi               | 182                    | 835                     | 223                    | 987                     |
| 82         |       | Seoni    | Keolari   | Payli Jar            | 0                      | 0                       | 0                      | 0                       |
| 83         |       |          | Keolari   | Khair Ranji          | 274                    | 1457                    | 438                    | 1700                    |
| 84         |       |          | Keolari   | Potalpani            | 60                     | 276                     | 61                     | 289                     |
| 85         |       |          | Keolari   | Turga                | 55                     | 303                     | 82                     | 367                     |
| 86         |       |          | Keolari   | Tendu Tola Ryt       | 52                     | 226                     | 79                     | 278                     |
| 87         |       |          | Keolari   | Chirai Dongari Ryt   | 18                     | 111                     | 32                     | 125                     |
| 88         |       |          |           | F3 Gaurjholopani     | 0                      | 0                       | 0                      | 0                       |
| 89         |       |          | Keolari   | Muchche Dobri Ryt    | 0                      | 0                       | 0                      | 0                       |
| 90         |       |          | Keolari   | Pipardaun            | 71                     | 309                     | 84                     | 367                     |

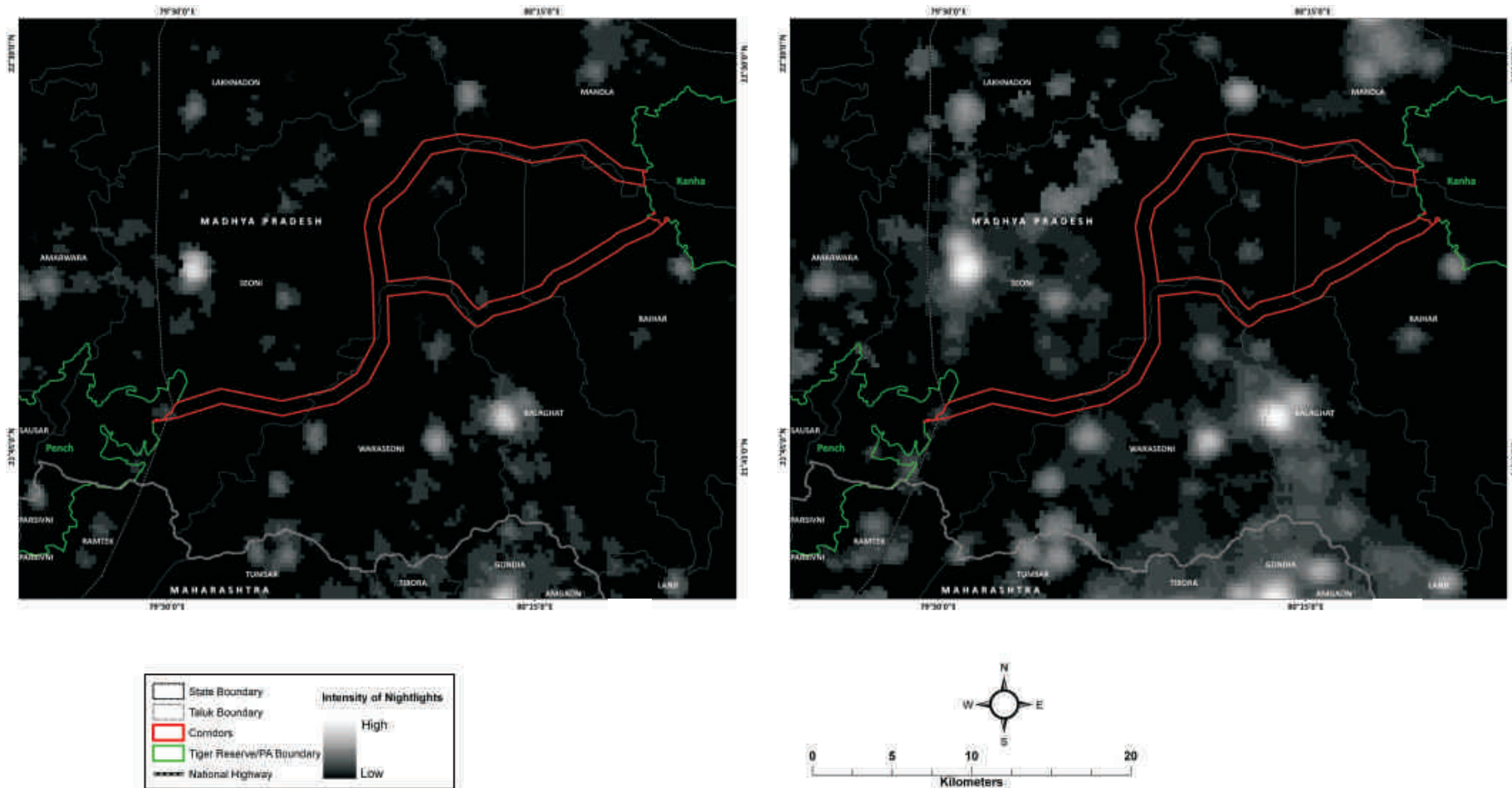
| Village_ID | State | District | Tehsil   | Village              | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|----------|----------------------|------------------------|-------------------------|------------------------|-------------------------|
| 91         |       |          | Keolari  | Taktua               | 68                     | 298                     | 76                     | 392                     |
| 92         |       |          | Barghat  | Pandharapani         | 29                     | 150                     | 47                     | 185                     |
| 93         |       |          | Barghat  | Keshlai              | 37                     | 155                     | 59                     | 235                     |
| 94         |       |          | Kurai    | F5 Bawanthaeli       | 17                     | 77                      | 22                     | 98                      |
| 95         |       |          | Kurai    | Kurai                | 375                    | 1696                    | 464                    | 1927                    |
| 96         |       |          | Kurai    | Chandarpur           | 69                     | 330                     | 88                     | 371                     |
| 97         |       |          | Kurai    | Beesapurtyt          | 97                     | 336                     | 106                    | 436                     |
| 98         |       |          | Kurai    | Pindkapar            | 468                    | 2044                    | 501                    | 2090                    |
| 99         |       |          | Kurai    | Bormara              | 74                     | 371                     | 105                    | 466                     |
| 100        |       |          | Kurai    | Pindrai              | 128                    | 559                     | 145                    | 671                     |
| 101        |       |          | Kurai    | Raiyarao             | 78                     | 359                     | 91                     | 341                     |
| 102        |       |          | Kurai    | Kodajhirityt         | 153                    | 755                     | 196                    | 849                     |
| 103        |       |          | Kurai    | Harduli              | 68                     | 314                     | 69                     | 305                     |
| 104        |       |          | Kurai    | Bichuwaryt           | 25                     | 136                     | 15                     | 73                      |
| 105        |       |          | Kurai    | Dungariya            | 0                      | 0                       | 0                      | 0                       |
| 106        |       |          | Barghat  | F.v.(4)bijajhola     | 0                      | 0                       | 0                      | 0                       |
| 107        |       | Mandla   | Bichhiya | Pondi                | 95                     | 427                     | 113                    | 507                     |
| 108        |       |          | Nainpur  | Chichgaon            | 275                    | 1241                    | 320                    | 1395                    |
| 109        |       |          | Nainpur  | Gonjhi               | 225                    | 1078                    | 257                    | 1224                    |
| 110        |       |          | Nainpur  | Bijegaon             | 106                    | 445                     | 139                    | 525                     |
| 111        |       |          | Nainpur  | Kohka                | 83                     | 378                     | 110                    | 455                     |
| 112        |       |          | Nainpur  | Keregaon             | 133                    | 650                     | 168                    | 779                     |
| 113        |       |          | Nainpur  | Patadeh              | 81                     | 387                     | 95                     | 438                     |
| 114        |       |          | Nainpur  | Silwani              | 62                     | 306                     | 82                     | 339                     |
| 115        |       |          | Nainpur  | F 3 Turur Fv         | 46                     | 227                     | 63                     | 253                     |
| 116        |       |          | Nainpur  | F 4 Patwahi Fv       | 18                     | 91                      | 28                     | 116                     |
| 117        |       |          | Bichhiya | Bagaspur             | 44                     | 226                     | 50                     | 266                     |
| 118        |       |          | Nainpur  | Bharweli [bharbheli] | 103                    | 466                     | 146                    | 579                     |
| 119        |       |          | Bichhiya | Surpati              | 86                     | 380                     | 112                    | 468                     |
| 120        |       |          | Bichhiya | Dungariya            | 93                     | 403                     | 123                    | 482                     |
| 121        |       |          | Bichhiya | Jhangul              | 98                     | 394                     | 118                    | 435                     |



**Figure 2.25:**

*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Kanha-Pench*





**Figure 2.26:**  
 Human habitation as depicted by nightlights within the Kanha-Pench Corridor landscape in the year 1992 and 2012



# PENCH-SATPURA-MELGHAT

**Figure 2.27:**

Potential habitat connectivity for tiger movement between Pench-Satpura-Melghat as depicted by CIRCUITSCAPE model

## 1. Pench-Satpura

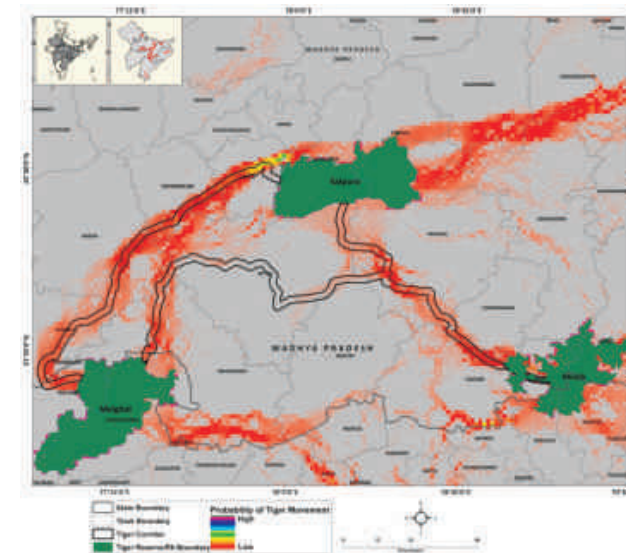
The habitat connectivity between Pench and Satpura is through fragmented forests interspersed with agriculture, human habitation, industrial development and mines. Yet genetic studies show that gene flow of tigers between Satpura and Pench still occurs. To safeguard this corridor for long term survival of both Pench and Satpura tiger populations restorative inputs and retrofitting of infrastructural development within this corridor is required. Part of this corridor near Satpura passes through the coal belt and is under intense pressure for mining. Infrastructure in the form of roads and railway lines that connect coal bearing region with industries need to have mitigative structures like over and under passes in the corridor habitat so as not to form linear barriers. Development of any sort should be discouraged within the corridor habitat.

## 2. Satpura-Melghat

This corridor is mostly through forested landscape of Hoshangabad, Betul and East Nimar and currently has low intensity agriculture and human density. It would be timely to safeguard this corridor and further development projects within this region should only be permitted with appropriate safeguards so as to maintain the functionality of the habitat as a viable corridor permitting gene flow of wild species between Satpura and Melghat.

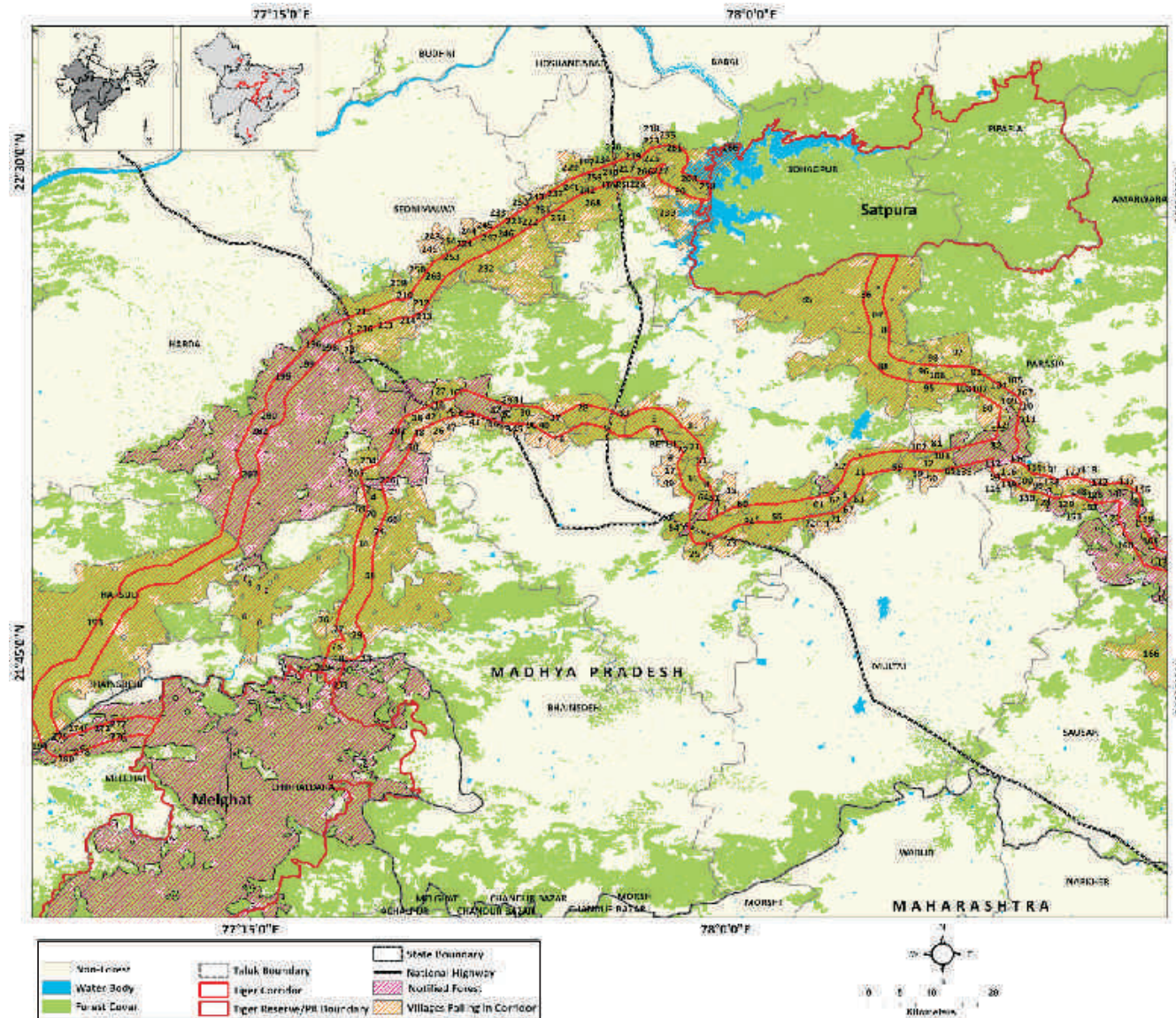
## 3. Pench-Satpura

Part of this corridor is common with that of Pench-Satpura, which consists of degraded forest dispersed with various forms of human land uses like agriculture and mining. The habitat patch near Nawagaon is the weakest link in the corridor and would benefit from restorative inputs. Western part of the corridor is again through patchy ridge top forests but current landuse is not likely to be a barrier to tiger movement. Future development in this area should build in appropriate safeguards.



### Pench-Satpura-Melghat

|                          |   |
|--------------------------|---|
| <b>Habitat size</b>      | 30687 Km <sup>2</sup>                               |
| <b>Source Population</b> | Pench, Satpura and Melghat Tiger Reserve            |
| <b>Size of Source</b>    | (53-78) Pench<br>(42-46) Satpura<br>(30-39) Melghat |
| <b>Protected Areas</b>   | Pench<br>Satpura<br>Melghat                         |
| <b>Corridors</b>         | Pench-Satpura<br>Satpura-Melghat                    |

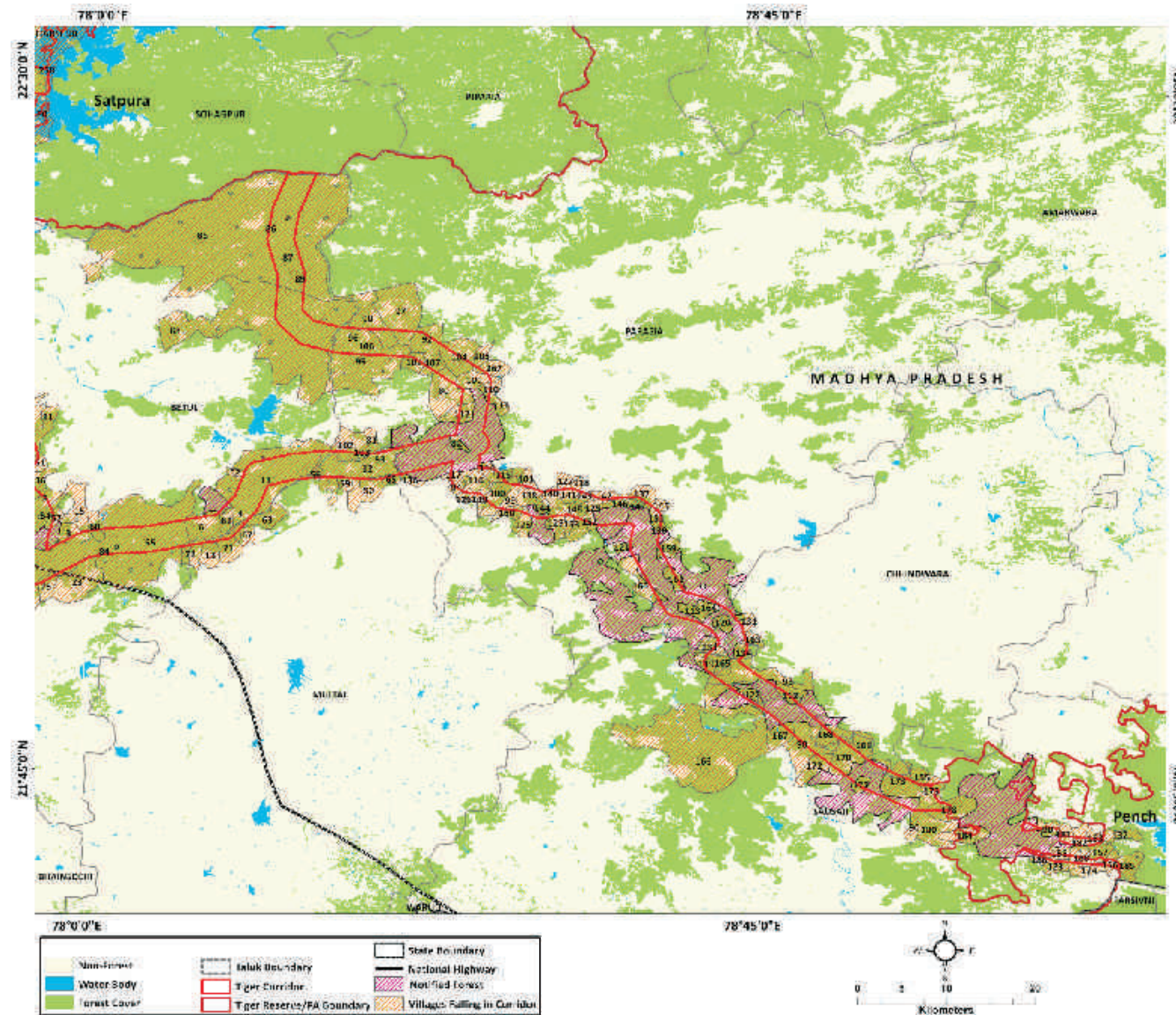


**Figure 2.28:**  
Least Cost Pathway  
corridor for Tiger  
movement between  
Pench-Satpura-Melghat  
overlaid with village  
map (the village  
numbers are  
referenced in Table 2.7)



**Figure 2.29:**

Least Cost Pathway corridor for Tiger movement between Pench-Satpura-Melghat overlaid with village map (the village numbers are referenced in Table 2.7)



| Village_ID | State          | District | Tehsil     | Village                     | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|----------------|----------|------------|-----------------------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Madhya Pradesh | Betul    | Betul      | F.23 Bijadehi               | 31                     | 163                     | 46                     | 191                     |
| 2          |                |          | Bhainsdehi | Hurra Malgujari (harra mal) | 9                      | 72                      | 17                     | 121                     |
| 3          |                |          | Betul      | Khamalpur                   | 95                     | 534                     | 124                    | 667                     |
| 4          |                |          | Bhainsdehi | Harra (f.v)                 | 76                     | 542                     | 120                    | 666                     |
| 5          |                |          | Shahpur    | Banka Bharda                | 66                     | 367                     | 87                     | 413                     |
| 6          |                |          | Betul      | Palaspani                   | 103                    | 595                     | 118                    | 612                     |
| 7          |                |          | Shahpur    | Tara                        | 304                    | 1749                    | 398                    | 2083                    |
| 8          |                |          | Betul      | Khara Gondi (kherigondi)    | 69                     | 424                     | 96                     | 520                     |
| 9          |                |          | Shahpur    | F.16 Baretha                | 133                    | 711                     | 178                    | 860                     |
| 10         |                |          | Betul      | Bod Ryt                     | 113                    | 690                     | 156                    | 815                     |
| 11         |                |          | Betul      | F.22 Bakudviran             | 12                     | 70                      | 23                     | 91                      |
| 12         |                |          | Amla       | Bhaldehif.v                 | 22                     | 102                     | 38                     | 170                     |
| 13         |                |          | Amla       | Thani                       | 150                    | 912                     | 183                    | 1032                    |
| 14         |                |          | Bhainsdehi | Chikhaldia (f.v)            | 59                     | 385                     | 101                    | 506                     |
| 15         |                |          | Betul      | Ghodawadi                   | 79                     | 406                     | 88                     | 459                     |
| 16         |                |          | Betul      | Padalda                     | 47                     | 265                     | 57                     | 290                     |
| 17         |                |          | Betul      | Dolidhana                   | 213                    | 1332                    | 325                    | 1640                    |
| 18         |                |          | Shahpur    | Chikhliyt                   | 180                    | 1054                    | 300                    | 1605                    |
| 19         |                |          | Betul      | Kamtharyt                   | 4                      | 22                      | 9                      | 34                      |
| 20         |                |          | Shahpur    | Matigarh                    | 10                     | 50                      | 14                     | 81                      |
| 21         |                |          | Betul      | F.28 Arjungondi             | 9                      | 64                      | 21                     | 110                     |
| 22         |                |          | Betul      | Pachama                     | 79                     | 547                     | 125                    | 600                     |
| 23         |                |          | Betul      | Bodi                        | 172                    | 922                     | 250                    | 1182                    |
| 24         |                |          | Betul      | Harrai                      | 120                    | 686                     | 149                    | 827                     |
| 25         |                |          | Betul      | Khedla                      | 120                    | 661                     | 166                    | 808                     |
| 26         |                |          | Betul      | Churni                      | 220                    | 1280                    | 301                    | 1585                    |
| 27         |                |          | Betul      | Kursanaf.v.(10)             | 85                     | 487                     | 138                    | 648                     |
| 28         |                |          | Shahpur    | F.5 Mendhakheda             | 60                     | 307                     | 79                     | 431                     |
| 29         |                |          | Shahpur    | Panda Jhiri                 | 78                     | 504                     | 119                    | 635                     |
| 30         |                |          | Shahpur    | Tendukhedaryt               | 130                    | 779                     | 109                    | 633                     |



**Table 2.7:**  
Villages within the Least cost Pathway Corridor connecting Pench-Satpura-Melghat as shown in Fig. 2.28, 2.29

| Village_ID | State | District | Tehsil     | Village                 | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|------------|-------------------------|------------------------|-------------------------|------------------------|-------------------------|
| 31         |       |          | Shahpur    | Tangnaryt               | 30                     | 183                     | 52                     | 255                     |
| 32         |       |          | Shahpur    | Khaprawadi              | 41                     | 256                     | 47                     | 335                     |
| 33         |       |          | Shahpur    | Kantawadi               | 84                     | 499                     | 134                    | 585                     |
| 34         |       |          | Betul      | Amapura (amapur)        | 34                     | 210                     | 68                     | 290                     |
| 35         |       |          | Betul      | Bancha                  | 53                     | 298                     | 74                     | 413                     |
| 36         |       |          | Betul      | F.29 Banbodi            | 78                     | 463                     | 122                    | 648                     |
| 37         |       |          | Shahpur    | Kajli                   | 86                     | 538                     | 125                    | 714                     |
| 38         |       |          | Betul      | Ajai                    | 65                     | 389                     | 111                    | 473                     |
| 39         |       |          | Shahpur    | Deshawadi               | 362                    | 2018                    | 444                    | 2351                    |
| 40         |       |          | Shahpur    | F.8 Gudi Mai (gudhi)    | 32                     | 150                     | 49                     | 213                     |
| 41         |       |          | Betul      | Bhurbhur                | 24                     | 138                     | 35                     | 178                     |
| 42         |       |          | Betul      | Alamgarh                | 138                    | 880                     | 234                    | 1002                    |
| 43         |       |          | Betul      | Pipal Barra             | 134                    | 787                     | 219                    | 978                     |
| 44         |       |          | Shahpur    | Chirotiya               | 78                     | 510                     | 99                     | 566                     |
| 45         |       |          | Shahpur    | Chikhli Mal             | 81                     | 463                     | 108                    | 572                     |
| 46         |       |          | Shahpur    | Ghisibagla              | 341                    | 2024                    | 462                    | 2479                    |
| 47         |       |          | Betul      | Kamtha Mal              | 141                    | 839                     | 244                    | 1067                    |
| 48         |       |          | Betul      | Chirapatla              | 446                    | 2528                    | 665                    | 3194                    |
| 49         |       |          | Betul      | Malseoni                | 172                    | 1059                    | 245                    | 1303                    |
| 50         |       |          | Amla       | Kalmeshwara             | 335                    | 1847                    | 464                    | 2246                    |
| 51         |       |          | Betul      | Chopna                  | 80                     | 441                     | 122                    | 580                     |
| 52         |       |          | Betul      | Gatakhedaryt            | 107                    | 581                     | 146                    | 717                     |
| 53         |       |          | Amla       | Thuthamahf.v (thuthama) | 30                     | 169                     | 38                     | 207                     |
| 54         |       |          | Betul      | F.26 Dharakhoh          | 20                     | 131                     | 28                     | 145                     |
| 55         |       |          | Betul      | Sajpurf.v.(2)           | 22                     | 123                     | 36                     | 156                     |
| 56         |       |          | Amla       | Bisighat                | 22                     | 123                     | 37                     | 189                     |
| 57         |       |          | Betul      | Khokra                  | 133                    | 762                     | 193                    | 954                     |
| 58         |       |          | Bhainsdehi | Lapa (f.v)              | 46                     | 284                     | 72                     | 418                     |
| 59         |       |          | Amla       | Kachhar                 | 95                     | 552                     | 126                    | 653                     |
| 60         |       |          | Betul      | Pajhar                  | 28                     | 168                     | 39                     | 208                     |

| Village_ID | State | District   | Tehsil     | Village               | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|------------|------------|-----------------------|------------------------|-------------------------|------------------------|-------------------------|
| 61         |       |            | Betul      | Belond                | 135                    | 702                     | 163                    | 937                     |
| 62         |       |            | Betul      | Rojhada               | 84                     | 431                     | 108                    | 555                     |
| 63         |       |            | Amla       | Bichchhu Khan F.v     | 60                     | 342                     | 72                     | 425                     |
| 64         |       |            | Betul      | F.27 Sihari           | 47                     | 243                     | 49                     | 234                     |
| 65         |       |            | Amla       | Khadepipriyart.       | 66                     | 431                     | 119                    | 621                     |
| 66         |       |            | Bhainsdehi | Chakdhanaraiyat       | 76                     | 512                     | 126                    | 641                     |
| 67         |       |            | Amla       | Khariyawani Mal       | 179                    | 960                     | 211                    | 1146                    |
| 68         |       |            | Bhainsdehi | Doda Jam              | 154                    | 995                     | 273                    | 1299                    |
| 69         |       |            | Bhainsdehi | Ghorpad Mal           | 91                     | 687                     | 171                    | 911                     |
| 70         |       |            | Bhainsdehi | Ghorpadraiya          | 16                     | 113                     | 24                     | 162                     |
| 71         |       |            | Amla       | Khateda               | 93                     | 522                     | 114                    | 655                     |
| 72         |       |            | Amla       | Khatgarh              | 7                      | 51                      | 21                     | 120                     |
| 73         |       |            | Bhainsdehi | Tingariya (tigariya)  | 87                     | 666                     | 171                    | 914                     |
| 74         |       |            | Bhainsdehi | Dhakna                | 63                     | 384                     | 78                     | 511                     |
| 75         |       |            | Betul      | Rathipur              | 164                    | 824                     | 214                    | 992                     |
| 76         |       |            | Bhainsdehi | Dhengna               | 90                     | 641                     | 144                    | 922                     |
| 77         |       |            | Bhainsdehi | Palanga (f.v)         | 27                     | 250                     | 59                     | 311                     |
| 78         |       |            | Bhainsdehi | Utari                 | 117                    | 915                     | 231                    | 1204                    |
| 79         |       |            | Bhainsdehi | Bijori                | 60                     | 359                     | 89                     | 475                     |
| 80         |       | Chhindwara | Jamai      | Bhardagarh            | 228                    | 1371                    | 366                    | 2006                    |
| 81         |       |            | Jamai      | Mendka                | 38                     | 258                     | 59                     | 319                     |
| 82         |       |            | Jamai      | F.v.5 Padar           | 74                     | 369                     | 112                    | 634                     |
| 83         |       |            | Jamai      | Badnoor               | 250                    | 1203                    | 269                    | 1198                    |
| 84         |       | Betul      |            | Garadehif.v.(4)       | Na                     | Na                      | Na                     | Na                      |
| 85         |       |            | Betul      | F.11 Sakmandiviran    | Na                     | Na                      | Na                     | Na                      |
| 86         |       |            |            | F.4 Sakpandu          | Na                     | Na                      | Na                     | Na                      |
| 87         |       |            |            | F.21 Dhanwarviran     | Na                     | Na                      | Na                     | Na                      |
| 88         |       |            | Betul      | F.15 Bhandarpaniviran | Na                     | Na                      | Na                     | Na                      |
| 89         |       |            |            | F.10 Silapativiran    | Na                     | Na                      | Na                     | Na                      |
| 90         |       |            | Betul      |                       | Na                     | Na                      | Na                     | Na                      |





| Village_ID | State | District    | Tehsil     | Village            | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|-------------|------------|--------------------|------------------------|-------------------------|------------------------|-------------------------|
| 90         |       |             |            |                    | Na                     | Na                      | Na                     | Na                      |
| 90         |       | Chhindwara  | Bichhua    |                    | Na                     | Na                      | Na                     | Na                      |
| 90         |       |             | Sausar     |                    | Na                     | Na                      | Na                     | Na                      |
| 90         |       |             | Sausar     |                    | Na                     | Na                      | Na                     | Na                      |
| 90         |       | Hoshangabad |            |                    | Na                     | Na                      | Na                     | Na                      |
| 90         |       |             |            |                    | Na                     | Na                      | Na                     | Na                      |
| 92         |       | Chhindwara  | Jamai      | Gurrekhurai Mau    | 93                     | 550                     | 144                    | 758                     |
| 93         |       |             | Chhindwara | Kalathuni          | 140                    | 713                     | 143                    | 708                     |
| 94         |       |             | Jamai      | Jamairyt.          | 35                     | 184                     | 48                     | 231                     |
| 95         |       |             | Jamai      | Tandsi             | 16                     | 94                      | 29                     | 141                     |
| 96         |       |             | Jamai      | Satijhiri          | 16                     | 93                      | 37                     | 227                     |
| 97         |       |             | Jamai      | Batri              | 127                    | 665                     | 152                    | 882                     |
| 98         |       |             | Jamai      | Dhobe              | 60                     | 373                     | 149                    | 930                     |
| 99         |       |             | Jamai      | Khumkal            | 103                    | 591                     | 135                    | 871                     |
| 100        |       |             | Jamai      | Talkhamra          | 30                     | 169                     | 60                     | 295                     |
| 101        |       |             | Jamai      | Bhatodiya Kalan    | 171                    | 1001                    | 243                    | 1217                    |
| 102        |       |             | Jamai      | Tekadhana          | 126                    | 768                     | 169                    | 976                     |
| 103        |       |             | Jamai      | Karanji            | 34                     | 198                     | 45                     | 223                     |
| 104        |       |             | Jamai      | Dhau               | 232                    | 1341                    | 300                    | 1688                    |
| 105        |       |             | Jamai      | Chikatbarri        | 67                     | 350                     | 77                     | 382                     |
| 106        |       |             | Jamai      | Bakhari            | 56                     | 354                     | 87                     | 568                     |
| 107        |       |             | Jamai      | Chandniyakoylawadi | 80                     | 458                     | 144                    | 622                     |
| 108        |       |             | Jamai      | Lakhapur           | 14                     | 82                      | 28                     | 109                     |
| 109        |       |             | Jamai      | Rakhikol           | 628                    | 3105                    | 482                    | 2181                    |
| 110        |       |             | Jamai      | Dungariya          | 288                    | 1404                    | 305                    | 1415                    |
| 111        |       |             | Jamai      | Churnichougan      | 86                     | 487                     | 128                    | 602                     |
| 112        |       |             | Jamai      | Pindai Kalan       | 124                    | 652                     | 113                    | 588                     |
| 113        |       | Chhindwara  |            | Bhudhena           | 125                    | 587                     | 152                    | 795                     |
| 114        |       |             | Jamai      | Baliyamautandi     | 183                    | 918                     | 275                    | 1189                    |
| 115        |       |             | Jamai      | Nawegaon Kalan     | 99                     | 544                     | 180                    | 771                     |

| Village_ID | State | District | Tehsil     | Village             | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|------------|---------------------|------------------------|-------------------------|------------------------|-------------------------|
| 116        |       |          | Jamai      | Bhordehikhurd       | 73                     | 437                     | 102                    | 518                     |
| 117        |       |          | Jamai      | Nirama              | 58                     | 295                     | 82                     | 402                     |
| 118        |       |          | Jamai      | Bakol               | 71                     | 398                     | 126                    | 585                     |
| 119        |       |          | Chhindwara | Govindwari Mal      | 153                    | 879                     | 220                    | 1105                    |
| 120        |       |          | Chhindwara | Pardhanghogri       | 180                    | 997                     | 222                    | 1161                    |
| 121        |       |          | Chhindwara | Deep                | 60                     | 356                     | 83                     | 467                     |
| 122        |       |          | Chhindwara | Deogarh             | 130                    | 654                     | 174                    | 774                     |
| 123        |       |          | Bichhua    | Niwari              | 69                     | 397                     | 81                     | 412                     |
| 125        |       |          | Jamai      | Dodasemar           | 153                    | 923                     | 181                    | 894                     |
| 126        |       |          | Jamai      | Roradhekni          | 80                     | 424                     | 103                    | 572                     |
| 127        |       |          | Jamai      | Pipariyaganu        | 104                    | 625                     | 158                    | 737                     |
| 128        |       |          | Jamai      | Sindraimadho        | 94                     | 619                     | 133                    | 776                     |
| 129        |       |          | Chhindwara | Umardoh             | 170                    | 1000                    | 212                    | 1266                    |
| 130        |       |          | Parasia    | Tandiry.            | 65                     | 348                     | 73                     | 434                     |
| 131        |       |          | Chhindwara | Junapaniry.         | 25                     | 172                     | 48                     | 231                     |
| 132        |       |          | Bichhua    | Dudhgaon            | 214                    | 1150                    | 256                    | 1279                    |
| 133        |       |          | Chhindwara | Machhera            | 244                    | 1401                    | 342                    | 1887                    |
| 134        |       |          | Chhindwara | Kalkot              | 97                     | 593                     | 152                    | 700                     |
| 135        |       |          | Jamai      | Sohagi              | 32                     | 183                     | 51                     | 253                     |
| 136        |       |          | Jamai      | Surnadehiry.        | 51                     | 242                     | 74                     | 410                     |
| 137        |       |          | Parasia    | Sindaraiguraiyathar | 200                    | 1063                    | 241                    | 1501                    |
| 138        |       |          | Jamai      | Jambakiradi         | 193                    | 1107                    | 266                    | 1331                    |
| 139        |       |          | Jamai      | Barelipar           | 60                     | 353                     | 80                     | 422                     |
| 140        |       |          | Jamai      | Umarghodkhurd       | 97                     | 556                     | 116                    | 613                     |
| 141        |       |          | Jamai      | Katkuhi             | 165                    | 846                     | 238                    | 1201                    |
| 142        |       |          | Jamai      | Bhimsaniry.         | 9                      | 58                      | 11                     | 57                      |
| 143        |       |          | Jamai      | Panara              | 73                     | 357                     | 94                     | 510                     |
| 144        |       |          | Jamai      | Karanjei            | 25                     | 147                     | 35                     | 215                     |
| 145        |       |          | Parasia    | Pachdhar            | 69                     | 323                     | 99                     | 368                     |
| 146        |       |          | Jamai      | Gujarghat           | 127                    | 740                     | 155                    | 923                     |





| Village_ID | State | District | Tehsil     | Village            | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
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| 147        |       |          | Parasia    | Sindairiyt.        | 133                    | 796                     | 163                    | 899                     |
| 148        |       |          | Jamai      | Mohgaonkisan       | 148                    | 820                     | 195                    | 913                     |
| 149        |       |          | Jamai      | Durgwada           | 66                     | 368                     | 89                     | 461                     |
| 150        |       |          | Jamai      | Madni              | 70                     | 379                     | 82                     | 385                     |
| 151        |       |          | Parasia    | Thawaribapu        | 63                     | 379                     | 81                     | 476                     |
| 152        |       |          | Jamai      | Parwatghoghri      | 166                    | 1050                    | 259                    | 1214                    |
| 153        |       |          | Chhindwara | Kundai             | 69                     | 415                     | 109                    | 604                     |
| 155        |       |          | Bichhua    | Mohpani Mal.       | 144                    | 742                     | 185                    | 830                     |
| 156        |       |          | Bichhua    | Sanwari No.2       | 155                    | 949                     | 231                    | 1114                    |
| 157        |       |          | Bichhua    | Devvari            | 195                    | 990                     | 239                    | 1080                    |
| 158        |       |          | Bichhua    | Jamuniyakhurd      | 106                    | 520                     | 119                    | 592                     |
| 159        |       |          | Chhindwara | Belkhera           | 151                    | 834                     | 180                    | 997                     |
| 160        |       |          | Chhindwara | Bhawariyt.         | 93                     | 586                     | 142                    | 757                     |
| 161        |       |          | Chhindwara | Mehlaribakol       | 162                    | 943                     | 217                    | 1251                    |
| 162        |       |          | Chhindwara | Lohangi            | 246                    | 1193                    | 313                    | 1335                    |
| 163        |       |          | Chhindwara | Shankarpur         | 84                     | 501                     | 110                    | 558                     |
| 164        |       |          | Chhindwara | Matiadoh           | 97                     | 549                     | 129                    | 682                     |
| 165        |       |          | Chhindwara | Govindwariryt.     | 40                     | 222                     | 49                     | 244                     |
| 166        |       |          | Pandhurna  | Narayan Ghat F.v.1 | 54                     | 263                     | 65                     | 336                     |
| 167        |       |          | Pandhurna  | Chhindboh          | 92                     | 482                     | 103                    | 576                     |
| 168        |       |          | Chhindwara | Ambajhiri          | 166                    | 934                     | 245                    | 1095                    |
| 169        |       |          | Chhindwara | Lans               | 113                    | 660                     | 153                    | 725                     |
| 170        |       |          | Chhindwara | Sillewani          | 172                    | 954                     | 263                    | 1188                    |
| 172        |       |          | Sausar     | Khapa              | 275                    | 1285                    | 283                    | 1262                    |
| 173        |       |          | Chhindwara | Bhiropani          | 67                     | 347                     | 83                     | 395                     |
| 174        |       |          | Bichhua    | Dundaseoni         | 59                     | 313                     | 93                     | 414                     |
| 175        |       |          | Bichhua    | Mohpanibisa        | 40                     | 221                     | 50                     | 239                     |
| 177        |       |          | Sausar     | Nauthal            | 106                    | 516                     | 127                    | 608                     |
| 178        |       |          | Bichhua    | Khadabeli          | 177                    | 950                     | 211                    | 984                     |
| 180        |       |          | Bichhua    | Bhimal Gondi       | 49                     | 234                     | 59                     | 236                     |

| Village_ID | State | District    | Tehsil      | Village            | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|-------------|-------------|--------------------|------------------------|-------------------------|------------------------|-------------------------|
| 181        |       |             | Bichhua     | Gadhewani          | 122                    | 575                     | 146                    | 631                     |
| 182        |       |             | Bichhua     | Khamarpani         | 395                    | 1875                    | 529                    | 2325                    |
| 183        |       |             | Bichhua     | Kanhargaon         | 132                    | 655                     | 145                    | 683                     |
| 184        |       |             | Bichhua     | Paniyari           | 116                    | 619                     | 156                    | 688                     |
| 185        |       |             | Bichhua     | Thuepani           | 159                    | 879                     | 190                    | 911                     |
| 186        |       |             | Bichhua     | Sirapani           | 86                     | 454                     | 114                    | 613                     |
| 188        |       |             | Bichhua     | Dholpur            | 104                    | 571                     | 136                    | 700                     |
| 193        |       | East Nimar  | Harsud      | Palaspur (f.v)     | 28                     | 195                     | 44                     | 275                     |
| 194        |       | East Nimar  | Harsud      | Ghutighat          | 84                     | 450                     | 125                    | 640                     |
| 195        |       | Harda       | Timarni     | Badwani(f.v.1)     | 97                     | 600                     | 152                    | 810                     |
| 196        |       |             | Timarni     | Donng(f.v.22)      | 19                     | 114                     | 28                     | 186                     |
| 197        |       | Hoshangabad | Itarsi      | Babaikhurd         | 111                    | 618                     | 149                    | 800                     |
| 198        |       | Harda       | Timarni     | Jawarda(f.v.21)    | 51                     | 310                     | 68                     | 415                     |
| 199        |       |             | Timarni     | Amba (f.v.4)       | 39                     | 273                     | 61                     | 360                     |
| 200        |       |             | Timarni     | Gangradhana(f.v.3) | 47                     | 366                     | 61                     | 518                     |
| 201        |       |             | Timarni     | Lodhidhana(f.v.13) | 116                    | 807                     | 174                    | 1049                    |
| 202        |       |             | Timarni     | Banshipura(f.v.24) | 44                     | 352                     | 73                     | 500                     |
| 203        |       |             | Timarni     | Indpura(f.v.35)    | 71                     | 553                     | 125                    | 834                     |
| 204        |       |             | Timarni     | Rawang             | 207                    | 1379                    | 302                    | 1743                    |
| 205        |       |             | Timarni     | Keli               | 131                    | 896                     | 234                    | 1292                    |
| 206        |       |             | Timarni     | Jhirna(f.v.17)     | 99                     | 641                     | 137                    | 831                     |
| 207        |       |             | Timarni     | Lakhadeh(f.v.40)   | 64                     | 482                     | 98                     | 585                     |
| 208        |       | Hoshangabad | Itarsi      | Piparia Kalan      | 62                     | 327                     | 76                     | 434                     |
| 209        |       |             | Seoni-malwa | Sirupura           | 41                     | 192                     | 50                     | 258                     |
| 210        |       |             | Seoni-malwa | Morghat            | 67                     | 359                     | 99                     | 482                     |
| 211        |       |             | Seoni-malwa | Palasi(f.v.1)      | 41                     | 253                     | 75                     | 373                     |
| 212        |       |             | Seoni-malwa | Lahi               | 91                     | 525                     | 101                    | 564                     |
| 213        |       |             | Seoni-malwa | Samardha           | 82                     | 488                     | 113                    | 595                     |
| 214        |       |             | Seoni-malwa | Kamtha             | 82                     | 507                     | 125                    | 675                     |
| 215        |       |             | Seoni-malwa | Gidkheda(f.v.2)    | 27                     | 180                     | 56                     | 269                     |



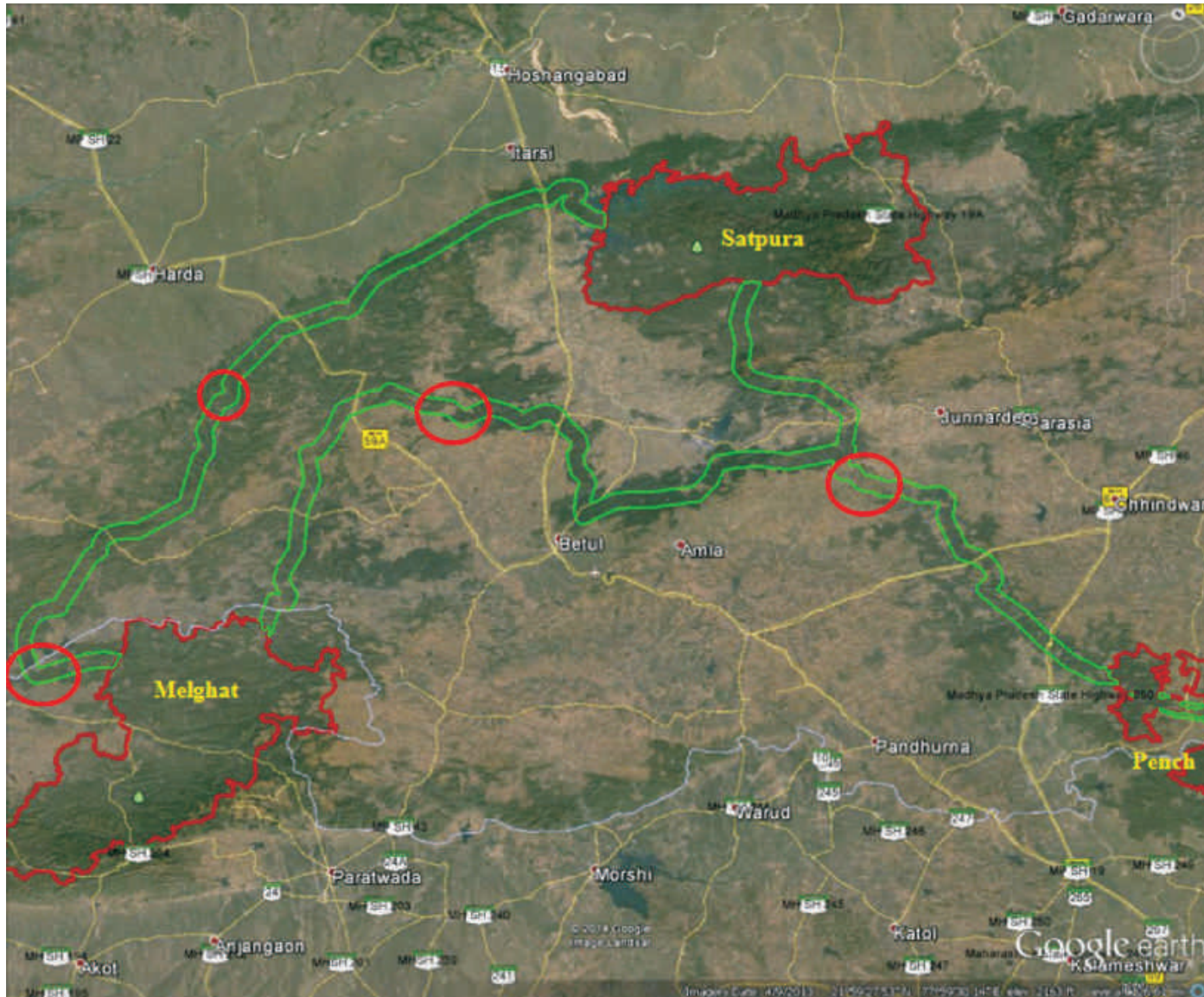
| Village_ID | State | District | Tehsil      | Village            | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|-------------|--------------------|------------------------|-------------------------|------------------------|-------------------------|
| 216        |       |          | Seoni-malwa | Amakatar(f.v.3)    | 32                     | 208                     | 63                     | 310                     |
| 217        |       |          | Itarsi      | Kiratpur           | 82                     | 383                     | 111                    | 472                     |
| 218        |       |          | Itarsi      | Kandai Kalan       | 117                    | 622                     | 147                    | 777                     |
| 219        |       |          | Itarsi      | Jamaidamami        | 30                     | 153                     | 51                     | 218                     |
| 220        |       |          | Itarsi      | Karkhajamai        | 41                     | 117                     | 51                     | 162                     |
| 221        |       |          | Seoni-malwa | Narri              | 79                     | 457                     | 108                    | 595                     |
| 222        |       |          | Seoni-malwa | Keolajhir          | 66                     | 386                     | 86                     | 430                     |
| 223        |       |          | Itarsi      | Jhirmau            | 104                    | 516                     | 136                    | 596                     |
| 224        |       |          | Seoni-malwa | Bandi              | 64                     | 362                     | 85                     | 491                     |
| 225        |       |          | Itarsi      | Pandri             | 120                    | 751                     | 235                    | 1184                    |
| 226        |       |          | Itarsi      | Dob                | 87                     | 403                     | 110                    | 463                     |
| 227        |       |          | Itarsi      | Mohala             | 38                     | 216                     | 65                     | 313                     |
| 228        |       |          | Itarsi      | Kaveli             | 1                      | 1                       | 2                      | 7                       |
| 229        |       |          | Itarsi      | Jamani             | 343                    | 1879                    | 345                    | 2036                    |
| 230        |       |          | Seoni-malwa | Chandakhad         | 73                     | 397                     | 96                     | 444                     |
| 231        |       |          | Itarsi      | Kasda Kalan        | 8                      | 47                      | 10                     | 56                      |
| 232        |       |          | Seoni-malwa | Jatamau(f.v.5)     | 33                     | 179                     | 50                     | 235                     |
| 233        |       |          | Seoni-malwa | Gotabbarri         | 47                     | 265                     | 62                     | 324                     |
| 234        |       |          | Itarsi      | Sonthia            | 84                     | 459                     | 101                    | 485                     |
| 235        |       |          | Seoni-malwa | Salai              | 43                     | 266                     | 59                     | 318                     |
| 236        |       |          | Itarsi      | Temlakhurd         | 21                     | 104                     | 23                     | 117                     |
| 237        |       |          | Itarsi      | Tangna             | 139                    | 832                     | 225                    | 1248                    |
| 238        |       |          | Itarsi      | Dhaikhurd          | 159                    | 917                     | 222                    | 1048                    |
| 239        |       |          | Itarsi      | Amjhira            | 70                     | 389                     | 90                     | 517                     |
| 240        |       |          | Itarsi      | Nazarpur           | 87                     | 397                     | 96                     | 464                     |
| 241        |       |          | Itarsi      | Khatama            | 73                     | 415                     | 95                     | 496                     |
| 242        |       |          | Itarsi      | Jhalpa             | 9                      | 48                      | 11                     | 62                      |
| 243        |       |          | Itarsi      | Parchha            | 100                    | 559                     | 90                     | 494                     |
| 244        |       |          | Seoni-malwa | Batki Alias Iklani | 203                    | 1044                    | 269                    | 1295                    |
| 245        |       |          | Seoni-malwa | Borkunda           | 105                    | 507                     | 116                    | 567                     |

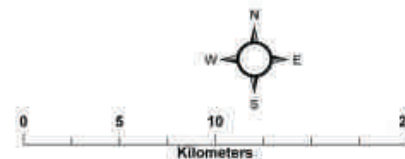
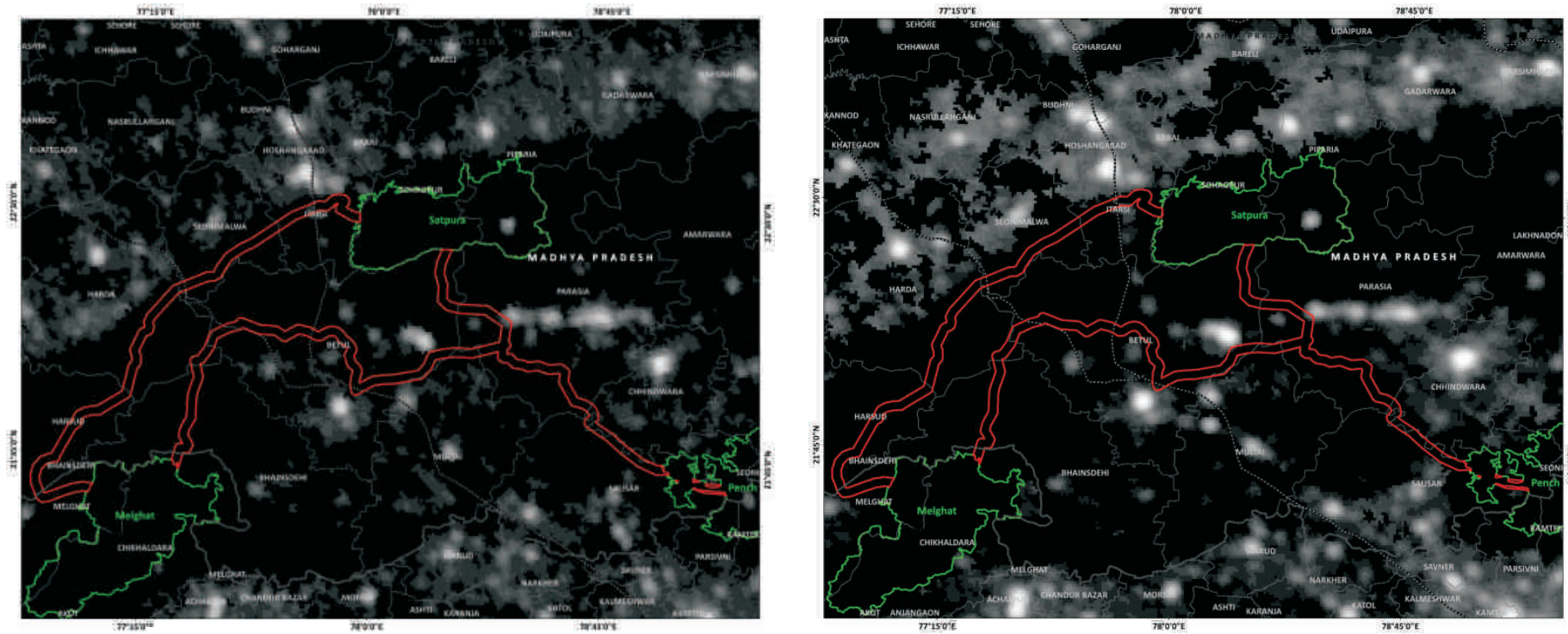
| Village_ID | State       | District    | Tehsil      | Village                 | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------------|-------------|-------------|-------------------------|------------------------|-------------------------|------------------------|-------------------------|
| 246        |             |             | Seoni-malwa | Jondhal                 | 52                     | 288                     | 62                     | 311                     |
| 247        |             |             | Seoni-malwa | Sotachikhali            | 95                     | 506                     | 142                    | 690                     |
| 248        |             |             | Seoni-malwa | Pipalthon               | 162                    | 967                     | 234                    | 1135                    |
| 249        |             |             | Seoni-malwa | Pipaliya Kalan          | 441                    | 1997                    | 525                    | 2304                    |
| 250        |             |             | Seoni-malwa | Mahuadhana              | 119                    | 637                     | 185                    | 979                     |
| 251        |             |             |             | Khohri                  | Na                     | Na                      | Na                     | Na                      |
| 252        |             |             |             | Kishanpur               | Na                     | Na                      | Na                     | Na                      |
| 253        |             |             |             | Budimai(f.v.14)         | Na                     | Na                      | Na                     | Na                      |
| 254        |             |             |             | Patlai Alias Sultanpur  | Na                     | Na                      | Na                     | Na                      |
| 255        |             |             |             | Manamau                 | Na                     | Na                      | Na                     | Na                      |
| 256        |             |             |             | Jilwani                 | Na                     | Na                      | Na                     | Na                      |
| 257        |             |             |             | Kotra                   | Na                     | Na                      | Na                     | Na                      |
| 258        |             |             |             | Jujadeh                 | Na                     | Na                      | Na                     | Na                      |
| 259        |             |             |             | Amabad                  | Na                     | Na                      | Na                     | Na                      |
| 260        |             |             |             | Ratakans                | Na                     | Na                      | Na                     | Na                      |
| 261        |             |             | Itarsi      | Ordnance Factory Itarsi | 2255                   | 10259                   | 1883                   | 7878                    |
| 263        |             |             |             | Khudamba (f.v.13)       | Na                     | Na                      | Na                     | Na                      |
| 266        |             |             |             | Ranipura (tawanagar)    | Na                     | Na                      | Na                     | Na                      |
| 267        |             | Chhindwara  | Jamai       | Kali Chhapar            | 2119                   | 10692                   | Na                     | Na                      |
| 268        |             | Hoshangabad | Itarsi      | Chichadhan(f.v.12)      | 6                      | 41                      | Na                     | Na                      |
| 269        | Maharashtra | Amravati    | Chikhaldara | Ektai                   | 112                    | 782                     | 176                    | 1087                    |
| 271        |             |             | Chikhaldara | Karanjikheda            | 106                    | 641                     | 134                    | 685                     |
| 272        |             |             | Dharni      | Bulungavhan             | 63                     | 368                     | 92                     | 589                     |
| 273        |             |             | Dharni      | Katkumbha               | 68                     | 354                     | 120                    | 666                     |
| 274        |             |             | Dharni      | Chatwabod               | 191                    | 1148                    | 261                    | 1416                    |
| 275        |             |             | Dharni      | Kekada                  | 120                    | 621                     | 198                    | 944                     |
| 276        |             |             | Dharni      | Hatnada                 | 55                     | 264                     | 64                     | 321                     |
| 278        |             |             | Dharni      | Dhakarmal               | 125                    | 940                     | 184                    | 1298                    |
| 279        |             |             | Dharni      | Chethar                 | 72                     | 405                     | 97                     | 579                     |
| 280        |             |             | Dharni      | Dharanmahu              | 237                    | 1214                    | 360                    | 1766                    |



**Figure 2.30:**

Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Pench-Satpura-Melghat





**Figure 2.31:**  
 Human habitation as depicted by nightlights within the Pench-Satpura-Melghat Corridor landscape in the year 1992 and 2012

## KANHA TO NAVEGAON-NAGZIRA-TADOBA-INDRAVATI

**Figure 2.32:**

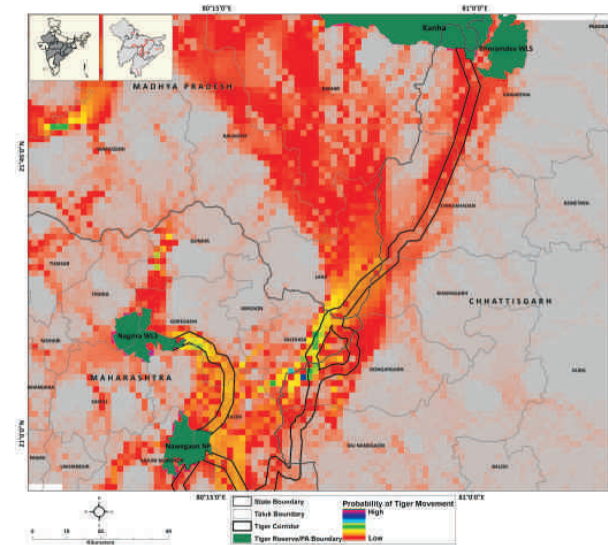
Potential habitat connectivity for tiger movement between Kanha-Navegaon-Nagzira Corridor as depicted by CIRCUITSCAPE model

The Balaghat forests and forests along the border of Chhattisgarh connect the Kanha tiger population to the southern tiger populations of Maharashtra (Nagzira-Navegaon and Tadoba) and with Indravati-Northern Andhra Pradesh (Kawal). The corridor is weakest at the three state junction of Madhya Pradesh-Maharashtra and Chhattisgarh where the forest connectivity is only in the form of fragmented patches interspersed with agriculture and small residential hamlets. The corridor in Maharashtra is fragmented but the landscape matrix is not entirely hostile to tiger movement and gene flow currently exists under the prevalent landuse land cover. However, this landscape matrix is under pressure from mining and irrigation/power projects and ground validation to fine tune the corridor is essential for keeping this connectivity functional. Development in this area needs to build in appropriate mitigation measures so as not to compromise on the conservation values of the region.

The corridor towards Indravati in the south continues in the forest that persists on the border of Maharashtra and Chhattisgarh. A weak link exists near the Dina-Dam and reservoir of Regadi village where agriculture and irrigation project activities are likely to restrict wildlife movement. Further development here would result in barriers to movement. National highway 6 and state highway-6 intersect this corridor and appropriate safeguards are required to be built in to ensure that this linear infrastructure does not become a barrier to wildlife in the future.

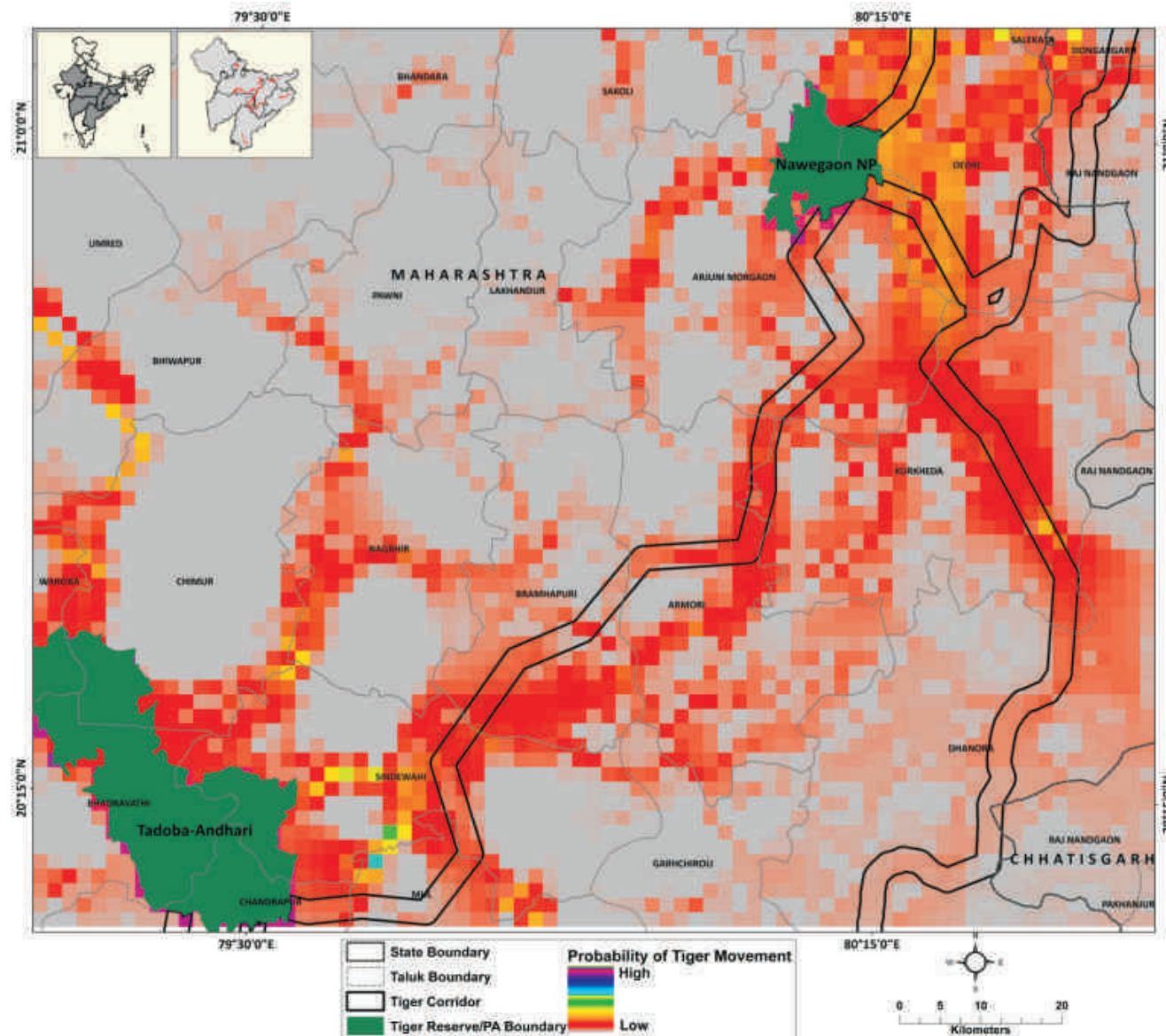
The connectivity between Tadoba and Indravati as well as between Tadoba and Northern Andhra Pradesh Tiger populations is made up of forests fragments which are relatively intact and at times interspersed with agriculture. The corridor is weak at the agricultural patch on the banks of river Wardha in the tehsil of Sirpur.

The forest near Tadoba are on coal reserves and would always be under threat from mining. Care needs to be taken while granting approvals to mining projects so as to safeguard the corridor value of this habitat.



### Kanha to Navegaon-Nagzira-Tadoba-Indravati

|                          |   |
|--------------------------|---|
| <b>Habitat size</b>      | 62090 Km <sup>2</sup>   |
| <b>Source Population</b> | Kanha and Tadoba  |
| <b>Size of Source</b>    | 45-75 (Kanha)<br>66-74 (Tadoba- Chandrapur)   |
| <b>Protected Areas</b>   | Kanha Tiger Reserve<br>Bhoramdev WLS<br>Navegaon-Nagzira Tiger Reserve<br>Tadoba-Andhari Tiger Reserve<br>Indravati Tiger Reserve |
| <b>Corridors</b>         | Kanha-Nagzira-Navegaon<br>Nagzira-Navegaon-Tadoba<br>Tadoba-Indravati<br>Kanha-Indravati  |

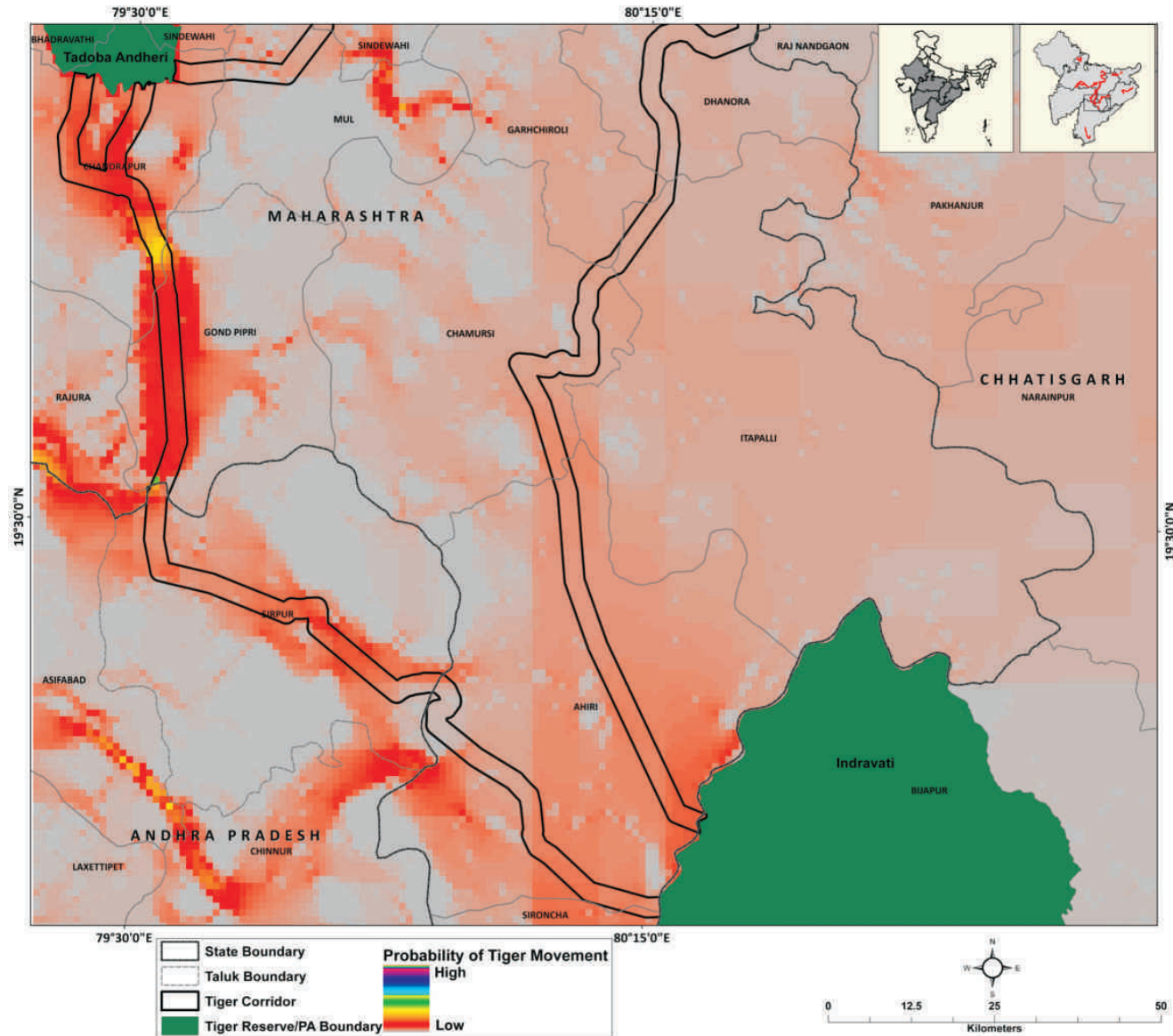


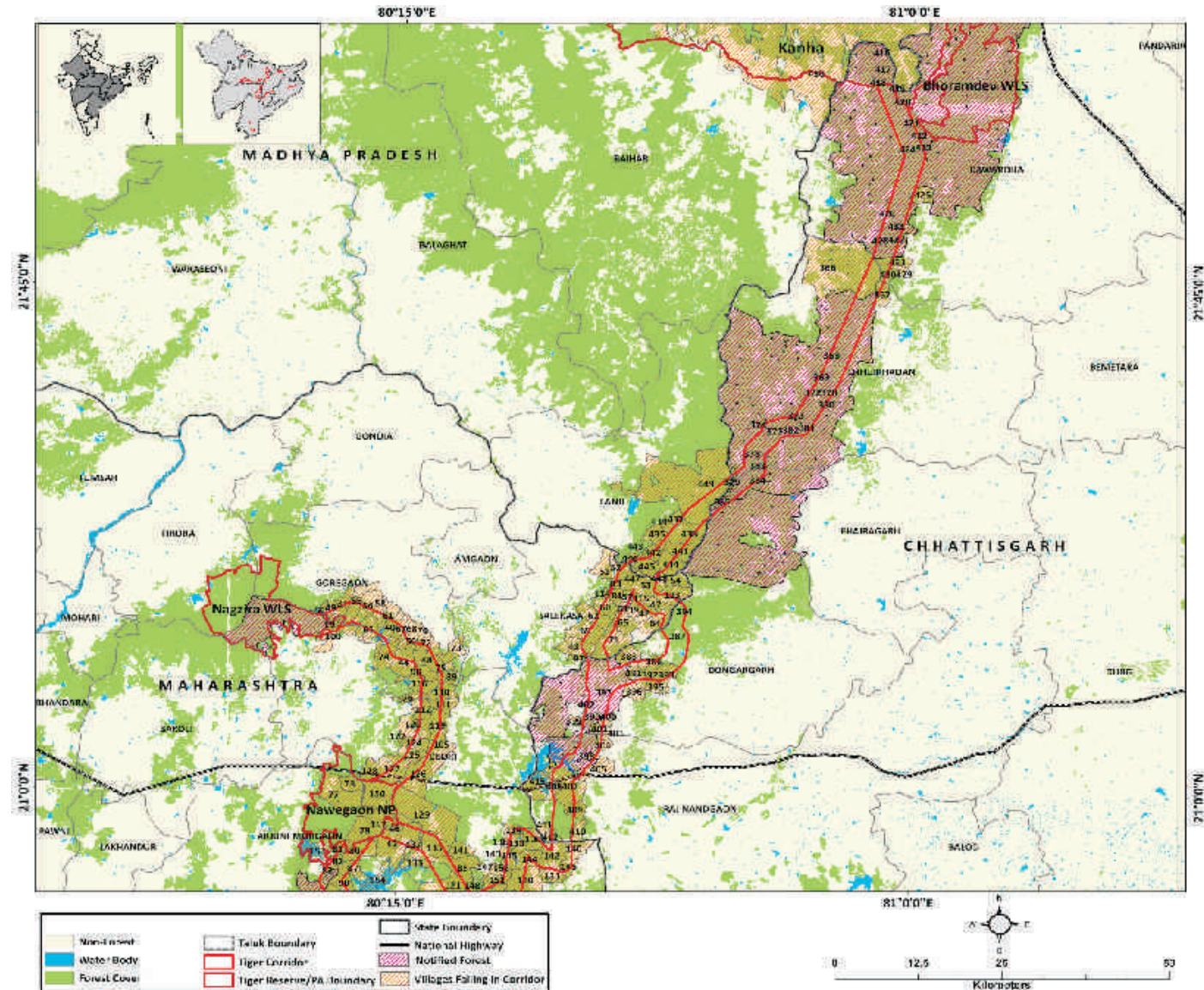
**Figure 2.33:**  
Potential habitat connectivity for tiger movement between of Nawegaon-Nagzira-Tadoba Corridor as depicted by CIRCUITSCAPE model



**Figure 2.34:**

Potential habitat connectivity for tiger movement between of Tadoba-Indravati Corridor as depicted by CIRCUITSCAPE model

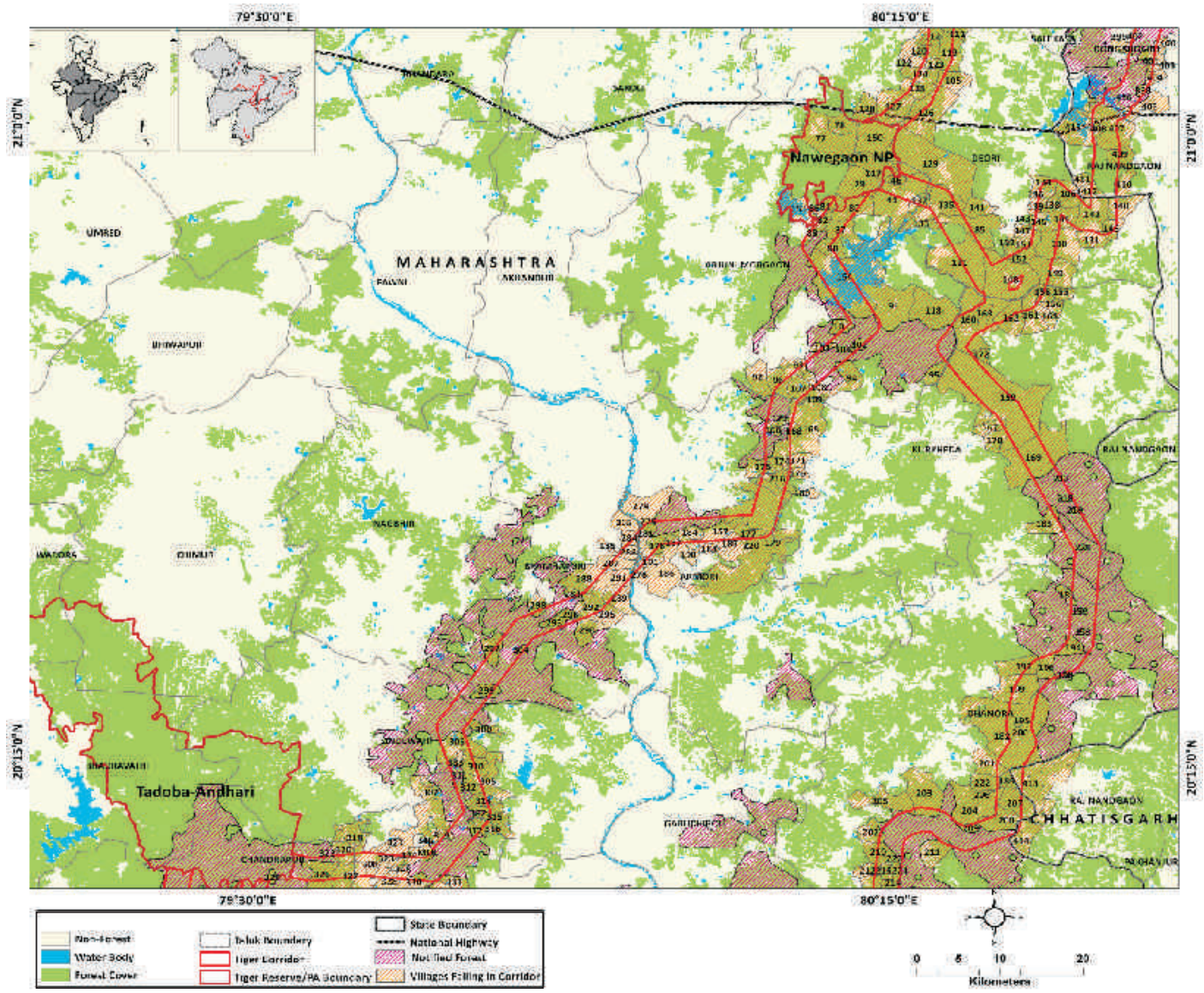


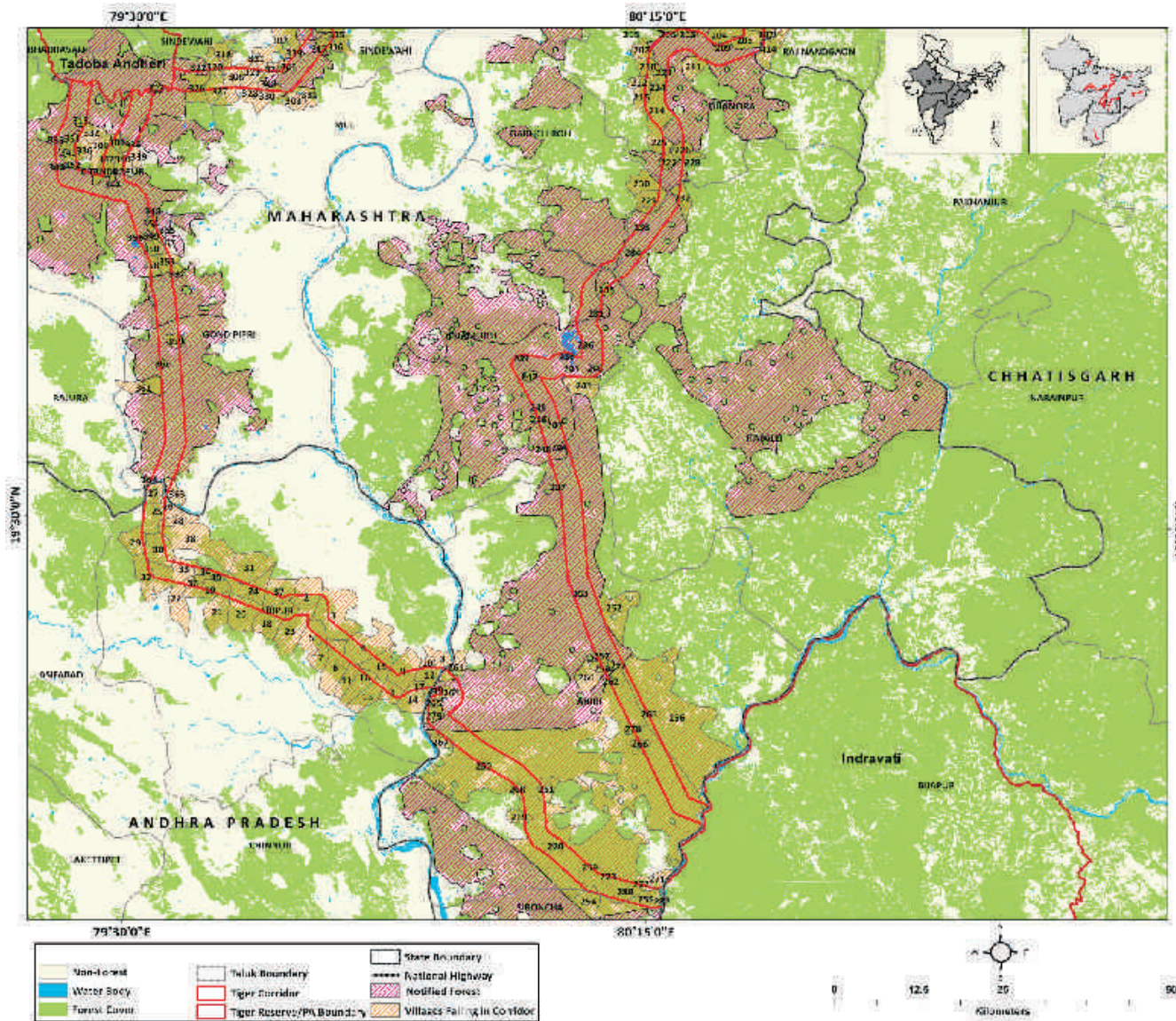


**Figure 2.35:** Least Cost Pathway corridor for Tiger movement between Kanha-Navegaon-Nagzira overlaid with village map (the village numbers are referenced in Table 2.8)

**Figure 2.36:**

Least Cost Pathway corridor for Tiger movement between Navegaon-Nagzira-Tadoba overlaid with village map (the village numbers are referenced in Table 2.8)





**Figure 2.37:**  
Least Cost Pathway corridor for Tiger movement between Tadoba-Indravati overlaid with village map (the village numbers are referenced in Table 2.8)

| Village_ID | State          | District | Tehsil     | Village         | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|----------------|----------|------------|-----------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Andhra Pradesh | Adilabad | Bejjur     | Gundepalle      | 48                     | 215                     | Na                     | Na                      |
| 2          |                |          | Bejjur     | Rebbena         | 388                    | 1813                    | Na                     | Na                      |
| 3          |                |          | Bejjur     | Outsarangipalle | 709                    | 3696                    | Na                     | Na                      |
| 4          |                |          | Bejjur     | Bejjur          | 1047                   | 4990                    | Na                     | Na                      |
| 5          |                |          | Bejjur     | Kondapalle      | 351                    | 1545                    | Na                     | Na                      |
| 6          |                |          | Bejjur     | Yellur          | 421                    | 1970                    | Na                     | Na                      |
| 7          |                |          | Bejjur     | Lodpalle        | 244                    | 954                     | Na                     | Na                      |
| 8          |                |          | Bejjur     | Somini          | 185                    | 986                     | Na                     | Na                      |
| 9          |                |          | Bejjur     | Papanpet        | 322                    | 1574                    | Na                     | Na                      |
| 10         |                |          | Bejjur     | Tikkapalle      | 26                     | 102                     | Na                     | Na                      |
| 11         |                |          | Bejjur     | Koyachichal     | 36                     | 148                     | Na                     | Na                      |
| 12         |                |          | Bejjur     | Talai           | 97                     | 418                     | Na                     | Na                      |
| 13         |                |          | Bejjur     | Agarguda        | 156                    | 704                     | Na                     | Na                      |
| 14         |                |          | Bejjur     | Muraliguda      | 100                    | 449                     | Na                     | Na                      |
| 15         |                |          | Bejjur     | Bhatpalle       | Na                     | Na                      | Na                     | Na                      |
| 16         |                |          | Bejjur     | Gannaram        | Na                     | Na                      | Na                     | Na                      |
| 17         |                |          | Bejjur     | Telapalle       | Na                     | Na                      | Na                     | Na                      |
| 18         |                |          | Kagaznagar | Jankapur        | 101                    | 404                     | Na                     | Na                      |
| 19         |                |          | Kagaznagar | Ankhoda         | 195                    | 821                     | Na                     | Na                      |
| 20         |                |          | Kagaznagar | Kadamba         | 127                    | 562                     | Na                     | Na                      |
| 21         |                |          | Kagaznagar | Mosam           | 513                    | 2106                    | Na                     | Na                      |
| 22         |                |          | Kagaznagar | Nazrulnagar     | 1941                   | 10924                   | Na                     | Na                      |
| 23         |                |          | Kagaznagar | Pothepalle      | Na                     | Na                      | Na                     | Na                      |
| 24         |                |          | Sirpur (T) | Bonki           | Na                     | Na                      | Na                     | Na                      |
| 25         |                |          | Sirpur (T) | Hudkili         | Na                     | Na                      | Na                     | Na                      |
| 26         |                |          | Sirpur (T) | Jakkapur        | Na                     | Na                      | Na                     | Na                      |
| 27         |                |          | Sirpur (T) | Makidi          | Na                     | Na                      | Na                     | Na                      |
| 28         |                |          | Sirpur (T) | Navegaon        | Na                     | Na                      | Na                     | Na                      |
| 29         |                |          | Sirpur (T) | Garlapet        | Na                     | Na                      | Na                     | Na                      |
| 30         |                |          | Sirpur (T) | Cheelapalle     | Na                     | Na                      | Na                     | Na                      |

**Table 2.8:**

*Villages within the Least cost Pathway Corridor between Kanha-Navegaon-Nagzira-Tadoba-Indravati as shown in Fig. 2.33, 2.34, 2.35, 2.36 and 2.37*

| Village_ID | State       | District | Tehsil         | Village       | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------------|----------|----------------|---------------|------------------------|-------------------------|------------------------|-------------------------|
| 31         |             |          | Sirpur (T)     | Bhupalapatnam | Na                     | Na                      | Na                     | Na                      |
| 32         |             |          | Sirpur (T)     | Vempalle      | Na                     | Na                      | Na                     | Na                      |
| 33         |             |          | Sirpur (T)     | Achalli       | Na                     | Na                      | Na                     | Na                      |
| 34         |             |          | Sirpur (T)     | Chintakunta   | Na                     | Na                      | Na                     | Na                      |
| 35         |             |          | Sirpur (T)     | Arepalle      | Na                     | Na                      | Na                     | Na                      |
| 36         |             |          | Sirpur (T)     | Chunchupalle  | Na                     | Na                      | Na                     | Na                      |
| 37         |             |          | Sirpur (T)     | Adepalle      | Na                     | Na                      | Na                     | Na                      |
| 38         |             |          | Sirpur (T)     | Sirpur (p)    | Na                     | Na                      | Na                     | Na                      |
| 39         | Maharashtra | Gondiya  | Salekasa       | Darrekasa     | 75                     | 339                     | 80                     | 397                     |
| 40         |             |          | Goregaon       | Telankhedi    | 179                    | 848                     | 173                    | 747                     |
| 41         |             |          | Goregaon       | Garada        | 38                     | 148                     | 53                     | 224                     |
| 42         |             |          | Salekasa       | Banjari       | 124                    | 622                     | 125                    | 629                     |
| 43         |             |          | Salekasa       | Kular Bhatti  | 98                     | 402                     | 113                    | 462                     |
| 44         |             |          | Sadak - Arjuni | Jambhali      | 230                    | 1100                    | 261                    | 1178                    |
| 45         |             |          | Arjuni Morgaon | Palasgaon     | 152                    | 658                     | 158                    | 742                     |
| 46         |             |          | Arjuni Morgaon | Dhamditola    | 135                    | 707                     | 147                    | 793                     |
| 47         |             |          | Salekasa       | Diwatesur     | Na                     | Na                      | Na                     | Na                      |
| 48         |             |          | Goregaon       | Zaliya        | Na                     | Na                      | Na                     | Na                      |
| 49         |             |          | Goregaon       | Jambhulpani   | 68                     | 334                     | 96                     | 440                     |
| 50         |             |          | Goregaon       | Tilli         | 250                    | 1148                    | 297                    | 1289                    |
| 51         |             |          | Salekasa       | Pipariya      | 530                    | 2864                    | 1025                   | 3550                    |
| 52         |             |          | Salekasa       | Gallatola     | 121                    | 534                     | 118                    | 554                     |
| 53         |             |          | Salekasa       | Dandhari      | 48                     | 231                     | 65                     | 368                     |
| 54         |             |          | Salekasa       | Murkudoh      | 98                     | 396                     | 95                     | 522                     |
| 55         |             |          | Goregaon       | Mundipar      | 643                    | 2872                    | 701                    | 3052                    |
| 56         |             |          | Goregaon       | Palewada      | 279                    | 1294                    | 284                    | 1249                    |
| 57         |             |          | Salekasa       | Daldalkuhi    | 52                     | 221                     | 56                     | 279                     |
| 58         |             |          | Goregaon       | Kalpathari    | 245                    | 1167                    | 295                    | 1269                    |
| 59         |             |          | Goregaon       | Sondlagondi   | 26                     | 106                     | 32                     | 145                     |
| 60         |             |          | Salekasa       | Nawatola      | 129                    | 592                     | 144                    | 702                     |



| Village_ID | State | District | Tehsil         | Village      | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|----------------|--------------|------------------------|-------------------------|------------------------|-------------------------|
| 61         |       |          | Goregaon       | Ghumarra     | 281                    | 1359                    | 318                    | 1400                    |
| 62         |       |          | Salekasa       | Kosamtarra   | 179                    | 869                     | 218                    | 930                     |
| 63         |       |          | Salekasa       | Dhanegaon    | 43                     | 231                     | 54                     | 251                     |
| 64         |       |          | Salekasa       | Toyagondi    | 122                    | 644                     | 132                    | 631                     |
| 65         |       |          | Salekasa       | Jamakudo     | 430                    | 2135                    | 445                    | 1902                    |
| 66         |       |          | Goregaon       | Murdoli      | 154                    | 637                     | 153                    | 629                     |
| 67         |       |          | Goregaon       | Palkheda     | 141                    | 640                     | 193                    | 846                     |
| 68         |       |          | Goregaon       | Mohagaon     | 316                    | 1467                    | 351                    | 1581                    |
| 69         |       |          | Salekasa       | Managad      | 87                     | 335                     | 138                    | 614                     |
| 70         |       |          | Goregaon       | Gowaritola   | 115                    | 651                     | 155                    | 685                     |
| 71         |       |          | Salekasa       | Kopalgad     | 165                    | 763                     | 195                    | 984                     |
| 72         |       |          | Goregaon       | Pipartola    | 146                    | 652                     | 186                    | 817                     |
| 73         |       |          | Goregaon       | Nimba        | 294                    | 1289                    | 313                    | 1427                    |
| 74         |       |          | Sadak - Arjuni | Dodke        | 122                    | 509                     | 133                    | 610                     |
| 75         |       |          | Goregaon       | Alebedar     | 50                     | 164                     | 59                     | 238                     |
| 76         |       |          | Sadak - Arjuni | Pandharwani  | 16                     | 66                      | 17                     | 73                      |
| 77         |       |          | Sadak - Arjuni | Kawalewada   | 114                    | 440                     | 139                    | 605                     |
| 78         |       |          | Sadak - Arjuni | Zankar Gondi | 11                     | 51                      | 14                     | 69                      |
| 79         |       |          | Arjuni Morgaon | Malkazari    | 1                      | 5                       | Na                     | Na                      |
| 80         |       |          | Arjuni Morgaon | Chutiya      | 43                     | 202                     | 76                     | 248                     |
| 81         |       |          | Arjuni Morgaon | Jambhali     | 149                    | 653                     | 171                    | 703                     |
| 82         |       |          | Arjuni Morgaon | Pauni        | 243                    | 1380                    | 272                    | 1395                    |
| 83         |       |          | Salekasa       | Kamakazari   | Na                     | Na                      | Na                     | Na                      |
| 84         |       |          | Salekasa       | Gendurzariya | Na                     | Na                      | Na                     | Na                      |
| 85         |       |          | Deori          | Singandoh    | 85                     | 387                     | 95                     | 482                     |
| 86         |       |          | Arjuni Morgaon | Dhabetekadi  | 17                     | 74                      | 19                     | 72                      |
| 87         |       |          | Arjuni Morgaon | Tidka        | 88                     | 393                     | 96                     | 431                     |
| 88         |       |          | Arjuni Morgaon | Jabbarkheda  | 57                     | 252                     | 58                     | 254                     |
| 89         |       |          | Deori          | Alezari      | Na                     | Na                      | Na                     | Na                      |
| 90         |       |          | Arjuni Morgaon | Yerandi      | 83                     | 357                     | 94                     | 440                     |

| Village_ID | State | District | Tehsil         | Village             | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|----------------|---------------------|------------------------|-------------------------|------------------------|-------------------------|
| 91         |       |          | Deori          | Ghogara             | 16                     | 54                      | 15                     | 80                      |
| 92         |       |          | Arjuni Morgaon | Wadegaon Bandya     | 182                    | 777                     | 222                    | 862                     |
| 93         |       |          | Arjuni Morgaon | Gawarra             | 134                    | 643                     | 161                    | 711                     |
| 94         |       |          | Arjuni Morgaon | Junevani (Rai)      | 33                     | 124                     | 30                     | 125                     |
| 95         |       |          | Arjuni Morgaon | Tirkhuri            | 22                     | 79                      | 26                     | 95                      |
| 96         |       |          | Arjuni Morgaon | Varvhi              | 82                     | 332                     | 97                     | 384                     |
| 97         |       |          | Salekasa       | Maramjob            | Na                     | Na                      | 46                     | 193                     |
| 98         |       |          | Goregaon       | Pangadi             | Na                     | Na                      | Na                     | Na                      |
| 99         |       |          | Sadak - Arjuni | Rengepar            | 207                    | 912                     | 231                    | 1039                    |
| 100        |       |          | Sadak - Arjuni | Pandhari            | 565                    | 2550                    | 598                    | 2487                    |
| 101        |       |          | Arjuni Morgaon | Jambhali (Gandhari) | 35                     | 109                     | 32                     | 105                     |
| 102        |       |          | Arjuni Morgaon | Umarpayali          | 31                     | 109                     | 42                     | 126                     |
| 103        |       |          | Arjuni Morgaon | Tukum Narayan       | 160                    | 654                     | 173                    | 695                     |
| 104        |       |          | Arjuni Morgaon | Dongargaon          | 14                     | 50                      | 12                     | 47                      |
| 105        |       |          | Deori          | Maramjob            | 225                    | 989                     | 241                    | 991                     |
| 106        |       |          | Deori          | Kosbi (BK)          | 73                     | 457                     | 69                     | 324                     |
| 107        |       |          | Arjuni Morgaon | Ambhora             | 87                     | 403                     | 97                     | 500                     |
| 108        |       |          | Arjuni Morgaon | Arattondi           | 102                    | 418                     | 123                    | 477                     |
| 109        |       |          | Arjuni Morgaon | Dhamditola          | 136                    | 663                     | 151                    | 782                     |
| 110        |       |          | Deori          | Khamtalav           | 20                     | 98                      | 21                     | 109                     |
| 111        |       |          | Deori          | Zunzaritola         | 27                     | 115                     | 26                     | 114                     |
| 112        |       |          | Sadak - Arjuni | Kohalipar           | 28                     | 120                     | 29                     | 114                     |
| 113        |       |          | Salekasa       | Tahkazari           | Na                     | Na                      | Na                     | Na                      |
| 114        |       |          | Salekasa       | Sirmalkasa          | Na                     | Na                      | Na                     | Na                      |
| 115        |       |          | Salekasa       | Kachargad           | Na                     | Na                      | Na                     | Na                      |
| 116        |       |          | Goregaon       | Rengepar            | Na                     | Na                      | 0                      | 0                       |
| 117        |       |          | Arjuni Morgaon | Tumdimendha         | Na                     | Na                      | Na                     | Na                      |
| 118        |       |          | Deori          | Malkazari           | Na                     | Na                      | Na                     | Na                      |
| 119        |       |          | Deori          | Mundipar            | 45                     | 216                     | 46                     | 248                     |
| 120        |       |          | Sadak - Arjuni | Koylari             | 191                    | 873                     | 207                    | 795                     |





| Village_ID | State | District | Tehsil         | Village          | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|----------------|------------------|------------------------|-------------------------|------------------------|-------------------------|
| 121        |       |          | Deori          | Sukali           | 155                    | 555                     | 149                    | 611                     |
| 122        |       |          | Sadak - Arjuni | Putli            | 231                    | 996                     | 245                    | 1094                    |
| 123        |       |          | Sadak - Arjuni | Pradhantola N.V. | 135                    | 626                     | 149                    | 666                     |
| 124        |       |          | Sadak - Arjuni | Sahakepar        | 39                     | 185                     | 54                     | 242                     |
| 125        |       |          | Sadak - Arjuni | Khurshipar       | 98                     | 485                     | 97                     | 430                     |
| 126        |       |          | Deori          | Masulkasa        | 121                    | 612                     | 139                    | 583                     |
| 127        |       |          | Sadak - Arjuni | Khadki           | 171                    | 868                     | 213                    | 1249                    |
| 128        |       |          | Sadak - Arjuni | Rajguda          | 152                    | 735                     | 172                    | 727                     |
| 129        |       |          | Deori          | Mhaisuli         | 139                    | 894                     | 145                    | 970                     |
| 130        |       |          | Deori          | Kodikasa         | 135                    | 645                     | 162                    | 776                     |
| 131        |       |          | Deori          | Dhawalkhedi      | 115                    | 502                     | 129                    | 617                     |
| 132        |       |          | Deori          | Sundari          | 107                    | 502                     | 136                    | 624                     |
| 133        |       |          | Deori          | Sarregaon        | 24                     | 121                     | 27                     | 119                     |
| 134        |       |          | Deori          | Gadegaon         | 165                    | 744                     | 182                    | 788                     |
| 135        |       |          | Deori          | Ghonadi          | 263                    | 1238                    | 333                    | 1537                    |
| 136        |       |          | Deori          | Belgaon          | 83                     | 418                     | 82                     | 372                     |
| 137        |       |          | Deori          | Bonde            | 123                    | 589                     | 152                    | 605                     |
| 138        |       |          | Deori          | Dhanori          | 18                     | 94                      | 21                     | 107                     |
| 139        |       |          | Deori          | Khambkhura       | 129                    | 548                     | 140                    | 616                     |
| 140        |       |          | Deori          | Tumadikasa       | 93                     | 480                     | 109                    | 476                     |
| 141        |       |          | Deori          | Kotijambhora     | 189                    | 867                     | 207                    | 983                     |
| 142        |       |          | Deori          | Mehatakheda      | 180                    | 893                     | 177                    | 813                     |
| 143        |       |          | Deori          | Kesori           | 148                    | 742                     | 166                    | 812                     |
| 144        |       |          | Deori          | Paulzola         | 176                    | 747                     | 204                    | 716                     |
| 145        |       |          | Deori          | Rehali           | 125                    | 611                     | 135                    | 669                     |
| 146        |       |          | Deori          | Wadekasa         | 47                     | 279                     | 64                     | 311                     |
| 147        |       |          | Deori          | Dongargaon       | 55                     | 257                     | 81                     | 303                     |
| 148        |       |          | Deori          | Piparkhari       | 138                    | 594                     | 125                    | 603                     |
| 149        |       |          | Deori          | Yedmagondi       | 190                    | 905                     | 236                    | 1162                    |
| 150        |       |          | Sadak - Arjuni | Nishani          | Na                     | Na                      | Na                     | Na                      |

| Village_ID | State | District   | Tehsil             | Village           | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|------------|--------------------|-------------------|------------------------|-------------------------|------------------------|-------------------------|
| 151        |       |            | Deori              | Pouni (Rithi)     | Na                     | Na                      | Na                     | Na                      |
| 152        |       |            | Deori              | Gawarra (Rithi)   | Na                     | Na                      | Na                     | Na                      |
| 153        |       |            | Arjuni Morgaon     | Water Body        | Na                     | Na                      | Na                     | Na                      |
| 154        |       |            | Arjuni Morgaon     | Water Body        | Na                     | Na                      | Na                     | Na                      |
| 155        |       | Gadchiroli | Korchi             | Bijapar           | 32                     | 132                     | 38                     | 188                     |
| 156        |       |            | Korchi             | Bodaldand         | 124                    | 586                     | 147                    | 652                     |
| 157        |       |            | Armori             | Palasgaon         | 300                    | 1285                    | 338                    | 1400                    |
| 158        |       |            | Korchi             | Pranpur (Rith)    | Na                     | Na                      | Na                     | Na                      |
| 159        |       |            | Kurkheda           | Halkikanhar       | Na                     | Na                      | Na                     | Na                      |
| 160        |       |            | Korchi             | Mayalghat         | 30                     | 139                     | 31                     | 119                     |
| 161        |       |            | Korchi             | Debari            | 51                     | 246                     | 71                     | 251                     |
| 162        |       |            | Korchi             | Padiyal Jog       | 32                     | 171                     | 40                     | 144                     |
| 163        |       |            | Korchi             | Charvidand        | 27                     | 131                     | 29                     | 171                     |
| 164        |       |            | Korchi             | Belar Gondi       | 42                     | 240                     | 53                     | 219                     |
| 165        |       |            | Kurkheda           | Khedegaon         | 133                    | 569                     | 148                    | 637                     |
| 166        |       |            | Desaiganj (Vadasa) | Kasari Tukum      | 207                    | 932                     | 260                    | 1022                    |
| 167        |       |            | Kurkheda           | Yerkadi           | 78                     | 391                     | 108                    | 430                     |
| 168        |       |            | Kurkheda           | Gewardha          | 401                    | 1737                    | 453                    | 1771                    |
| 169        |       |            | Korchi             | Gadheli (Masahat) | 10                     | 57                      | 12                     | 50                      |
| 170        |       |            | Kurkheda           | Dongargaon        | 62                     | 252                     | 83                     | 379                     |
| 171        |       |            | Kurkheda           | Gurnoli           | 262                    | 1091                    | 289                    | 1170                    |
| 172        |       |            | Korchi             | Pendakodo         | Na                     | Na                      | Na                     | Na                      |
| 173        |       |            | Desaiganj (Vadasa) | Kasari Gaoganna   | Na                     | Na                      | Na                     | Na                      |
| 174        |       |            | Kurkheda           | Umarzari          | Na                     | Na                      | Na                     | Na                      |
| 175        |       |            | Desaiganj (Vadasa) | Pimpalgaon        | 247                    | 1212                    | 251                    | 1366                    |
| 176        |       |            | Kurkheda           | Arattondi         | 110                    | 618                     | 153                    | 903                     |
| 177        |       |            | Armori             | Nawargaon         | 6                      | 30                      | 5                      | 20                      |
| 178        |       |            | Armori             | Mulur Chak        | 11                     | 55                      | 18                     | 71                      |
| 179        |       |            | Armori             | Shankarnagar      | 232                    | 1091                    | 273                    | 1210                    |
| 180        |       |            | Kurkheda           | Deulgaon          | 134                    | 569                     | 141                    | 581                     |



| Village_ID | State | District | Tehsil   | Village      | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|----------|--------------|------------------------|-------------------------|------------------------|-------------------------|
| 181        |       |          | Dhanora  | Marma        | 12                     | 76                      | 24                     | 112                     |
| 182        |       |          | Dhanora  | Dabba        | 5                      | 20                      | 7                      | 20                      |
| 183        |       |          | Kurkheda | Khobramendha | 106                    | 467                     | 143                    | 624                     |
| 184        |       |          | Armori   | Kasavi       | 197                    | 874                     | 224                    | 937                     |
| 185        |       |          | Armori   | Pathargota   | 305                    | 1340                    | 310                    | 1415                    |
| 186        |       |          | Armori   | Armori       | 3925                   | 17784                   | 4441                   | 18504                   |
| 187        |       |          | Armori   | Ashta        | 180                    | 849                     | 243                    | 951                     |
| 188        |       |          | Armori   | Jogisakhara  | 368                    | 1624                    | 401                    | 1649                    |
| 189        |       |          | Dhanora  | Ranwahi      | 4                      | 30                      | 5                      | 34                      |
| 190        |       |          | Armori   | Rampur Chak  | 169                    | 711                     | 168                    | 729                     |
| 191        |       |          | Armori   | Arsoda       | 559                    | 2389                    | 660                    | 2621                    |
| 192        |       |          | Dhanora  | Murzar       | 4                      | 26                      | 8                      | 34                      |
| 193        |       |          | Dhanora  | Charwahi     | 20                     | 158                     | 28                     | 155                     |
| 194        |       |          | Dhanora  | Gotatola     | 13                     | 49                      | 14                     | 73                      |
| 195        |       |          | Dhanora  | Gatanyeli    | 17                     | 95                      | 28                     | 134                     |
| 196        |       |          | Dhanora  | Ampayli      | 14                     | 54                      | 24                     | 116                     |
| 197        |       |          | Dhanora  | Mujalgondi   | 55                     | 289                     | 67                     | 345                     |
| 198        |       |          | Dhanora  | Khedegaon    | 67                     | 370                     | 70                     | 343                     |
| 199        |       |          | Dhanora  | Yerkadmowad  | 360                    | 1571                    | 358                    | 1570                    |
| 200        |       |          | Dhanora  | Darchi       | 50                     | 259                     | 63                     | 270                     |
| 201        |       |          | Dhanora  | Chavela      | 124                    | 590                     | 129                    | 580                     |
| 202        |       |          | Dhanora  | Gattepayli   | 65                     | 352                     | 68                     | 385                     |
| 203        |       |          | Dhanora  | Mendha       | 60                     | 287                     | 106                    | 473                     |
| 204        |       |          | Dhanora  | Irpundi      | 1                      | 7                       | 1                      | 6                       |
| 205        |       |          | Dhanora  | Girola       | 73                     | 591                     | 104                    | 739                     |
| 206        |       |          | Dhanora  | Todemasahat  | 20                     | 118                     | 32                     | 154                     |
| 207        |       |          | Dhanora  | Yengaon      | 20                     | 118                     | 30                     | 140                     |
| 208        |       |          | Dhanora  | Munganer     | 39                     | 223                     | 57                     | 229                     |
| 209        |       |          | Dhanora  | Bodiri       | 26                     | 151                     | 33                     | 151                     |
| 210        |       |          | Dhanora  | Horakasa     | 6                      | 44                      | 12                     | 43                      |

| Village_ID | State | District | Tehsil     | Village           | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|------------|-------------------|------------------------|-------------------------|------------------------|-------------------------|
| 211        |       |          | Dhanora    | Godalwahi         | 200                    | 1074                    | 207                    | 1181                    |
| 212        |       |          | Dhanora    | Kuthegaon         | 74                     | 408                     | 90                     | 445                     |
| 213        |       |          | Dhanora    | Makepayli         | 8                      | 71                      | 16                     | 70                      |
| 214        |       |          | Dhanora    | Latzora           | 3                      | 19                      | 3                      | 14                      |
| 215        |       |          | Dhanora    | Rakhatola         | 48                     | 276                     | 62                     | 293                     |
| 216        |       |          | Kurkheda   | Jayatpur (Rith)   | Na                     | Na                      | Na                     | Na                      |
| 217        |       |          | Korchi     | Kohaka Masahat    | Na                     | Na                      | Na                     | Na                      |
| 218        |       |          | Korchi     | Banjari (Rith)    | Na                     | Na                      | Na                     | Na                      |
| 219        |       |          | Korchi     | Deogad (Rith)     | Na                     | Na                      | Na                     | Na                      |
| 220        |       |          | Armori     | Manjewada         | Na                     | Na                      | Na                     | Na                      |
| 221        |       |          | Kurkheda   | Yedaskuhi Masehat | Na                     | Na                      | 45                     | 195                     |
| 222        |       |          | Dhanora    | Muranda           | Na                     | Na                      | Na                     | Na                      |
| 223        |       |          | Dhanora    | Hulondi           | Na                     | Na                      | Na                     | Na                      |
| 224        |       |          | Dhanora    | Begadi            | Na                     | Na                      | Na                     | Na                      |
| 225        |       |          | Dhanora    | Phustola          | 108                    | 426                     | 66                     | 211                     |
| 226        |       |          | Dhanora    | Yedampayli Kh     | 37                     | 164                     | 35                     | 160                     |
| 227        |       |          | Dhanora    | Bhapada           | 25                     | 116                     | 26                     | 104                     |
| 228        |       |          | Dhanora    | Jambhalizora      | 1                      | 19                      | 8                      | 25                      |
| 229        |       |          | Gadchiroli | Nagweli           | 16                     | 89                      | 20                     | 119                     |
| 230        |       |          | Gadchiroli | Korkuti           | 11                     | 45                      | 10                     | 54                      |
| 231        |       |          | Chamorshi  | Vikaspalli        | 213                    | 1019                    | 300                    | 1212                    |
| 232        |       |          | Etapalli   | Gumadi M          | 12                     | 56                      | 14                     | 56                      |
| 233        |       |          | Etapalli   | Paidi             | 27                     | 159                     | 33                     | 217                     |
| 234        |       |          | Etapalli   | Nawegaon          | 4                      | 29                      | 8                      | 40                      |
| 235        |       |          | Mulchera   | Garanji           | 33                     | 189                     | 50                     | 228                     |
| 236        |       |          | Mulchera   | Adangepalli       | 23                     | 111                     | 21                     | 100                     |
| 237        |       |          | Aheri      | Tondel            | 12                     | 48                      | 9                      | 38                      |
| 238        |       |          | Mulchera   | Hetalkasa         | 44                     | 176                     | 48                     | 219                     |
| 239        |       |          | Mulchera   | Gatta (Vangram)   | 15                     | 80                      | 22                     | 107                     |
| 240        |       |          | Mulchera   | Pulligudam        | 31                     | 138                     | 56                     | 232                     |



| Village_ID | State | District | Tehsil   | Village         | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|----------|-----------------|------------------------|-------------------------|------------------------|-------------------------|
| 241        |       |          | Mulchera | Bolepalli       | 143                    | 732                     | 188                    | 1017                    |
| 242        |       |          | Mulchera | Morkhandi Rith  | 4                      | 22                      | 20                     | 82                      |
| 243        |       |          | Etapalli | Chandanweli (s) | 249                    | 1144                    | 327                    | 1334                    |
| 244        |       |          | Mulchera | Harinagar       | 147                    | 798                     | 202                    | 886                     |
| 245        |       |          | Mulchera | Mukali          | 24                     | 114                     | 38                     | 162                     |
| 246        |       |          | Mulchera | Mukali Tola     | 65                     | 330                     | 93                     | 442                     |
| 247        |       |          | Mulchera | Govindpur       | 138                    | 750                     | 164                    | 786                     |
| 248        |       |          | Mulchera | Medhuranagar    | 99                     | 544                     | 155                    | 698                     |
| 249        |       |          | Aheri    | Watra Bk S      | 15                     | 68                      | 19                     | 82                      |
| 250        |       |          | Aheri    | Ambezara        | 24                     | 89                      | 21                     | 104                     |
| 251        |       |          | Aheri    | Yenkabanda      | 72                     | 321                     | 90                     | 387                     |
| 252        |       |          | Aheri    | Mirkal M        | 35                     | 182                     | 41                     | 236                     |
| 253        |       |          | Aheri    | Talwada         | 88                     | 544                     | 68                     | 456                     |
| 254        |       |          | Aheri    | Lowa S          | 47                     | 193                     | 45                     | 236                     |
| 255        |       |          | Aheri    | Birhadght       | 29                     | 152                     | 36                     | 185                     |
| 256        |       |          | Aheri    | Naingudam       | 37                     | 146                     | 46                     | 195                     |
| 257        |       |          | Aheri    | Pattigaon M     | 21                     | 89                      | 23                     | 123                     |
| 258        |       |          | Aheri    | Khandala        | 77                     | 402                     | 109                    | 467                     |
| 259        |       |          | Aheri    | Tatigudam       | 210                    | 920                     | 249                    | 1047                    |
| 260        |       |          | Aheri    | Rajaram         | 432                    | 2042                    | 485                    | 2340                    |
| 261        |       |          | Aheri    | Devalmari S     | 431                    | 1708                    | 477                    | 2203                    |
| 262        |       |          | Aheri    | Chhallelwada    | 549                    | 2617                    | 788                    | 3148                    |
| 263        |       |          | Aheri    | Asa M           | 32                     | 126                     | 29                     | 155                     |
| 264        |       |          | Aheri    | Watra Bk M      | 29                     | 104                     | 41                     | 156                     |
| 265        |       |          | Aheri    | Watra Kh S      | 104                    | 399                     | 128                    | 494                     |
| 266        |       |          | Aheri    | Kolamarka       | 14                     | 37                      | Na                     | Na                      |
| 267        |       |          | Aheri    | Avalmari        | 150                    | 707                     | 198                    | 827                     |
| 268        |       |          | Aheri    | Karancha S      | 38                     | 177                     | 52                     | 226                     |
| 269        |       |          | Aheri    | Joganguda       | 106                    | 514                     | 119                    | 626                     |
| 270        |       |          | Aheri    | Umanur M        | 20                     | 98                      | 26                     | 123                     |

| Village_ID | State | District   | Tehsil             | Village            | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|------------|--------------------|--------------------|------------------------|-------------------------|------------------------|-------------------------|
| 271        |       |            | Aheri              | Metigudam          | 71                     | 308                     | 67                     | 387                     |
| 272        |       |            | Aheri              | Konjed             | 24                     | 153                     | 34                     | 199                     |
| 273        |       |            | Aheri              | Kalled             | 44                     | 216                     | 49                     | 301                     |
| 274        |       |            | Desaiganj (vadasa) | Kondhala           | 858                    | 3637                    | 974                    | 3873                    |
| 275        |       |            | Armori             | Ravi               | 120                    | 537                     | 151                    | 625                     |
| 276        |       |            | Armori             | Waghala            | 131                    | 569                     | 406                    | 1634                    |
| 277        |       |            | Aheri              | Pattigaon S        | Na                     | Na                      | Na                     | Na                      |
| 278        |       |            | Aheri              | Gotelingampalli    | Na                     | Na                      | Na                     | Na                      |
| 279        |       |            | Aheri              | Watra Kh M         | Na                     | Na                      | Na                     | Na                      |
| 280        |       |            | Aheri              | Bondra M           | Na                     | Na                      | Na                     | Na                      |
| 281        |       |            | Armori             | Mulur              | Na                     | Na                      | Na                     | Na                      |
| 282        |       |            | Sironcha           | Water Body         | Na                     | Na                      | Na                     | Na                      |
| 283        |       | Chandrapur | Brahmapuri         | Saigaon Tukum      | 206                    | 811                     | 267                    | 969                     |
| 284        |       |            | Brahmapuri         | Nilaj              | 326                    | 1459                    | 352                    | 1557                    |
| 285        |       |            | Brahmapuri         | Belpatali          | 146                    | 636                     | 168                    | 651                     |
| 286        |       |            | Brahmapuri         | Panchagaon         | 101                    | 452                     | 106                    | 454                     |
| 287        |       |            | Brahmapuri         | Gangalwadi         | 489                    | 1997                    | 566                    | 2047                    |
| 288        |       |            | Brahmapuri         | Gogaon             | 362                    | 1543                    | 417                    | 1605                    |
| 289        |       |            | Brahmapuri         | Chichgaon          | 322                    | 1395                    | 372                    | 1489                    |
| 290        |       |            | Brahmapuri         | Kosambi Khadasmara | 234                    | 967                     | 251                    | 1034                    |
| 291        |       |            | Brahmapuri         | Baradkinhi         | 651                    | 2771                    | 710                    | 2930                    |
| 292        |       |            | Brahmapuri         | Aksapur            | 143                    | 598                     | 167                    | 648                     |
| 293        |       |            | Brahmapuri         | Murpar             | 130                    | 475                     | 138                    | 527                     |
| 294        |       |            | Brahmapuri         | Powanpar           | 55                     | 214                     | 66                     | 237                     |
| 295        |       |            | Brahmapuri         | Wandra             | 378                    | 1606                    | 436                    | 1626                    |
| 296        |       |            | Brahmapuri         | Belgaon Kh         | 44                     | 168                     | 46                     | 188                     |
| 297        |       |            | Brahmapuri         | Ekara              | 238                    | 1044                    | 281                    | 1096                    |
| 298        |       |            | Brahmapuri         | Rudrapur Rith      | Na                     | Na                      | Na                     | Na                      |
| 299        |       |            | Brahmapuri         | Selada             | 13                     | 53                      | 17                     | 61                      |
| 300        |       |            | Sindewahi          | Powanpar           | 251                    | 1039                    | 66                     | 237                     |



| Village_ID | State | District | Tehsil     | Village           | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|------------|-------------------|------------------------|-------------------------|------------------------|-------------------------|
| 301        |       |          | Chandrapur | Chak Pimpal Khut  | 53                     | 239                     | 56                     | 211                     |
| 302        |       |          | Sawali     | Saimara Chak      | 12                     | 34                      | 12                     | 44                      |
| 303        |       |          | Mul        | Tekadi            | 464                    | 2046                    | 495                    | 2091                    |
| 304        |       |          | Brahmapuri | Khatgaon          | Na                     | Na                      | Na                     | Na                      |
| 305        |       |          | Sindewahi  | Khairi Chak       | 78                     | 349                     | 103                    | 407                     |
| 306        |       |          | Sindewahi  | Gunjewahi M.N.2   | 29                     | 105                     | 51                     | 166                     |
| 307        |       |          | Mul        | Gangalwadi        | 186                    | 816                     | 202                    | 837                     |
| 308        |       |          | Mul        | Ushrada Chak      | 340                    | 1644                    | 431                    | 1803                    |
| 309        |       |          | Chandrapur | Pimpal Khunt      | 96                     | 397                     | 89                     | 344                     |
| 310        |       |          | Sindewahi  | Gunjewahi M.N.1   | 551                    | 2258                    | 616                    | 2247                    |
| 311        |       |          | Sindewahi  | Mangli Chak       | 22                     | 78                      | 24                     | 95                      |
| 312        |       |          | Sindewahi  | Chikmara          | 200                    | 750                     | 197                    | 768                     |
| 313        |       |          | Chandrapur | Nimbala           | 174                    | 699                     | 199                    | 716                     |
| 314        |       |          | Sindewahi  | Tambegadi Mendha  | 242                    | 979                     | 282                    | 1077                    |
| 315        |       |          | Sawali     | Saimara Tuk       | 137                    | 590                     | 141                    | 575                     |
| 316        |       |          | Sawali     | Mundala           | 282                    | 1221                    | 310                    | 1276                    |
| 317        |       |          | Sawali     | Mategaon          | 13                     | 53                      | 17                     | 62                      |
| 318        |       |          | Mul        | Shivapur Ryt.     | 46                     | 190                     | 68                     | 229                     |
| 319        |       |          | Mul        | Murmadi           | 124                    | 468                     | 127                    | 534                     |
| 320        |       |          | Mul        | Padzari           | 28                     | 105                     | 34                     | 114                     |
| 321        |       |          | Mul        | Chikhli           | 447                    | 1986                    | 519                    | 2199                    |
| 322        |       |          | Mul        | Padzari Chak      | 24                     | 93                      | 5                      | 25                      |
| 323        |       |          | Mul        | Chak Chikhli No.1 | 58                     | 254                     | 55                     | 242                     |
| 324        |       |          | Mul        | Chak Kanhalgaon   | 1                      | 4                       | Na                     | Na                      |
| 325        |       |          | Mul        | Belgata           | 144                    | 599                     | 147                    | 633                     |
| 326        |       |          | Mul        | Somnath (N.V.)    | 53                     | 697                     | 262                    | 451                     |
| 327        |       |          | Mul        | Maroda            | 951                    | 4329                    | 1039                   | 4190                    |
| 328        |       |          | Mul        | Morwahi Chak      | 57                     | 269                     | 67                     | 301                     |
| 329        |       |          | Chandrapur | Doni              | 74                     | 299                     | 83                     | 277                     |
| 330        |       |          | Mul        | Chitegaon         | 288                    | 1161                    | 334                    | 1241                    |

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|------------|-------|----------|------------|-----------------------|------------------------|-------------------------|------------------------|-------------------------|
| 331        |       |          | Sawali     | Sadagad               | 77                     | 338                     | 77                     | 334                     |
| 332        |       |          | Chandrapur | Chak Nimbala          | 233                    | 979                     | 234                    | 979                     |
| 333        |       |          | Sindewahi  | Khari Golkar          | Na                     | Na                      | Na                     | Na                      |
| 334        |       |          | Chandrapur | Waigaon Mokasa        | 126                    | 552                     | 160                    | 611                     |
| 335        |       |          | Chandrapur | Nandgur               | 66                     | 317                     | 73                     | 308                     |
| 336        |       |          | Chandrapur | Chak Borda            | 27                     | 106                     | 30                     | 127                     |
| 337        |       |          | Pombhurna  | Ghanoti Tukum         | 134                    | 563                     | 147                    | 586                     |
| 338        |       |          | Chandrapur | Chak Waigaon No.2.    | 106                    | 535                     | 132                    | 560                     |
| 339        |       |          | Chandrapur | Gondsawari Rayyatwari | 203                    | 985                     | 243                    | 1040                    |
| 340        |       |          | Chandrapur | Ajayapur Raiyyatwari  | 306                    | 1268                    | 304                    | 1325                    |
| 341        |       |          | Chandrapur | Borda Indarpawar      | 317                    | 1652                    | 323                    | 1602                    |
| 342        |       |          | Chandrapur | Chichpalli            | 361                    | 1521                    | 432                    | 1572                    |
| 343        |       |          | Chandrapur | Ghanta Chauki         | 75                     | 352                     | 85                     | 324                     |
| 344        |       |          | Chandrapur | Jamrala               | 87                     | 383                     | 108                    | 435                     |
| 345        |       |          | Pombhurna  | Satara Tukum          | 103                    | 413                     | 112                    | 404                     |
| 346        |       |          | Mul        | Chikhli No.2          | Na                     | Na                      | Na                     | Na                      |
| 347        |       |          | Mul        | Belgata Chak No.1     | Na                     | Na                      | Na                     | Na                      |
| 348        |       |          | Mul        | Belgata Chak No.2     | Na                     | Na                      | Na                     | Na                      |
| 349        |       |          | Pombhurna  | Umari Potdar          | 179                    | 792                     | 195                    | 755                     |
| 350        |       |          | Pombhurna  | Umari Tukum           | 178                    | 1117                    | 183                    | 715                     |
| 351        |       |          | Chandrapur | Chak Waigaon No.1     | Na                     | Na                      | Na                     | Na                      |
| 352        |       |          | Chandrapur | Walni Chack           | Na                     | Na                      | Na                     | Na                      |
| 353        |       |          | Pombhurna  | Chak Ghanoti No.1     | 160                    | 721                     | 205                    | 776                     |
| 354        |       |          | Pombhurna  | Satara Bhosale        | 71                     | 314                     | 80                     | 320                     |
| 355        |       |          | Pombhurna  | Satara Komti          | 109                    | 427                     | 121                    | 443                     |
| 356        |       |          | Pombhurna  | Chak Ambe Dhanora     | 177                    | 695                     | 210                    | 735                     |
| 357        |       |          | Pombhurna  | Chak Borgaon Rith     | 33                     | 157                     | 49                     | 263                     |
| 358        |       |          | Pombhurna  | Chak Ghanoti No.2     | 91                     | 400                     | 99                     | 382                     |
| 359        |       |          | Gondpipri  | Ganpur                | 135                    | 522                     | 133                    | 495                     |
| 360        |       |          | Gondpipri  | Kanhalgaon            | 197                    | 777                     | 181                    | 668                     |



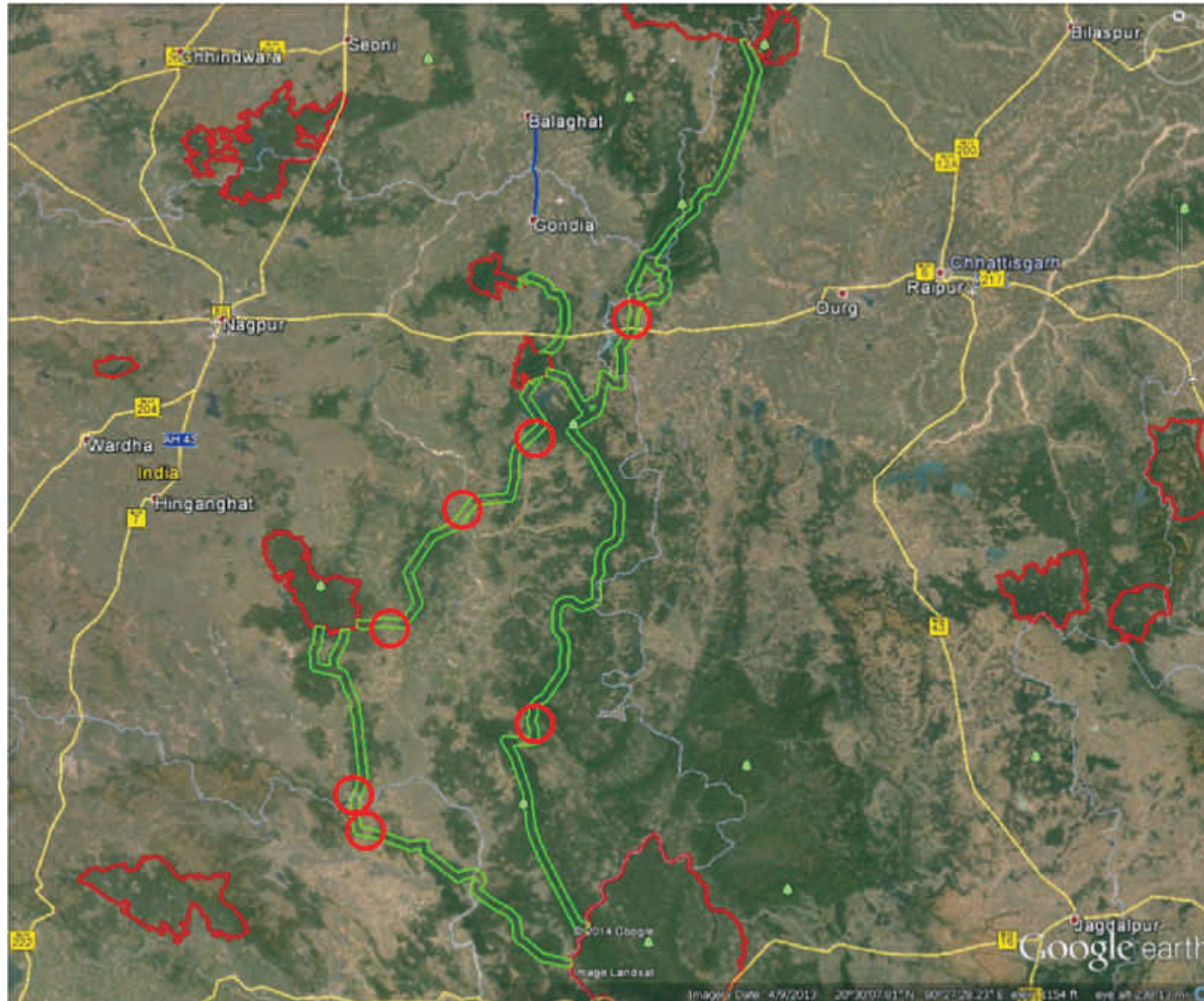


| Village_ID | State        | District    | Tehsil      | Village           | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|--------------|-------------|-------------|-------------------|------------------------|-------------------------|------------------------|-------------------------|
| 361        |              |             | Gondpipri   | Pachgaon          | 50                     | 195                     | 63                     | 224                     |
| 362        |              |             | Gondpipri   | Tomta             | 78                     | 315                     | 20                     | 82                      |
| 363        |              |             | Gondpipri   | Sonapur Deshpande | 288                    | 1172                    | 392                    | 1366                    |
| 364        |              |             | Gondpipri   | Wamanpalli        | 80                     | 332                     | 93                     | 345                     |
| 365        |              |             | Brahmapuri  | Kharkada          | 406                    | 1813                    | 476                    | 1966                    |
| 366        | Chhattisgarh | Rajnandgaon | Chhuikhadan | Nachaniya         | 164                    | 818                     | 237                    | 1063                    |
| 367        |              |             | Chhuikhadan | Kharra            | 20                     | 71                      | 32                     | 159                     |
| 368        |              |             | Chhuikhadan | Murum             | 35                     | 131                     | 31                     | 119                     |
| 369        |              |             | Chhuikhadan | Gerukhadan        | 128                    | 506                     | 151                    | 605                     |
| 370        |              |             | Chhuikhadan | Daria Konha       | 8                      | 39                      | 9                      | 46                      |
| 371        |              |             | Chhuikhadan | Makhurahi         | Na                     | Na                      | Na                     | Na                      |
| 372        |              |             | Chhuikhadan | Chuhri            | Na                     | Na                      | 13                     | 48                      |
| 373        |              |             | Chhuikhadan | Majgaon           | 44                     | 207                     | 53                     | 249                     |
| 374        |              |             | Chhuikhadan | Nawagaon          | 63                     | 306                     | 82                     | 390                     |
| 375        |              |             | Chhuikhadan | Tendnbhatha       | 68                     | 359                     | 82                     | 392                     |
| 376        |              |             | Chhuikhadan | Sarodhi           | 82                     | 386                     | 127                    | 500                     |
| 377        |              |             | Chhuikhadan | Kumhi             | 63                     | 267                     | 73                     | 328                     |
| 378        |              |             | Chhuikhadan | Marka Tola        | 12                     | 39                      | 11                     | 47                      |
| 379        |              |             | Chhuikhadan | Bhave             | 52                     | 249                     | 68                     | 309                     |
| 380        |              |             | Chhuikhadan | Kohkadih          | Na                     | Na                      | Na                     | Na                      |
| 381        |              |             | Chhuikhadan | Bardih            | Na                     | Na                      | Na                     | Na                      |
| 382        |              |             | Chhuikhadan | Sohariya          | Na                     | Na                      | Na                     | Na                      |
| 383        |              |             | Chhuikhadan | Kolambo           | Na                     | Na                      | Na                     | Na                      |
| 384        |              |             | Chhuikhadan | Khamhardih        | Na                     | Na                      | Na                     | Na                      |
| 385        |              |             | Chhuikhadan | Churii            | Na                     | Na                      | Na                     | Na                      |
| 386        | Dongargarh   |             |             | Khursipar Kalan   | 87                     | 392                     | 118                    | 479                     |
| 387        | Dongargarh   |             |             | Kurejhar          | 26                     | 117                     | 30                     | 121                     |
| 388        | Dongargarh   |             |             | Khampura          | 84                     | 454                     | 112                    | 557                     |
| 389        | Dongargarh   |             |             | Piparkhar Kalan   | 114                    | 550                     | 155                    | 691                     |
| 390        | Dongargarh   |             |             | Bhagwantola       | 76                     | 394                     | 90                     | 466                     |

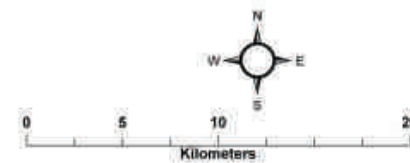
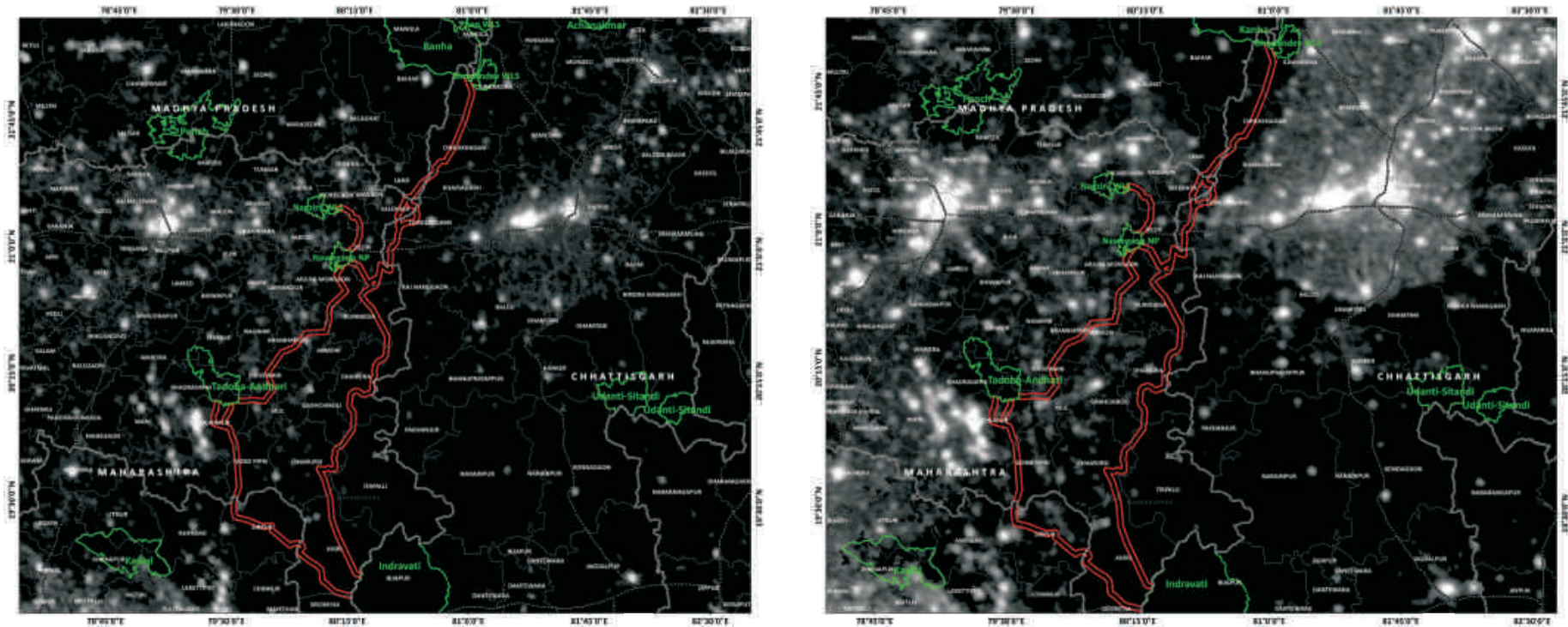
| Village_ID | State | District | Tehsil      | Village                   | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|-------------|---------------------------|------------------------|-------------------------|------------------------|-------------------------|
| 391        |       |          | Dongargarh  | Bhursatola                | 68                     | 289                     | 81                     | 336                     |
| 392        |       |          | Dongargarh  | Banspahad                 | 84                     | 419                     | 103                    | 506                     |
| 393        |       |          | Dongargarh  | Pithar                    | 22                     | 93                      | 24                     | 111                     |
| 394        |       |          | Dongargarh  | Murarpani                 | Na                     | Na                      | Na                     | Na                      |
| 395        |       |          | Dongargarh  | Damaudahra                | 62                     | 270                     | 67                     | 314                     |
| 396        |       |          | Dongargarh  | Pitepani                  | 199                    | 907                     | 261                    | 1149                    |
| 397        |       |          | Dongargarh  | Bhalukonha                | 42                     | 214                     | 49                     | 242                     |
| 398        |       |          | Rajnandgaon | Pendrideeh                | 109                    | 532                     | 146                    | 717                     |
| 399        |       |          | Dongargarh  | Tot Kasa                  | 95                     | 456                     | 110                    | 584                     |
| 400        |       |          | Dongargarh  | Alidand                   | 75                     | 351                     | 89                     | 474                     |
| 401        |       |          | Dongargarh  | Ghodtalab                 | 84                     | 363                     | 95                     | 422                     |
| 402        |       |          | Dongargarh  | Gundri                    | Na                     | Na                      | 3                      | 12                      |
| 403        |       |          | Rajnandgaon | Ghodatalab                | 188                    | 819                     | 274                    | 1102                    |
| 404        |       |          | Rajnandgaon | Telinbandha               | 181                    | 907                     | 241                    | 1187                    |
| 405        |       |          | Rajnandgaon | Khobha                    | 323                    | 1487                    | 421                    | 1878                    |
| 406        |       |          | Rajnandgaon | Anko                      | 107                    | 488                     | 130                    | 553                     |
| 407        |       |          | Rajnandgaon | Job                       | 199                    | 898                     | 249                    | 1088                    |
| 408        |       |          | Rajnandgaon | Hetackasa                 | 10                     | 63                      | 14                     | 41                      |
| 409        |       |          | Rajnandgaon | Bijepar                   | 94                     | 460                     | 127                    | 655                     |
| 410        |       |          | Rajnandgaon | Jhadi Khairi              | 131                    | 646                     | 147                    | 777                     |
| 411        |       |          | Rajnandgaon | Bendandi                  | 103                    | 445                     | 116                    | 578                     |
| 412        |       |          | Rajnandgaon | Khedepar                  | 25                     | 127                     | 32                     | 155                     |
| 413        |       |          | Manpur      | Mardagota                 | 10                     | 47                      | 18                     | 105                     |
| 414        |       |          | Manpur      | Tukam                     | 18                     | 110                     | 24                     | 123                     |
| 415        |       |          | Rajnandgaon | Ghorda                    | Na                     | Na                      | Na                     | Na                      |
| 416        |       | Kawardha | Kawardha    | Barendipani               | 31                     | 133                     | 37                     | 214                     |
| 417        |       |          | Kawardha    | Bandukunda Alias Siliyari | 20                     | 112                     | 34                     | 175                     |
| 418        |       |          | Kawardha    | Dariya                    | 47                     | 245                     | 76                     | 338                     |
| 419        |       |          | Kawardha    | Sonwahi                   | 65                     | 341                     | 131                    | 569                     |
| 420        |       |          | Kawardha    | Bodalpani                 | 117                    | 585                     | 142                    | 650                     |



| Village_ID | State          | District | Tehsil   | Village      | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|----------------|----------|----------|--------------|------------------------|-------------------------|------------------------|-------------------------|
| 421        |                |          | Kawardha | Plot Rol     | 15                     | 58                      | 16                     | 65                      |
| 422        |                |          | Kawardha | Barela       | 7                      | 37                      | 14                     | 56                      |
| 423        |                |          | Kawardha | Khamraha     | 15                     | 59                      | 30                     | 123                     |
| 424        |                |          | Kawardha | Padari Pani  | 59                     | 225                     | 77                     | 294                     |
| 425        |                |          | Kawardha | Minminiya    | 67                     | 319                     | 105                    | 420                     |
| 426        |                |          | Kawardha | Kanhari      | 69                     | 320                     | 108                    | 440                     |
| 427        |                |          | Kawardha | Ghathola     | 9                      | 40                      | Na                     | Na                      |
| 428        |                |          | Kawardha | Kurma        | 37                     | 148                     | 43                     | 182                     |
| 429        |                |          | Kawardha | Bigarbharri  | 19                     | 128                     | 37                     | 138                     |
| 430        |                |          | Kawardha | Saral Patera | 86                     | 408                     | 125                    | 504                     |
| 431        |                |          | Kawardha | Songhari     | 91                     | 449                     | 101                    | 553                     |
| 432        |                |          | Kawardha | Bakharipani  | Na                     | Na                      | Na                     | Na                      |
| 433        | Madhya Pradesh | Balaghat | Lanji    | Danditola    | Na                     | Na                      | Na                     | Na                      |
| 434        |                |          | Lanji    | Mukatola     | Na                     | Na                      | Na                     | Na                      |
| 435        |                |          | Lanji    | Tatikalán    | 30                     | 146                     | 52                     | 233                     |
| 436        |                |          | Lanji    | Katiparkalan | 25                     | 131                     | 32                     | 124                     |
| 437        |                |          | Lanji    | Bapi(bareli) | Na                     | Na                      | Na                     | Na                      |
| 438        |                |          | Lanji    | Bapi(bordi)  | Na                     | Na                      | Na                     | Na                      |
| 439        |                |          | Lanji    | Baigatola    | Na                     | Na                      | Na                     | Na                      |
| 440        |                |          | Lanji    | Sitapala     | Na                     | Na                      | Na                     | Na                      |
| 441        |                |          | Lanji    | Nawagarh     | Na                     | Na                      | Na                     | Na                      |
| 442        |                |          | Lanji    | Janwahi      | Na                     | Na                      | Na                     | Na                      |
| 443        |                |          | Lanji    | Baghnadi     | Na                     | Na                      | Na                     | Na                      |
| 444        |                |          | Lanji    | Lendehhari   | Na                     | Na                      | Na                     | Na                      |
| 445        |                |          | Lanji    | Ghoghra      | Na                     | Na                      | Na                     | Na                      |
| 446        |                |          | Lanji    | Dudamjhiriya | Na                     | Na                      | Na                     | Na                      |
| 447        |                |          | Lanji    | Lanjitola    | Na                     | Na                      | Na                     | Na                      |
| 448        |                |          | Lanji    | Lodhiwada    | Na                     | Na                      | Na                     | Na                      |
| 449        |                |          | Lanji    |              | Na                     | Na                      | Na                     | Na                      |
| 450        |                |          | Baihar   |              | 29                     | 157                     | 42                     | 193                     |



**Figure 2.38:**  
*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Kanha-Navegaon-Nagzira-Tadoba-Indravati*



**Figure 2.39:**

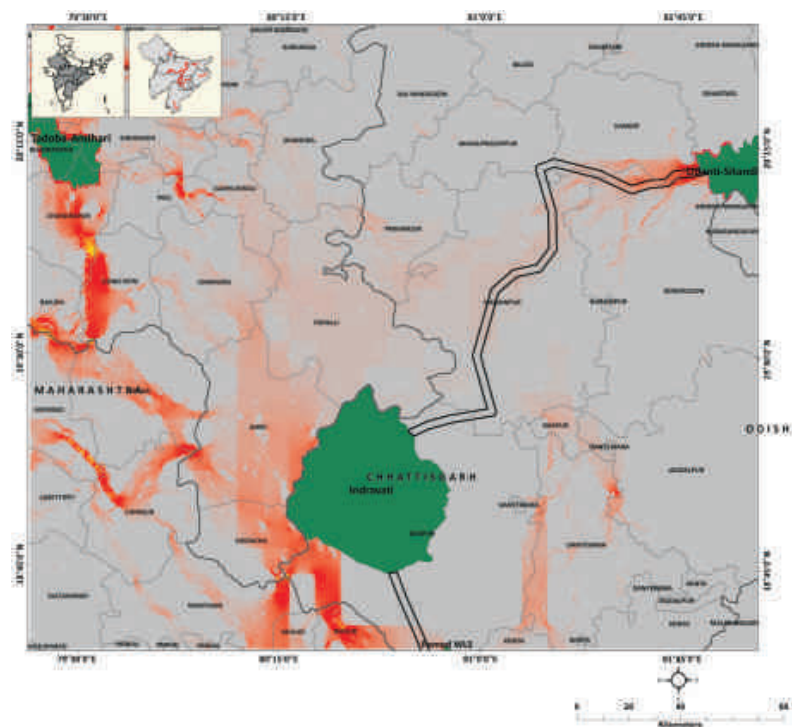
Human habitation as depicted by nightlights within the Kanha-Navegaon-Nagzira-Tadoba-Indravati landscape in the year 1992 and 2012

# INDRAVATI-UDANTI-SITANADI-SUNEBEDA

Currently the tiger population in this landscape is low with Indravati not being assessed due to insurgency. However due to the sheer size of the landscape the area has high potential for tiger conservation in the future. The landscape also holds the last pure gene pool of the Asiatic wild swamp buffalo. The area is ridden with poverty and therefore biotic pressure on the forest and the corridor are high. With government driven economic incentives and social upliftment these pressures are likely to reduce in the future giving a chance to wildlife for recuperation. Currently the national and state highways that pass through the corridor do not pose to be a barrier but care needs to be taken for control of development along these linear features, as is happening along national highway number 43. This area also has potential for mineral extraction and care need to be taken that appropriate mitigation measures are implemented when granting permissions to such projects so as not to compromise on the conservation objectives of this corridor.

## Indravati - Pamed WLS

Currently the habitat connectivity between Indravati and Pamed WLS is good and should enable wildlife to move between these protected areas with ease. However, in the future infrastructural development in this region should consider the importance of incorporating wildlife friendly mitigation measures so that the corridor value of the habitat is not compromised.

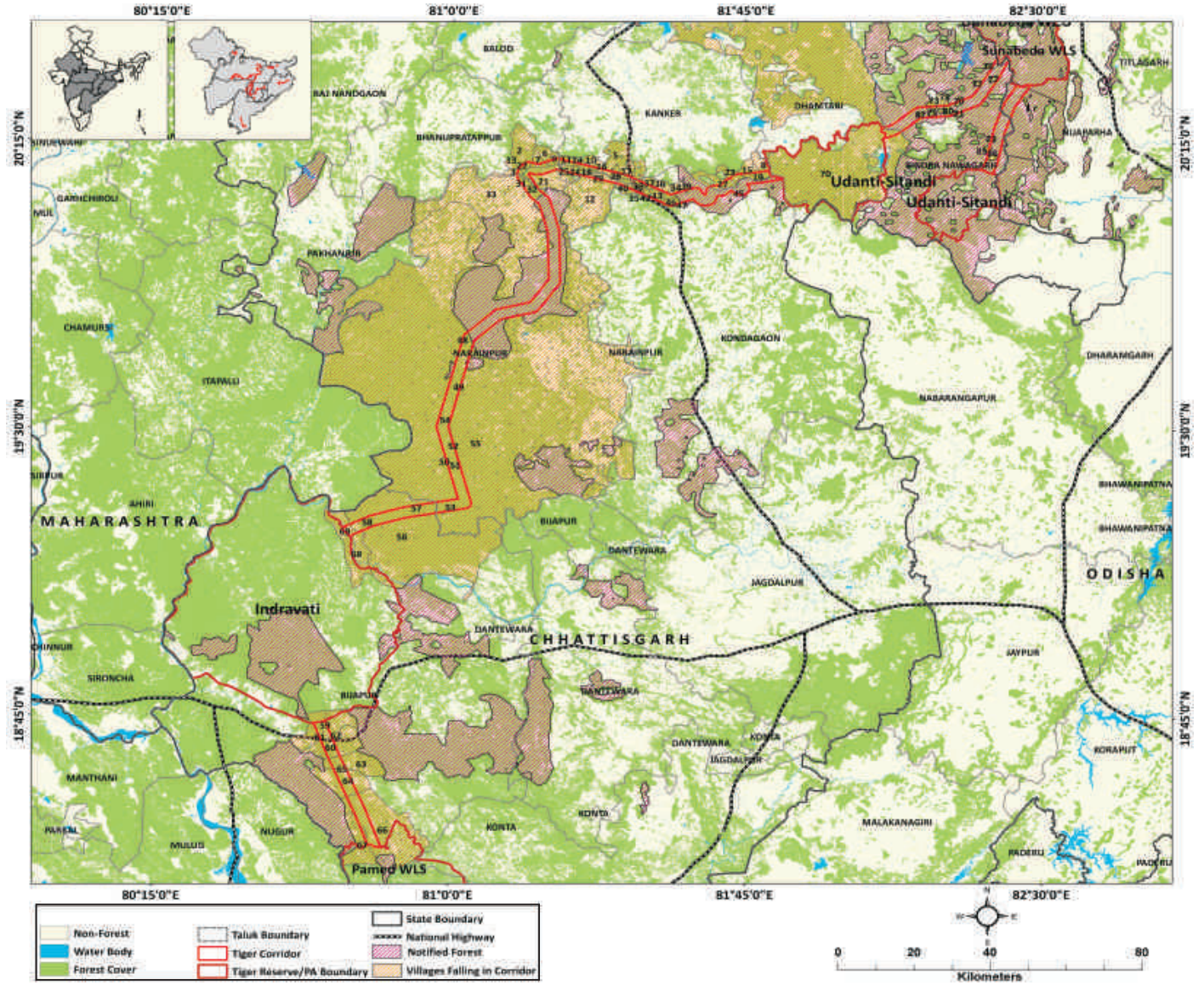


**Figure 2.40:**  
Potential habitat connectivity for tiger movement between Indravati- Udanti-Sitanadi-Sunebeda Corridor as depicted by CIRCUITSCAPE

| Indravati-Udanti-Sitanadi-Sunebeda |   |
|------------------------------------|---|
| <b>Habitat size</b>                | 41211 Km <sup>2</sup>   |
| <b>Source Population</b>           | NA  |
| <b>Size of Source</b>              | NA  |
| <b>Protected Areas</b>             | Indravati Tiger Reserve<br>Udanti-Sitanadi Tiger Reserve<br>Sunebeda WLS<br>Pamed WLS |
| <b>Corridors</b>                   | Indravati-Udanti-Sitanadi<br>Udanti-Sitanadi-Sunebeda<br>Indravati-Pamed WLS          |

**Figure 2.41:**

Least Cost Pathway corridor for Tiger movement between Indravati- Udanti- Sitanadi-Sunebeda overlaid with village map (the village numbers are referenced in Table 2.9)



| Village_ID | State        | District | Tehsil         | Village       | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|--------------|----------|----------------|---------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Odisha       | Nuapada  | Boden          | Patdarha      | 355                    | 1605                    | 405                    | 1830                    |
| 2          | Chhattisgarh | Kanker   | Bhanupratappur | Jalhur        | 5                      | 21                      | 5                      | 18                      |
| 3          |              |          | Bhanupratappur | Kinari        | 101                    | 522                     | 128                    | 546                     |
| 4          |              |          | Bhanupratappur | Kathali       | 68                     | 372                     | 84                     | 412                     |
| 5          |              |          | Kanker         | Chiwranj      | 86                     | 380                     | 90                     | 402                     |
| 6          |              |          | Bhanupratappur | Baskuhud      | 125                    | 600                     | 149                    | 743                     |
| 7          |              |          | Bhanupratappur | Niche Tonka   | 31                     | 165                     | 37                     | 170                     |
| 8          |              |          | Narharpur      | Basanwahi     | 565                    | 2970                    | 672                    | 3260                    |
| 9          |              |          | Bhanupratappur | Banoli        | 69                     | 302                     | 83                     | 348                     |
| 10         |              |          | Kanker         | Pidhapal      | 229                    | 1039                    | 247                    | 1202                    |
| 11         |              |          | Kanker         | Kotgaon(uper) | 5                      | 28                      | 13                     | 67                      |
| 12         |              |          | Antahgarh      |               | NA                     | NA                      | NA                     | NA                      |
| 13         |              |          | Bhanupratappur | Kuwapani      | 120                    | 608                     | 151                    | 701                     |
| 14         |              |          | Kanker         | Kumkakudum    | 6                      | 36                      | 6                      | 46                      |
| 15         |              |          | Narharpur      | Bangabari     | 228                    | 1108                    | 302                    | 1240                    |
| 16         |              |          | Kanker         | Tultuli       | 149                    | 732                     | 171                    | 754                     |
| 17         |              |          | Kanker         | Iradah        | 92                     | 523                     | 108                    | 572                     |
| 18         |              |          | Kanker         | Kanagaon      | 58                     | 279                     | 70                     | 339                     |
| 19         |              |          | Narharpur      | Sainunda      | 214                    | 1056                    | 238                    | 1140                    |
| 20         |              |          | Bhanupratappur | Uper Tonka    | 37                     | 186                     | 51                     | 268                     |
| 21         |              |          | Bhanupratappur | Dhaneli       | 144                    | 813                     | 168                    | 931                     |
| 22         |              |          | Bhanupratappur | Bhurka        | 33                     | 156                     | 33                     | 143                     |
| 23         |              |          | Narharpur      | Tiriyarpani   | 39                     | 160                     | 57                     | 217                     |
| 24         |              |          | Kanker         | Murragaon     | 36                     | 190                     | 36                     | 205                     |
| 25         |              |          | Kanker         | Bhaishaon     | 63                     | 308                     | 89                     | 449                     |
| 26         |              |          | Kanker         | Mujalgondi    | 9                      | 49                      | 10                     | 50                      |
| 27         |              |          | Narharpur      | Nishanharra   | 56                     | 313                     | 82                     | 401                     |
| 28         |              |          | Kanker         | Malajkudum    | 51                     | 269                     | 57                     | 315                     |
| 29         |              |          | Antahgarh      | Marmakonadi   | 7                      | 43                      | 10                     | 46                      |

**Table 2.9.**

*Villages within the Least Cost Pathway Corridor connecting Indravati-Udanti-Sitanadi-Sunebeda as shown in Fig. 2.41*



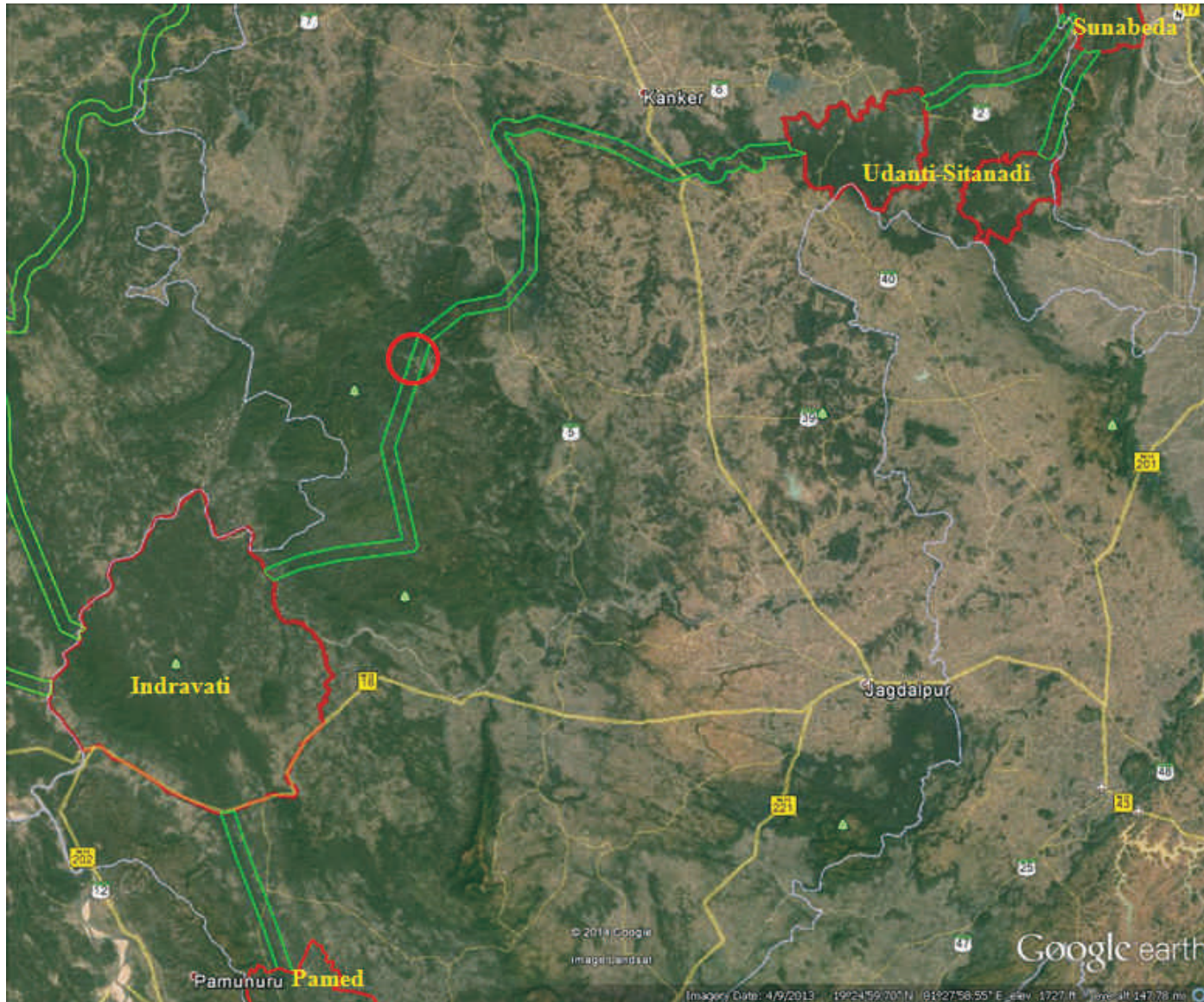
| Village_ID | State | District  | Tehsil     | Village           | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|-----------|------------|-------------------|------------------------|-------------------------|------------------------|-------------------------|
| 30         |       |           | Antahgarh  | Gumjhir           | 70                     | 368                     | 81                     | 434                     |
| 31         |       |           | Antahgarh  | Bulawand          | 118                    | 581                     | 176                    | 740                     |
| 32         |       |           | Antahgarh  | Garda             | 21                     | 129                     | 30                     | 146                     |
| 33         |       |           | Antahgarh  |                   | NA                     | NA                      | NA                     | NA                      |
| 34         |       | Bastar    | Keshkal    | Mahurbeda         | 21                     | 125                     | 33                     | 156                     |
| 35         |       |           | Keshkal    | Kupagondi         | 25                     | 126                     | 26                     | 153                     |
| 36         |       |           | Keshkal    | Khalemurvend      | 189                    | 886                     | 219                    | 992                     |
| 37         |       |           | Keshkal    | Kukdadah          | 49                     | 246                     | 65                     | 301                     |
| 38         |       |           | Keshkal    | Umaradah          | 23                     | 124                     | 23                     | 135                     |
| 39         |       |           | Keshkal    | Chiprel           | 184                    | 899                     | 212                    | 1032                    |
| 40         |       |           | Keshkal    | Matenga           | 57                     | 342                     | 69                     | 363                     |
| 41         |       |           | Keshkal    | Farasgaon(murnar) | 68                     | 315                     | 74                     | 360                     |
| 42         |       |           | Keshkal    | Sendurmeta        | 19                     | 101                     | 25                     | 131                     |
| 43         |       |           | Keshkal    | Uparmurvend       | 70                     | 334                     | 83                     | 411                     |
| 44         |       |           | Keshkal    | Dadargadh         | 35                     | 146                     | 33                     | 161                     |
| 45         |       |           | Keshkal    | Baijanpuri        | 170                    | 787                     | 242                    | 1060                    |
| 46         |       |           | Keshkal    | GarhSiliyara      | 35                     | 177                     | NA                     | NA                      |
| 47         |       |           | Keshkal    | Surdongar         | 602                    | 2813                    | NA                     | NA                      |
| 48         |       |           | Narayanpur | Kumnar            | 2                      | 10                      | 2                      | 14                      |
| 49         |       |           | Narayanpur | Jubada            | 93                     | 461                     | 104                    | 503                     |
| 50         |       |           | Narayanpur | Gummarka          | 22                     | 124                     | 49                     | 221                     |
| 51         |       |           | Narayanpur | Farasbeda         | 22                     | 121                     | 27                     | 133                     |
| 52         |       |           | Narayanpur | Kodnar            | 22                     | 107                     | 45                     | 194                     |
| 53         |       |           | Narayanpur | Harbel            | 35                     | 174                     | 41                     | 207                     |
| 54         |       |           | Narayanpur |                   | NA                     | NA                      | NA                     | NA                      |
| 55         |       |           | Narayanpur |                   | NA                     | NA                      | NA                     | NA                      |
| 56         |       | Dantewada | Bijapur    | Murumwada         | 48                     | 248                     | 56                     | 281                     |
| 57         |       |           | Bijapur    | Jatlur            | 72                     | 335                     | 80                     | 355                     |
| 58         |       |           | Bijapur    | Padmeta           | 27                     | 150                     | 28                     | 171                     |

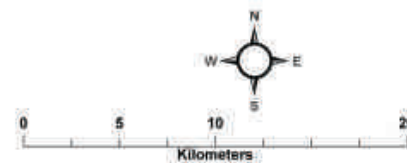
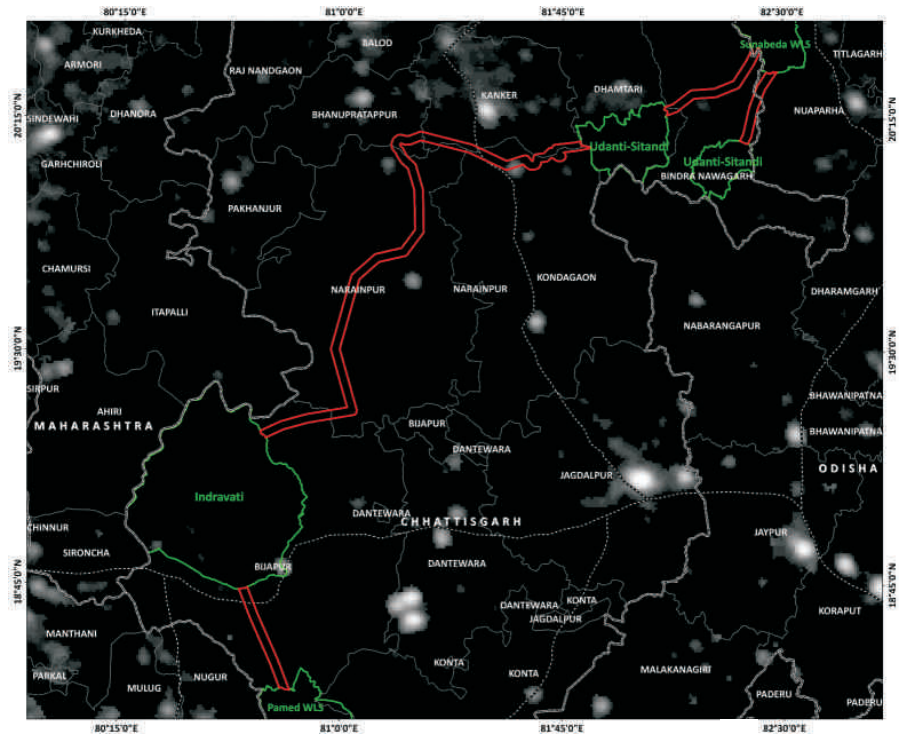
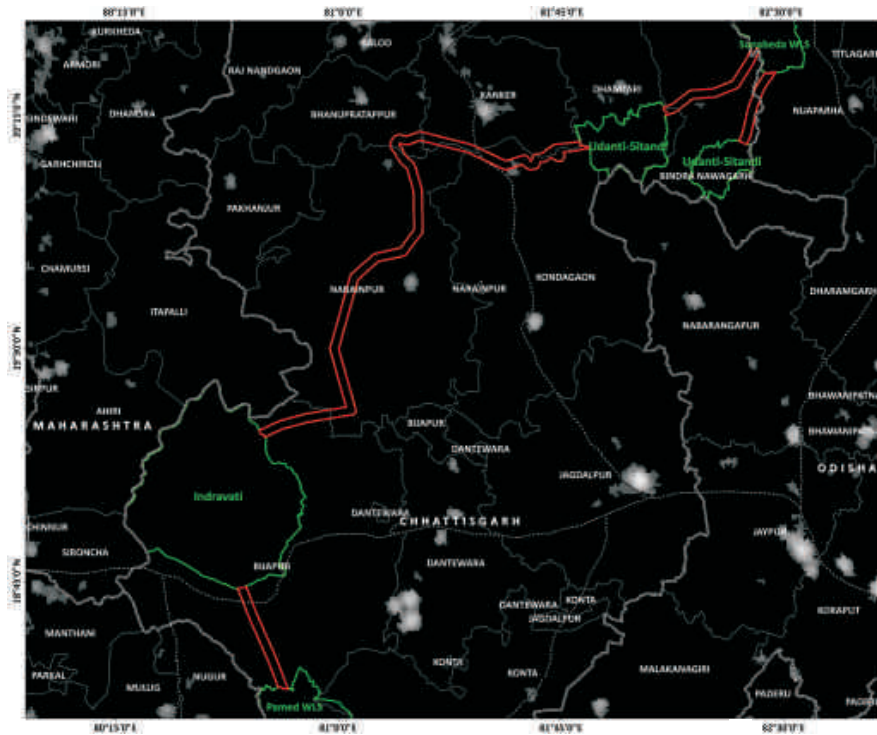
| Village_ID | State | District | Tehsil         | Village             | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|----------------|---------------------|------------------------|-------------------------|------------------------|-------------------------|
| 59         |       |          | Bhopalpattanam | Sandrel             | 43                     | 288                     | 67                     | 300                     |
| 60         |       |          | Bhopalpattanam | Bhandarpal          | 54                     | 236                     | 68                     | 254                     |
| 61         |       |          | Bhopalpattanam | Pawrel              | 84                     | 429                     | 124                    | 472                     |
| 62         |       |          | Bhopalpattanam | Dharavaram          | 45                     | 230                     | 52                     | 263                     |
| 63         |       |          | Bhopalpattanam | Penkram             | 72                     | 311                     | 84                     | 320                     |
| 64         |       |          | Bhopalpattanam | Ilmidi              | 330                    | 1628                    | 360                    | 1797                    |
| 65         |       |          | Bhopalpattanam | Chintakonta         | 105                    | 536                     | 117                    | 623                     |
| 66         |       |          | Bhopalpattanam | Bhusapur(bhusaguda) | 46                     | 227                     | 64                     | 272                     |
| 67         |       |          | Bhopalpattanam | Galgam              | 69                     | 355                     | 72                     | 314                     |
| 68         |       |          | Bijapur        |                     | NA                     | NA                      | NA                     | NA                      |
| 69         |       |          | Bijapur        | Telaunugur          | 7                      | 30                      | 5                      | 24                      |
| 70         |       | Dhamtari | Kurud          | MulgaonF.v.         | 54                     | 279                     | 108                    | 409                     |
| 71         |       | Raipur   | Bindranawagarh | Besrajhar           | 41                     | 184                     | 41                     | 161                     |
| 72         |       |          | Bindranawagarh | Nagarar             | 23                     | 129                     | 40                     | 164                     |
| 73         |       |          | Bindranawagarh | Dhawalpurdih        | 458                    | 2016                    | 673                    | 2456                    |
| 74         |       |          | Bindranawagarh | Jarandih            | 43                     | 214                     | 65                     | 238                     |
| 75         |       |          | Bindranawagarh | Mohanda             | 274                    | 1277                    | 374                    | 1477                    |
| 76         |       |          | Bindranawagarh | Toribhui            | 5                      | 18                      | 5                      | 20                      |
| 77         |       |          | Bindranawagarh | Amamora             | 65                     | 343                     | 105                    | 406                     |
| 78         |       |          | Bindranawagarh | Jangaldhawaipur     | 128                    | 560                     | 160                    | 588                     |
| 79         |       |          | Bindranawagarh | Bodapala            | 10                     | 55                      | 15                     | 62                      |
| 80         |       |          | Bindranawagarh | Dabnai              | 48                     | 264                     | 66                     | 299                     |
| 81         |       |          | Bindranawagarh | Farsara             | 30                     | 112                     | 28                     | 104                     |
| 82         |       |          | Bindranawagarh | Tupenga             | 9                      | 28                      | 12                     | 43                      |
| 83         |       |          | Bindranawagarh | Chhindola           | 52                     | 275                     | 78                     | 297                     |
| 84         |       |          | Bindranawagarh | Matarmal            | NA                     | NA                      | NA                     | NA                      |
| 85         |       |          | Bindranawagarh | Nartora             | NA                     | NA                      | NA                     | NA                      |
| 86         |       |          | Bindranawagarh | Kodomal             | NA                     | NA                      | NA                     | NA                      |
| 87         |       | Raipur   | Bindranawagarh | Satmar              | NA                     | NA                      | NA                     | NA                      |



**Figure 2.42:**

*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Indravati-Udanti-Sitanadi-Sunabeda*





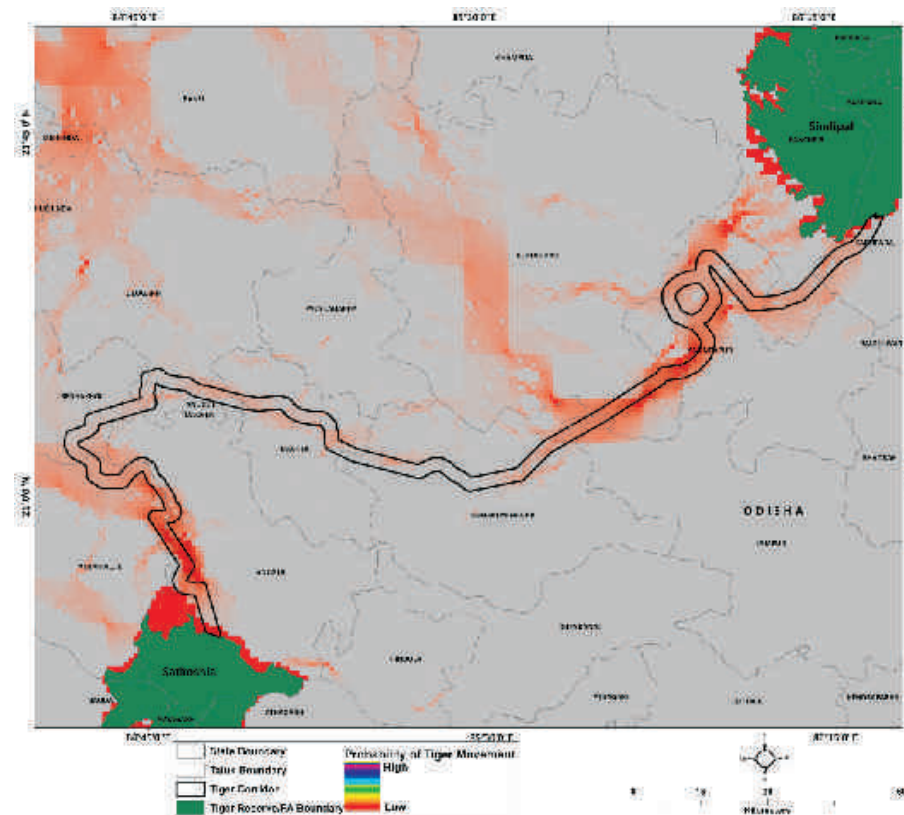
**Figure 2.43:**  
 Human habitation as depicted by nightlights within the Indravati-Udanti-Sitanadi-Sunebeda landscape in the year 1992 and 2012

# SIMLIPAL-SATKOSIA

**Figure 2.44:**

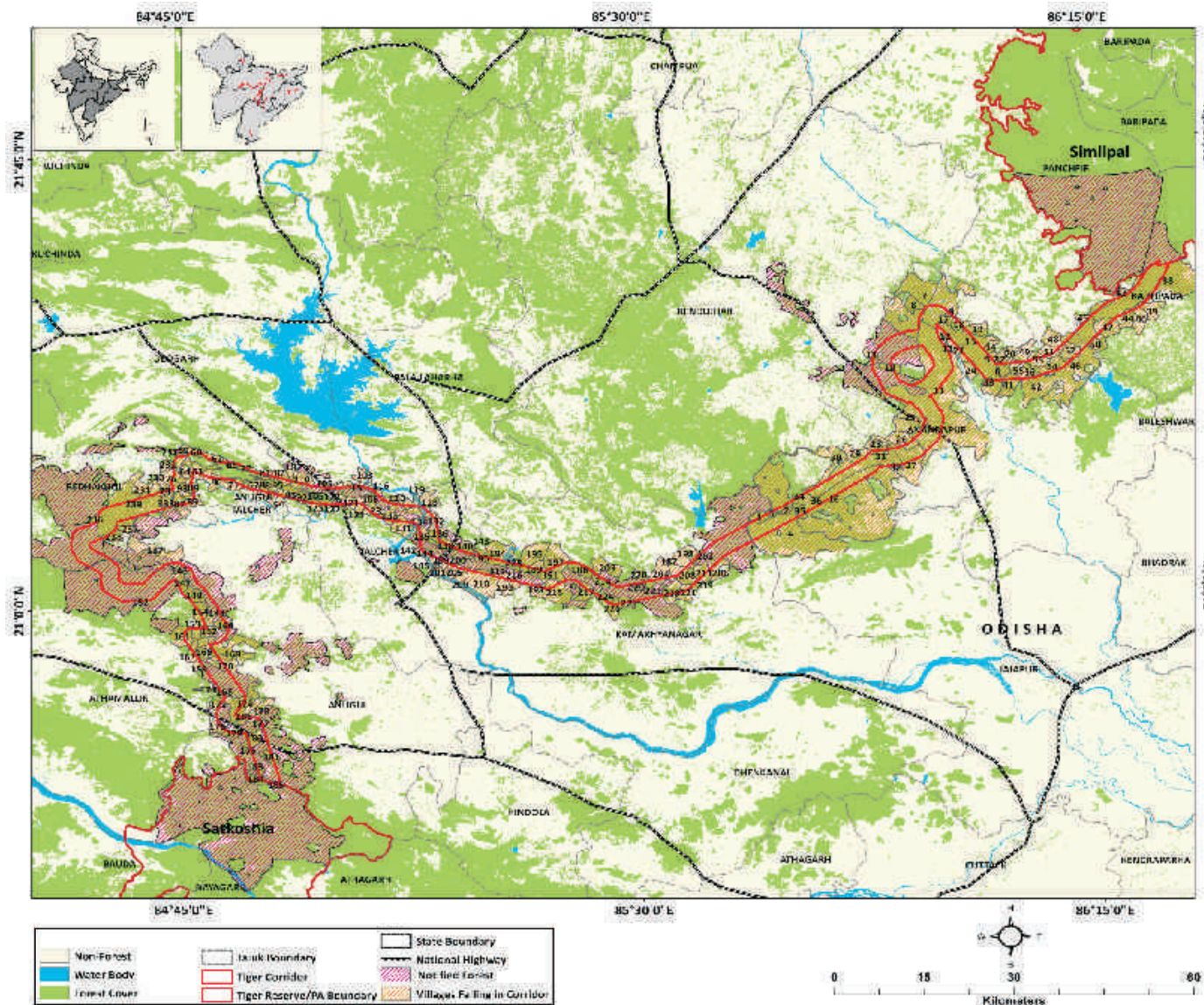
Potential habitat connectivity for tiger movement between Simlipal-Satkosia Corridor as depicted by CIRCUITSCAPE model

Currently tiger densities in both Simlipal and Satkosia are depressed and there is lack of a source population to ensure tiger occupancy within the larger landscape. Considering that with appropriate protection and managerial inputs tiger populations in both these reserves will revive, then their long term survival would depend on gene flow between these populations. Besides Satkosia and Simlipal habitat connectivity with Hadagad WLS and Kapilas WLS need to be recognized and protected. The corridor between Satkosia and Simlipal is tenuous, long and consists of fragmented forests patches interspersed with agriculture, mines and varied human uses like thermal power plant. Major restorative inputs are required in this landscape to keep this corridor functional.



### Simlipal-Satkosia

|                          |                       |
|--------------------------|-----------------------|
| <b>Habitat size</b>      | 34057 Km <sup>2</sup> |
| <b>Source Population</b> | Simlipal              |
| <b>Size of Source</b>    | 12-34                 |
| <b>Protected Areas</b>   | Simlipal<br>Satkosia  |
| <b>Corridors</b>         | Simlipal-Satkosia     |



**Figure 2.45:**

Least Cost Pathway corridor for Tiger movement between Simlipal-Satkosia overlaid with village map (the village numbers are referenced in Table 2.10)

| Village_ID | State  | District  | Tehsil         | Village      | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|--------|-----------|----------------|--------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Odisha | Jajapur   | Sukinda        | Nagada       | 56                     | 247                     | 55                     | 307                     |
| 2          |        |           | Sukinda        | Guhiasal     | 45                     | 241                     | 32                     | 155                     |
| 3          |        |           | Sukinda        | Rahangi      | NA                     | NA                      | NA                     | NA                      |
| 4          |        |           | Sukinda        |              | NA                     | NA                      | NA                     | NA                      |
| 5          |        | Kendujhar | Anandapur(P)   | Kontala      | 41                     | 230                     | 66                     | 271                     |
| 6          |        |           | Anandapur(P)   | Gendaliabasa | 29                     | 147                     | 29                     | 140                     |
| 7          |        |           | Ghatgaon       | Baiganpal    | 264                    | 1204                    | 368                    | 1492                    |
| 8          |        |           | Ghatgaon       | Banmahuldiha | 179                    | 864                     | 217                    | 986                     |
| 9          |        |           | Anandapur(P)   | Palabani     | 26                     | 154                     | 42                     | 201                     |
| 10         |        |           | Ghatgaon       | Balijodi     | 170                    | 971                     | 224                    | 1133                    |
| 11         |        |           | Ghasipura      | Salukdahi    | 64                     | 341                     | 74                     | 310                     |
| 12         |        |           | Ghasipura      | Dargudisila  | 78                     | 329                     | 89                     | 373                     |
| 13         |        |           | Ghatgaon       | Upardiha     | 473                    | 2443                    | 740                    | 3238                    |
| 14         |        |           | Anandapur(P)   | Badudighara  | 70                     | 395                     | 86                     | 455                     |
| 15         |        |           | Anandapur(P)   | Hatochapal   | 17                     | 63                      | 39                     | 153                     |
| 16         |        |           | Daitari        | Badajumei    | 21                     | 83                      | 26                     | 127                     |
| 17         |        |           | Anandapur(P)   | Baigundi     | 62                     | 359                     | 79                     | 404                     |
| 18         |        |           | Anandapur(P)   | Panasijharan | 158                    | 766                     | 209                    | 893                     |
| 19         |        |           | Anandapur(P)   | Baniajodi    | 188                    | 973                     | 249                    | 1214                    |
| 20         |        |           | Anandapur(P)   | Bhalughara   | 132                    | 642                     | 152                    | 610                     |
| 21         |        |           | Anandapur(P)   | Singanali    | 37                     | 177                     | 49                     | 264                     |
| 22         |        |           | Anandapur(P)   | Kantala      | 47                     | 255                     | 48                     | 222                     |
| 23         |        |           | Anandapur(P)   | Haribeda     | 23                     | 131                     | 31                     | 160                     |
| 24         |        |           | Anandapur(P)   | Santospur    | 121                    | 610                     | 136                    | 621                     |
| 25         |        |           | Harichandanpur | Billa        | 313                    | 1767                    | 478                    | 2367                    |
| 26         |        |           | Harichandanpur | Sagadapata   | 499                    | 2403                    | 595                    | 2708                    |
| 27         |        |           | Harichandanpur | Barigaon     | 211                    | 1127                    | 273                    | 1241                    |
| 28         |        |           | Harichandanpur | Hayarapur    | 69                     | 397                     | 110                    | 540                     |
| 29         |        |           | Harichandanpur | Gounighasa   | 217                    | 1104                    | 369                    | 1424                    |
| 30         |        |           | Daitari        | Suakati      | 80                     | 454                     | 114                    | 594                     |

**Table 2.10:**  
Villages within the Least Cost Pathway Corridor connecting Simlipal-Satkosia as shown in Fig. 2.45

| Village_ID | State | District   | Tehsil         | Village                     | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|------------|----------------|-----------------------------|------------------------|-------------------------|------------------------|-------------------------|
| 31         |       |            | Harichandanpur | Palabani                    | 51                     | 236                     | 42                     | 201                     |
| 32         |       |            | Harichandanpur | Gaduana                     | 113                    | 539                     | 144                    | 691                     |
| 33         |       |            | Anandapur(P)   | Mandapada                   | 20                     | 119                     | 31                     | 148                     |
| 34         |       |            | Daitari        | Revana(kha)                 | 50                     | 257                     | 63                     | 271                     |
| 35         |       |            | Daitari        | Talapada                    | 112                    | 553                     | 205                    | 969                     |
| 36         |       |            | Daitari        | Sandhiaposi                 | NA                     | NA                      | NA                     | NA                      |
| 37         |       |            | Anandapur(P)   | Gendabasa                   | NA                     | NA                      | NA                     | NA                      |
| 38         |       | Mayurbhanj | Udala          | Hillblock No.24             | 261                    | 1388                    | 352                    | 1593                    |
| 39         |       |            | Sharata        | Gourchandrapur              | 453                    | 2354                    | 549                    | 2817                    |
| 40         |       |            | Sharata        | Sarat                       | 626                    | 3349                    | 786                    | 3899                    |
| 41         |       |            | Mahuldiha      | Sat Kosia Forest Cluster    | 64                     | 323                     | 87                     | 373                     |
| 42         |       |            | Mahuldiha      | Duara Suni                  | 84                     | 531                     | 125                    | 602                     |
| 43         |       |            | Mahuldiha      | Patar Pada                  | 49                     | 413                     | 59                     | 606                     |
| 44         |       |            | Sharata        | Skadabahali                 | 240                    | 1296                    | 302                    | 1557                    |
| 45         |       |            | Mahuldiha      | Pana Posi                   | 123                    | 550                     | 134                    | 603                     |
| 46         |       |            | Mahuldiha      | Asur Khal                   | 91                     | 507                     | 112                    | 616                     |
| 47         |       |            | Sharata        | Noto                        | 323                    | 1658                    | 373                    | 1705                    |
| 48         |       |            | Mahuldiha      | Goudia Bahali               | 180                    | 916                     | 209                    | 975                     |
| 49         |       |            | Mahuldiha      | Ghulu Ghulia                | 291                    | 1525                    | 398                    | 2120                    |
| 50         |       |            | Mahuldiha      | Jhar Jhari                  | 24                     | 136                     | 36                     | 205                     |
| 51         |       |            | Mahuldiha      | Baula                       | 42                     | 208                     | 58                     | 299                     |
| 52         |       |            | Mahuldiha      | Bhalia Dal                  | 162                    | 877                     | 209                    | 1154                    |
| 53         |       |            | Mahuldiha      | Jamu Nanda                  | 242                    | 1107                    | 290                    | 1405                    |
| 54         |       |            | Mahuldiha      | Bag Dafa                    | 198                    | 1043                    | 252                    | 1152                    |
| 55         |       |            | Mahuldiha      | Sat Kosia                   | 195                    | 1189                    | 326                    | 1658                    |
| 56         |       |            | Mahuldiha      | Satkosia Amalnamahill Block | 41                     | 225                     | 50                     | 240                     |
| 57         |       | Debagarh   | Kundheigola    | Budhapal                    | 251                    | 1333                    | 314                    | 1307                    |
| 58         |       |            | Kundheigola    | Garia Pali                  | 32                     | 153                     | 42                     | 205                     |
| 59         |       |            | Reamal         | Poipani                     | 15                     | 70                      | 19                     | 79                      |
| 60         |       |            | Kundheigola    | Rairatan Pur                | 45                     | 221                     | 61                     | 266                     |





| Village_ID | State | District | Tehsil      | Village            | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|-------------|--------------------|------------------------|-------------------------|------------------------|-------------------------|
| 61         |       |          | Kundheigola | Mamurikhola        | 14                     | 57                      | 29                     | 114                     |
| 62         |       |          | Kundheigola | Khanda Dhua        | 97                     | 393                     | 94                     | 366                     |
| 63         |       |          | Kundheigola | Pancha Mahala      | 53                     | 276                     | 58                     | 279                     |
| 64         |       |          | Kundheigola | Kendupal           | 30                     | 155                     | 38                     | 189                     |
| 65         |       |          | Kundheigola | Baidya Sadhu Bahal | 22                     | 106                     | 38                     | 153                     |
| 66         |       |          | Kundheigola | Haldia Khol(k)     | NA                     | NA                      | NA                     | NA                      |
| 67         |       |          | Kundheigola | Talranijharan      | NA                     | NA                      | NA                     | NA                      |
| 68         |       |          | Kundheigola | Baisanalia         | NA                     | NA                      | 1                      | 1                       |
| 69         |       |          | Kundheigola | Katasara           | NA                     | NA                      | NA                     | NA                      |
| 70         |       |          | Kundheigola | Tamkia Khol        | 1                      | 2                       | NA                     | NA                      |
| 71         |       |          | Kundheigola | Srungipal          | 60                     | 313                     | 66                     | 340                     |
| 72         |       |          | Kundheigola | Deo Jharan         | 30                     | 145                     | 37                     | 156                     |
| 73         |       |          | Kundheigola | Duduka Jharan      | 28                     | 156                     | 36                     | 161                     |
| 74         |       |          | Kundheigola | Kadam Jhari        | NA                     | NA                      | NA                     | NA                      |
| 75         |       |          | Kundheigola | Arkha Pal          | 24                     | 125                     | 34                     | 144                     |
| 76         |       |          | Kundheigola | Tungamal           | 155                    | 814                     | 183                    | 893                     |
| 77         |       |          | Kundheigola | Kapagola           | 57                     | 242                     | 61                     | 275                     |
| 78         |       |          | Kundheigola | Kamar Pal          | 83                     | 430                     | 89                     | 378                     |
| 79         |       |          | Kundheigola | Gurujanga          | 87                     | 423                     | 113                    | 481                     |
| 80         |       |          | Kundheigola | Kundheigola        | 336                    | 1722                    | 420                    | 1808                    |
| 81         |       |          | Kundheigola | Dalak              | 55                     | 274                     | 80                     | 329                     |
| 82         |       |          | Kundheigola | Chhalak            | 60                     | 321                     | 100                    | 520                     |
| 83         |       |          | Kundheigola | Jharadihi(k)       | 44                     | 195                     | 52                     | 233                     |
| 84         |       |          | Kundheigola | Kanjamba           | 90                     | 432                     | 106                    | 516                     |
| 85         |       |          | Kundheigola | Hrudapali          | 13                     | 72                      | 14                     | 71                      |
| 86         |       |          | Kundheigola | Thianal            | 49                     | 259                     | 61                     | 288                     |
| 87         |       |          | Kundheigola | Tutabari           | 41                     | 225                     | 62                     | 307                     |
| 88         |       |          | Kundheigola | Tal Bahal          | 34                     | 205                     | 50                     | 215                     |
| 89         |       |          | Kundheigola | Chadei Mara        | 79                     | 435                     | 115                    | 533                     |
| 90         |       |          | Kundheigola | Tipei Jharan       | 1                      | 1                       | NA                     | NA                      |

| Village_ID | State | District | Tehsil          | Village         | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|-----------------|-----------------|------------------------|-------------------------|------------------------|-------------------------|
| 91         |       |          | Kundheigola     | Jambu Munda     | 48                     | 225                     | 84                     | 346                     |
| 92         |       |          | Kundheigola     | Kankada Jharan  | 21                     | 138                     | 39                     | 183                     |
| 93         |       |          | Kundheigola     | Amba Chua       | 12                     | 51                      | 16                     | 73                      |
| 94         |       |          | Kundheigola     | Para            | 242                    | 1193                    | 334                    | 1285                    |
| 95         |       |          | Kundheigola     | Sunanali        | NA                     | NA                      | 3                      | 11                      |
| 96         |       |          | Kundheigola     | Bhalupal        | NA                     | NA                      | NA                     | NA                      |
| 97         |       |          | Kundheigola     | Uparrani Jharan | NA                     | NA                      | NA                     | NA                      |
| 98         |       |          | Kundheigola     | Kudbila         | NA                     | NA                      | NA                     | NA                      |
| 99         |       |          | Kundheigola     | Mamuritap       | NA                     | NA                      | 5                      | 20                      |
| 100        |       |          | Kundheigola     | Kanjiamba Matha | NA                     | NA                      | NA                     | NA                      |
| 101        |       |          | Kundheigola     | Dhaura Khaman   | NA                     | NA                      | 11                     | 44                      |
| 102        |       | Anugul   | Kaniha          | Gualiar         | 26                     | 111                     | 37                     | 195                     |
| 103        |       |          | Rengali Damsite | Bajrakot        | 624                    | 3134                    | 788                    | 3341                    |
| 104        |       |          | Kaniha          | Palasapasi      | 19                     | 85                      | NA                     | NA                      |
| 105        |       |          | Kaniha          | Nialu           | 99                     | 469                     | 137                    | 520                     |
| 106        |       |          | Chhendipada     | Hariharpur      | 47                     | 244                     | 59                     | 253                     |
| 107        |       |          | Kaniha          | Birabhuin       | 16                     | 90                      | 27                     | 98                      |
| 108        |       |          | Kaniha          | Baudabeda       | 62                     | 327                     | 92                     | 357                     |
| 109        |       |          | Samal Barrage   | Gaunighasa      | 206                    | 1067                    | 305                    | 1125                    |
| 110        |       |          | Kaniha          | Lodhajhari      | 110                    | 514                     | 146                    | 636                     |
| 111        |       |          | Kaniha          | Titirima        | 249                    | 1084                    | 325                    | 1226                    |
| 112        |       |          | Kaniha          | Kendukhaman     | 45                     | 234                     | 67                     | 281                     |
| 113        |       |          | Kaniha          | Andhari         | 21                     | 89                      | 27                     | 95                      |
| 114        |       |          | Kaniha          | Jhadabandha     | 1                      | 4                       | NA                     | NA                      |
| 115        |       |          | Kaniha          | Brahmandei      | 107                    | 520                     | 134                    | 613                     |
| 116        |       |          | Kaniha          | Sunduri         | 95                     | 532                     | 128                    | 520                     |
| 117        |       |          | Kaniha          | Sapakata        | 101                    | 451                     | 134                    | 555                     |
| 118        |       |          | Samal Barrage   | Seepur          | 852                    | 3797                    | 661                    | 2627                    |
| 119        |       |          | Samal Barrage   | Karnapal        | 317                    | 1473                    | 300                    | 1082                    |
| 120        |       |          | Kaniha          | Nalam           | 374                    | 1821                    | 511                    | 1902                    |



| Village_ID | State | District | Tehsil        | Village        | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|---------------|----------------|------------------------|-------------------------|------------------------|-------------------------|
| 121        |       |          | Kaniha        | Atabira        | 15                     | 65                      | 16                     | 82                      |
| 122        |       |          | Chhendipada   | Mandua         | 86                     | 423                     | 118                    | 456                     |
| 123        |       |          | Kaniha        | Bhajipur       | 15                     | 78                      | 23                     | 127                     |
| 124        |       |          | Samal Barrage | Kusumpal       | 117                    | 596                     | 155                    | 609                     |
| 125        |       |          | Chhendipada   | Puriabeda      | 31                     | 127                     | 38                     | 132                     |
| 126        |       |          | Kaniha        | Dalaka         | 54                     | 264                     | 77                     | 330                     |
| 127        |       |          | Chhendipada   | Haribereni     | 53                     | 249                     | 67                     | 314                     |
| 128        |       |          | Kaniha        | Kanumanpur     | 130                    | 743                     | 179                    | 804                     |
| 129        |       |          | Kaniha        | Poipal         | 155                    | 716                     | 185                    | 777                     |
| 130        |       |          | Samal Barrage | Siling         | 137                    | 692                     | 190                    | 756                     |
| 131        |       |          | Kaniha        | Durgapur       | 312                    | 1576                    | 387                    | 1468                    |
| 132        |       |          | Samal Barrage | Parabil        | 410                    | 1928                    | 441                    | 1858                    |
| 133        |       |          | Kaniha        | Kiajhar        | 69                     | 301                     | 84                     | 359                     |
| 134        |       |          | Kaniha        | Talapada       | 235                    | 1193                    | 332                    | 1402                    |
| 135        |       |          | Samal Barrage | Gaham          | 636                    | 2777                    | 576                    | 2504                    |
| 136        |       |          | Samal Barrage | Biru           | 335                    | 1597                    | 452                    | 1858                    |
| 137        |       |          | Chhendipada   | Kanalo         | 410                    | 1953                    | 517                    | 2219                    |
| 138        |       |          | Samal Barrage | Bulajhar       | 91                     | 431                     | 131                    | 477                     |
| 139        |       |          | Samal Barrage | Dadari         | 1                      | 2                       | 3                      | 11                      |
| 140        |       |          | Samal Barrage | Kashia         | 3                      | 17                      | 15                     | 56                      |
| 141        |       |          | Samal Barrage | Dholagandia    | 27                     | 114                     | 34                     | 123                     |
| 142        |       |          | Samal Barrage | Kulei          | 301                    | 1369                    | 362                    | 1486                    |
| 143        |       |          | Samal Barrage | Balijharan     | 32                     | 203                     | 55                     | 227                     |
| 144        |       |          | Samal Barrage | Danarabeda     | 104                    | 517                     | 116                    | 507                     |
| 145        |       |          | Samal Barrage | Tumugola       | 357                    | 1733                    | 253                    | 1131                    |
| 146        |       |          | Handapa       | Laxminpriyapur | 40                     | 162                     | 58                     | 228                     |
| 147        |       |          | Handapa       | Rajanpal       | 34                     | 157                     | 48                     | 177                     |
| 148        |       |          | Handapa       | Golasar        | 57                     | 299                     | 107                    | 433                     |
| 149        |       |          | Handapa       | Baliamba       | 26                     | 126                     | 44                     | 172                     |
| 150        |       |          | Samal Barrage | Jharan         | NA                     | NA                      | NA                     | NA                      |

| Village_ID | State | District | Tehsil        | Village                | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|---------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| 151        |       |          | Kaniha        | Arakhadihi(arakhadahi) | NA                     | NA                      | 20                     | 111                     |
| 152        |       |          | Handapa       | Kholaregada            | 34                     | 169                     | 43                     | 213                     |
| 153        |       |          | Handapa       | Nuaashrubahal          | 26                     | 103                     | 26                     | 115                     |
| 154        |       |          | Handapa       | Madhupur               | 84                     | 404                     | 118                    | 475                     |
| 155        |       |          | Kaniha        | Fulajhari              | NA                     | NA                      | 26                     | 111                     |
| 156        |       |          | Kaniha        | Talabahal              | NA                     | NA                      | NA                     | NA                      |
| 157        |       |          | Samal Barrage | Patramunda             | NA                     | NA                      | NA                     | NA                      |
| 158        |       |          | Kaniha        | Tolakapal              | NA                     | NA                      | NA                     | NA                      |
| 159        |       |          | Handapa       | Parbatipur             | 37                     | 194                     | 54                     | 264                     |
| 160        |       |          | Chhendipada   | Sudagola Sara          | 5                      | 13                      | 7                      | 13                      |
| 161        |       |          | Handapa       | Ichhapur               | 290                    | 1243                    | 354                    | 1316                    |
| 162        |       |          | Handapa       | Ashrubahal             | 106                    | 480                     | 139                    | 596                     |
| 163        |       |          | Handapa       | Nagajharan             | 100                    | 479                     | 115                    | 487                     |
| 164        |       |          | Handapa       | Khandabara             | 88                     | 394                     | 104                    | 482                     |
| 165        |       |          | Handapa       | Badibahal              | 60                     | 291                     | 73                     | 342                     |
| 166        |       |          | Handapa       | Jamunali               | 127                    | 620                     | 174                    | 737                     |
| 167        |       |          | Handapa       | Kadalimunda            | 321                    | 1333                    | 362                    | 1593                    |
| 168        |       |          | Thakurgarh    | Batrakhhol             | 32                     | 195                     | 48                     | 227                     |
| 169        |       |          | Jarapada (P)  | Badamula               | 72                     | 346                     | 89                     | 371                     |
| 170        |       |          | Jarapada (P)  | Katada                 | 361                    | 1715                    | 492                    | 1967                    |
| 171        |       |          | Jarapada (P)  | Kandhakorada           | 41                     | 176                     | 59                     | 251                     |
| 172        |       |          | Purunakot     | Rodasinga              | 153                    | 752                     | 188                    | 885                     |
| 173        |       |          | Thakurgarh    | Ghanamundia            | NA                     | NA                      | NA                     | NA                      |
| 174        |       |          | Jarapada (P)  | Para Forest Beat       | NA                     | NA                      | NA                     | NA                      |
| 175        |       |          | Purunakot     | Sitakoili(siti Koli)   | 35                     | 209                     | 40                     | 206                     |
| 176        |       |          | Purunakot     | Antulia                | 234                    | 1223                    | 295                    | 1295                    |
| 177        |       |          | Purunakot     | Betar                  | 20                     | 129                     | 34                     | 133                     |
| 178        |       |          | Jarapada (P)  | Ogi(ugi)               | 482                    | 2469                    | 596                    | 2445                    |
| 179        |       |          | Purunakot     | Tabada                 | 72                     | 361                     | 108                    | 447                     |
| 180        |       |          | Purunakot     | Kandhakuile            | 79                     | 378                     | 93                     | 435                     |



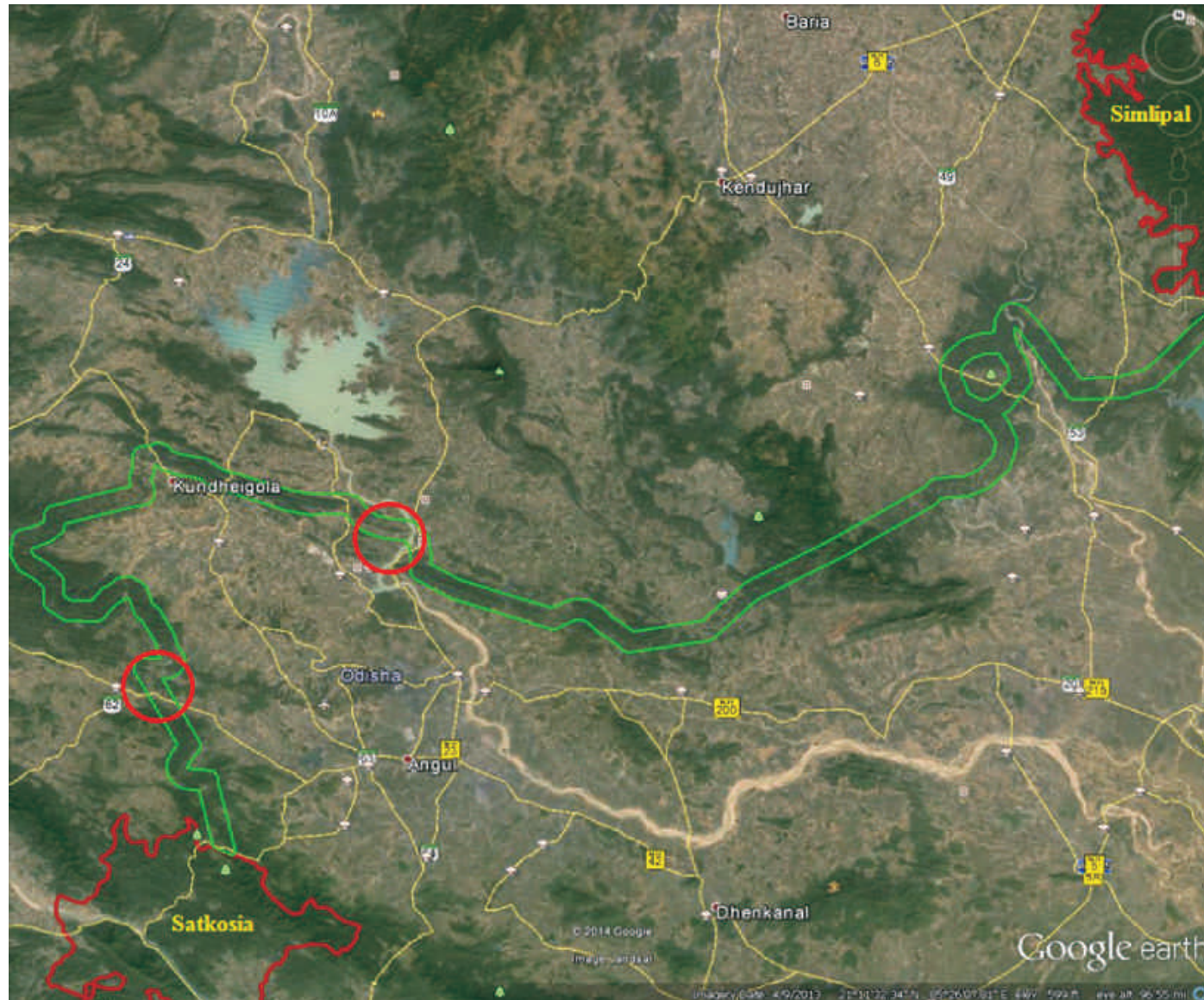
| Village_ID | State | District  | Tehsil             | Village        | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|-----------|--------------------|----------------|------------------------|-------------------------|------------------------|-------------------------|
| 181        |       |           | Purunakot          | Manikajori     | 173                    | 815                     | 207                    | 957                     |
| 182        |       |           | Purunakot          | Khalamba       | 14                     | 70                      | 18                     | 91                      |
| 183        |       |           | Purunakot          | Bruti          | 73                     | 366                     | 103                    | 491                     |
| 184        |       |           | Purunakot          | Jaganathpur    | 245                    | 1171                    | 277                    | 1196                    |
| 185        |       |           | Purunakot          | Hinsrida       | 55                     | 269                     | 64                     | 260                     |
| 186        |       |           | Jarapada (P)       | Parajungle     | 23                     | 139                     | 55                     | 218                     |
| 187        |       | Dhenkanal | Kamakshyanagar (P) | Dangapal       | 236                    | 1255                    | 302                    | 1574                    |
| 188        |       |           | Parajang (P)       | Tampej         | 97                     | 476                     | 108                    | 493                     |
| 189        |       |           | Parajang (P)       | Tipejharan     | 84                     | 354                     | 114                    | 424                     |
| 190        |       |           | Parajang (P)       | Rangathali     | 408                    | 1855                    | 484                    | 2157                    |
| 191        |       |           | Parajang (P)       | Madarnga Munda | 44                     | 192                     | 62                     | 272                     |
| 192        |       |           | Kamakshyanagar (P) | Dansanali      | 38                     | 204                     | 50                     | 259                     |
| 193        |       |           | Parajang (P)       | Padapatia      | 65                     | 327                     | 86                     | 361                     |
| 194        |       |           | Parajang (P)       | Bhejia         | 129                    | 601                     | 170                    | 731                     |
| 195        |       |           | Parajang (P)       | Chandapur      | 477                    | 2272                    | 566                    | 2256                    |
| 196        |       |           | Parajang (P)       | Sundarmundi    | 38                     | 182                     | 53                     | 297                     |
| 197        |       |           | Parajang (P)       | Mahabirod      | 714                    | 3320                    | 854                    | 3612                    |
| 198        |       |           | Kamakshyanagar (P) | Sasapasi       | 302                    | 1386                    | 341                    | 1578                    |
| 199        |       |           | Parajang (P)       | Jaka           | 216                    | 1117                    | 330                    | 1242                    |
| 200        |       |           | Parajang (P)       | Patuapali      | 38                     | 185                     | 51                     | 216                     |
| 201        |       |           | Parajang (P)       | Sarakishor Pal | 265                    | 1240                    | 280                    | 1195                    |
| 202        |       |           | Kamakshyanagar (P) | Tarinipasi     | 84                     | 440                     | 95                     | 564                     |
| 203        |       |           | Parajang (P)       | Patharagarh    | 131                    | 703                     | 198                    | 874                     |
| 204        |       |           | Kamakshyanagar (P) | Kandhara       | 472                    | 2382                    | 599                    | 2476                    |
| 205        |       |           | Parajang (P)       | Manikamara     | 281                    | 1598                    | 416                    | 1858                    |
| 206        |       |           | Kamakshyanagar (P) | Koi(ka)        | 68                     | 392                     | 87                     | 416                     |
| 207        |       |           | Kamakshyanagar (P) | Urbengi        | 132                    | 660                     | 166                    | 806                     |
| 208        |       |           | Kamakshyanagar (P) | Palasadangi    | 144                    | 738                     | 193                    | 936                     |
| 209        |       |           | Parajang (P)       | Kadapada       | 197                    | 975                     | 275                    | 1234                    |
| 210        |       |           | Parajang (P)       | Basulei        | 923                    | 4330                    | 1121                   | 4682                    |

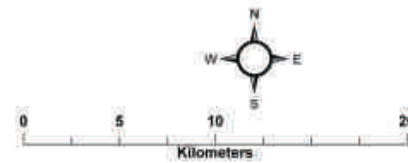
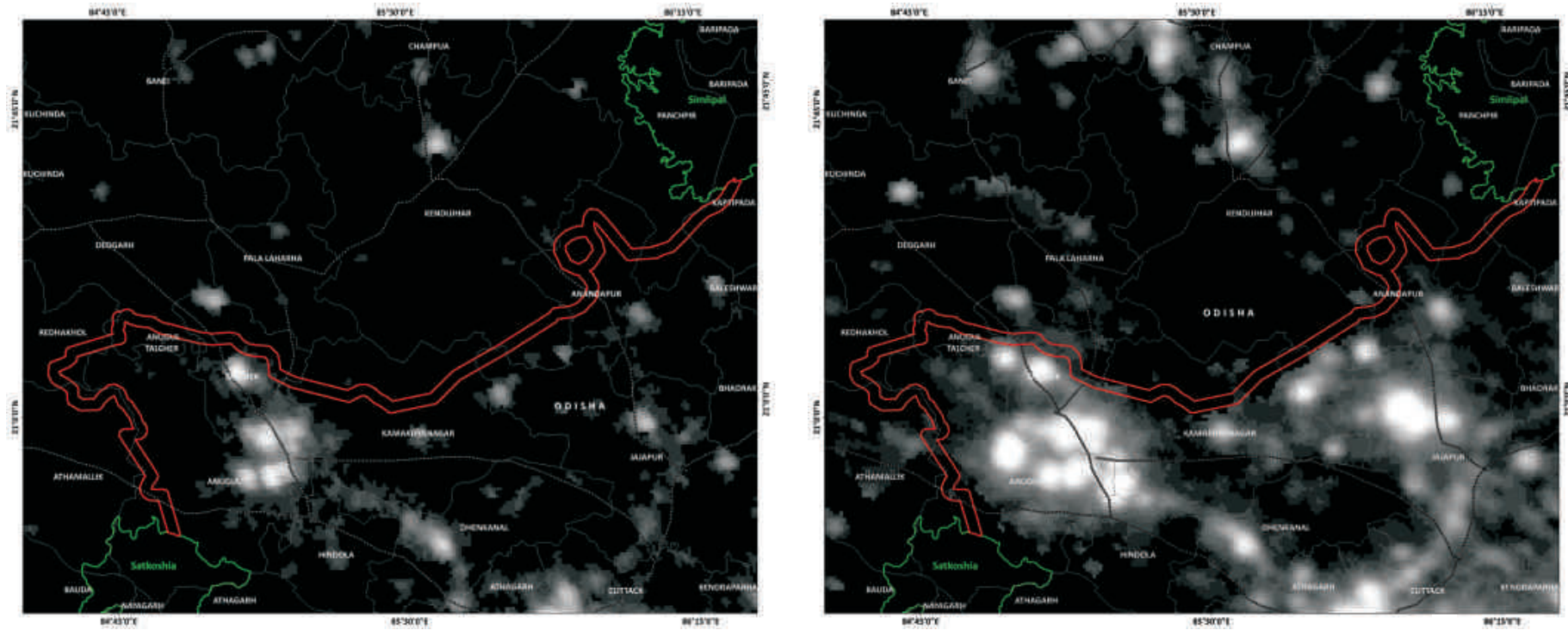
| Village_ID | State | District  | Tehsil             | Village              | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|-----------|--------------------|----------------------|------------------------|-------------------------|------------------------|-------------------------|
| 211        |       |           | Kamakshyanagar (P) | Balikuma             | 105                    | 596                     | 151                    | 792                     |
| 212        |       |           | Parajang (P)       | Gola Gadia           | 124                    | 529                     | 169                    | 620                     |
| 213        |       |           | Parajang (P)       | Akhupal              | 40                     | 129                     | 20                     | 95                      |
| 214        |       |           | Parajang (P)       | Pakatomunda          | 83                     | 432                     | 123                    | 496                     |
| 215        |       |           | Parajang (P)       | Kuturia              | 246                    | 1172                    | 312                    | 1444                    |
| 216        |       |           | Parajang (P)       | Mahanapasi           | 108                    | 470                     | 136                    | 626                     |
| 217        |       |           | Parajang (P)       | Bagha Munda          | 117                    | 514                     | 150                    | 799                     |
| 218        |       |           | Kamakshyanagar (P) | Sahala               | 96                     | 664                     | 118                    | 635                     |
| 219        |       |           | Kamakshyanagar (P) | Jhanjiri Berena No-2 | 55                     | 278                     | 73                     | 326                     |
| 220        |       |           | Kamakshyanagar (P) | Phulajhari           | 20                     | 105                     | 26                     | 102                     |
| 221        |       |           | Kamakshyanagar (P) | Batagan              | 338                    | 1852                    | 434                    | 2261                    |
| 222        |       |           | Kamakshyanagar (P) | Suaginali            | 42                     | 287                     | 63                     | 329                     |
| 223        |       |           | Kamakshyanagar (P) | Sunia                | 20                     | 122                     | 28                     | 129                     |
| 224        |       |           | Kamakshyanagar (P) | Rangamatia           | 21                     | 110                     | 23                     | 110                     |
| 225        |       |           | Kamakshyanagar (P) | Kadabasanta          | 25                     | 138                     | 26                     | 156                     |
| 226        |       |           | Kamakshyanagar (P) | Belabasanta          | 59                     | 273                     | 80                     | 418                     |
| 227        |       |           | Parajang (P)       | Bautinali            | NA                     | NA                      | NA                     | NA                      |
| 228        |       |           | Parajang (P)       | Jamunali             | NA                     | NA                      | 174                    | 737                     |
| 229        |       |           | Parajang (P)       | Rajjhara             | NA                     | NA                      | 1                      | 1                       |
| 230        |       | Sambalpur | Naktideul          | Bagbar               | 68                     | 364                     | 88                     | 356                     |
| 231        |       |           | Naktideul          | Sadhubahal           | 56                     | 311                     | 82                     | 341                     |
| 232        |       |           | Naktideul          | Kundeijori           | 4                      | 21                      | 8                      | 25                      |
| 233        |       |           | Naktideul          | Chadchadi            | 19                     | 110                     | 30                     | 123                     |
| 234        |       |           | Naktideul          | Bindpur              | 131                    | 633                     | 156                    | 672                     |
| 235        |       |           | Naktideul          | Angabira             | 100                    | 561                     | 137                    | 665                     |
| 236        |       |           | Naktideul          | Kaing                | 20                     | 94                      | 25                     | 127                     |
| 237        |       |           | Naktideul          | Sankhpur             | 31                     | 158                     | 58                     | 198                     |
| 238        |       |           | Naktideul          | Luburi               | 63                     | 340                     | 75                     | 356                     |
| 239        |       |           | Naktideul          | Hill                 | NA                     | NA                      | NA                     | NA                      |



**Figure 2.46:**

*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Simlipal-Satkosia*





**Figure 2.47:**  
 Human habitation as depicted by nightlights within the Simlipal-Satkosia Corridor landscape in the year 1992 and 2012

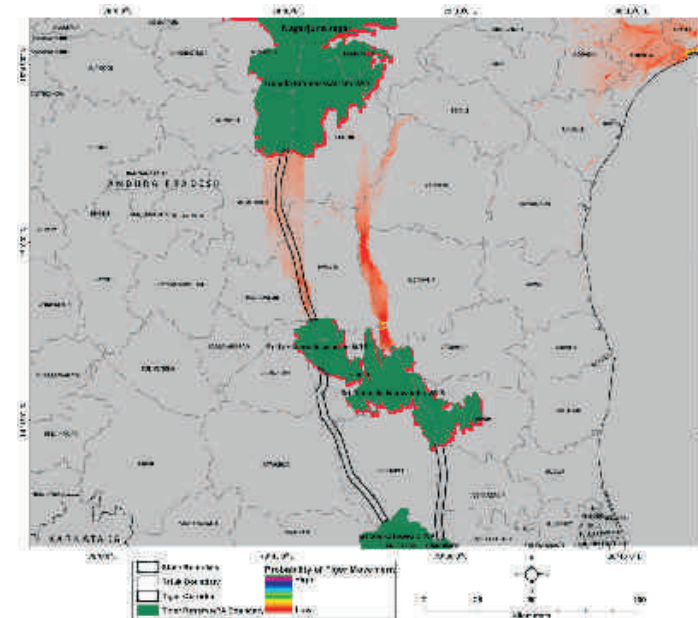


## NAGARJUNSAGAR -SRI VENKATESWARA NP

**Figure 2.48:**

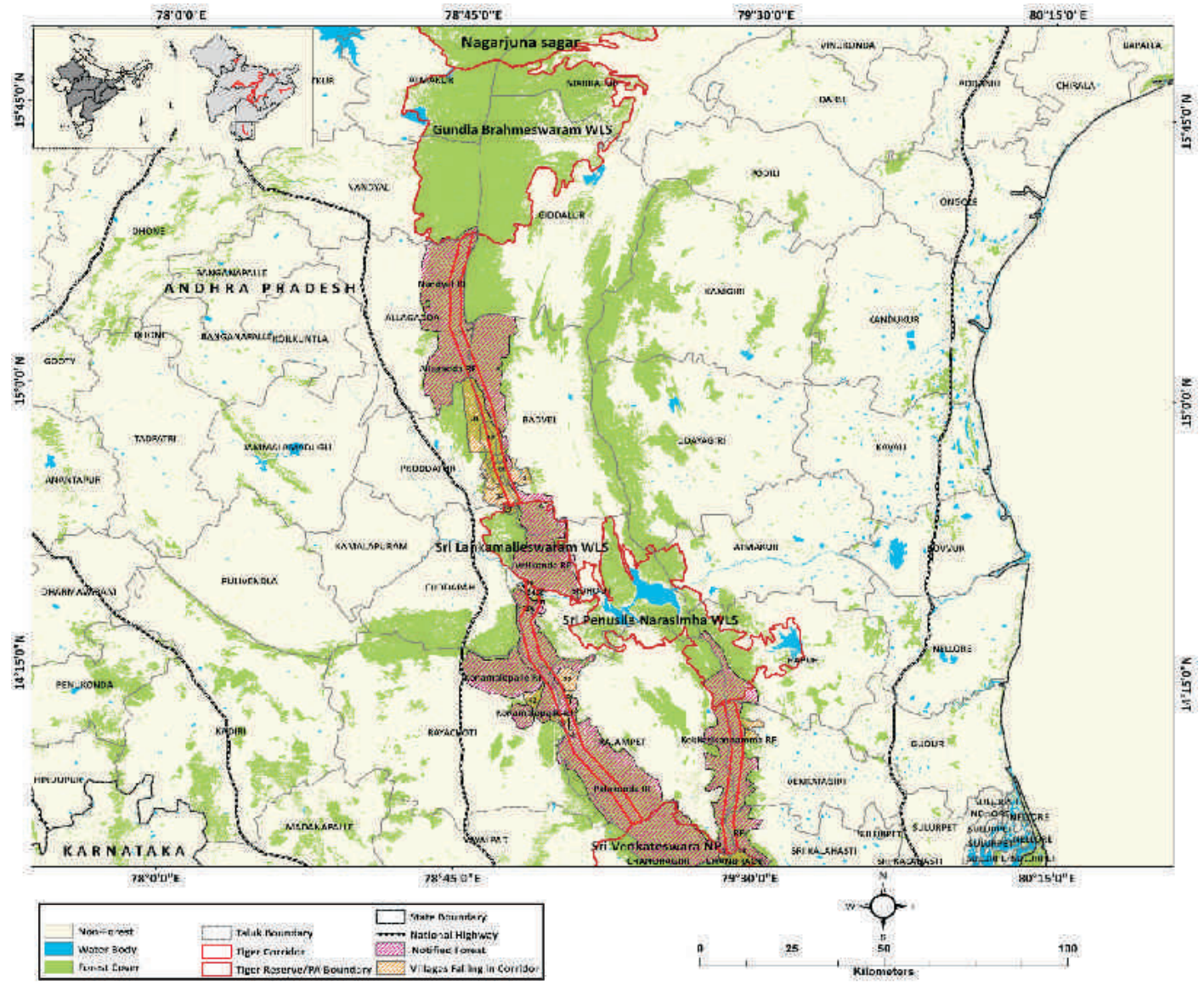
Potential habitat connectivity for tiger movement between Nagarjunsagar -Sri Venkateswara NP Corridor as depicted by CIRCUITSCAPE model

The habitat corridor between Nagarjun Sagar Sri Sailam Tiger Reserve and Sri Venkateswara NP is mostly through forested habitat and passes through three protected areas Gundla Brahmeswaram WLS, Sri Lankamalleshwaram WLS and Sri Penusila Narasimha WLS. However, there are several national and state highways cutting across the corridor. These need to be appropriately mitigated by under and over Wildlife Passes so that they do not become barriers to wildlife movement. The major bottleneck is a patch of revenue land and township of Sidhavatam which constitutes about 2 km of the corridor stretch which would benefit from restorative inputs and ensuring that development in the stretch does not become a barrier to wildlife movement. The tiger density in NSTR especially in Gundla Brahmeswaram WLS is recovering, once this population increases dispersing tigers are likely to recolonize Sri Venkateswara NP from where they have become locally extinct. To enhance this process reintroduction / supplementation of tigers to Sri Venkateswara NP may also be considered.



### Nagarjunsagar -Sri Venkateswara NP

|                          |   |
|--------------------------|---|
| <b>Habitat size</b>      | 13628 Km <sup>2</sup>   |
| <b>Source Population</b> | NSTR  |
| <b>Size of Source</b>    | 53-66   |
| <b>Protected Areas</b>   | NSTR<br>Gundla Brahmeswaram WLS<br>Sri Lankamalleshwaram<br>Sri Penusila Narasimha WLS<br>Sri Venkateswara NP         |
| <b>Corridors</b>         | NSTR-Sri Lankamalleshwaram<br>Sri Lankamalleshwaram- Sri Venkateswara NP<br>Sri Penusila Narasimha - Sri Venkateswara |

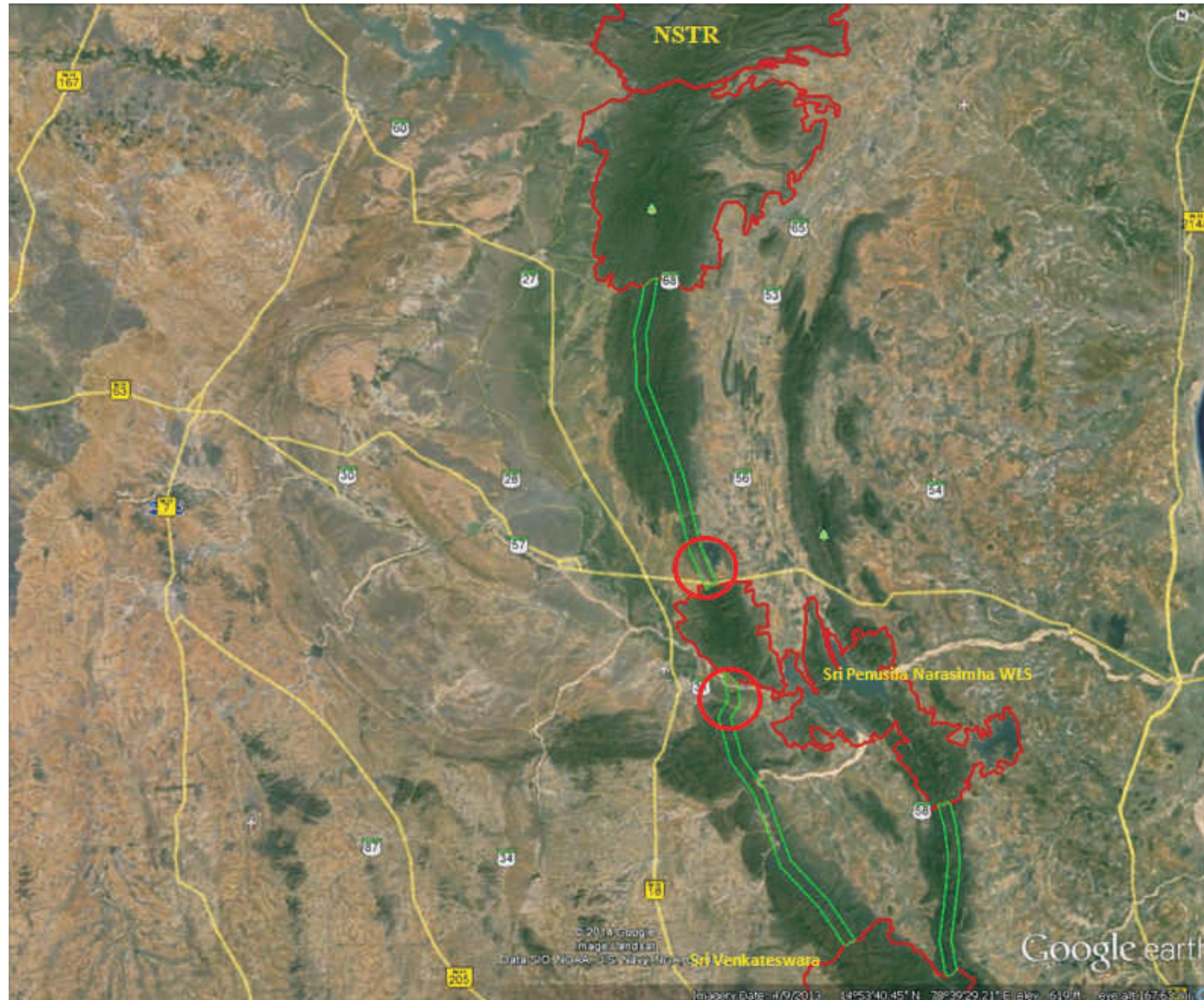


**Figure 2.49:** Least Cost Pathway corridor for Tiger movement between Nagarjuna Sagar -Sri Venkateswara NP overlaid by village map (the village numbers are referenced in Table 2.11)

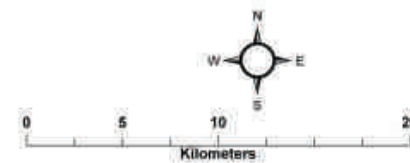
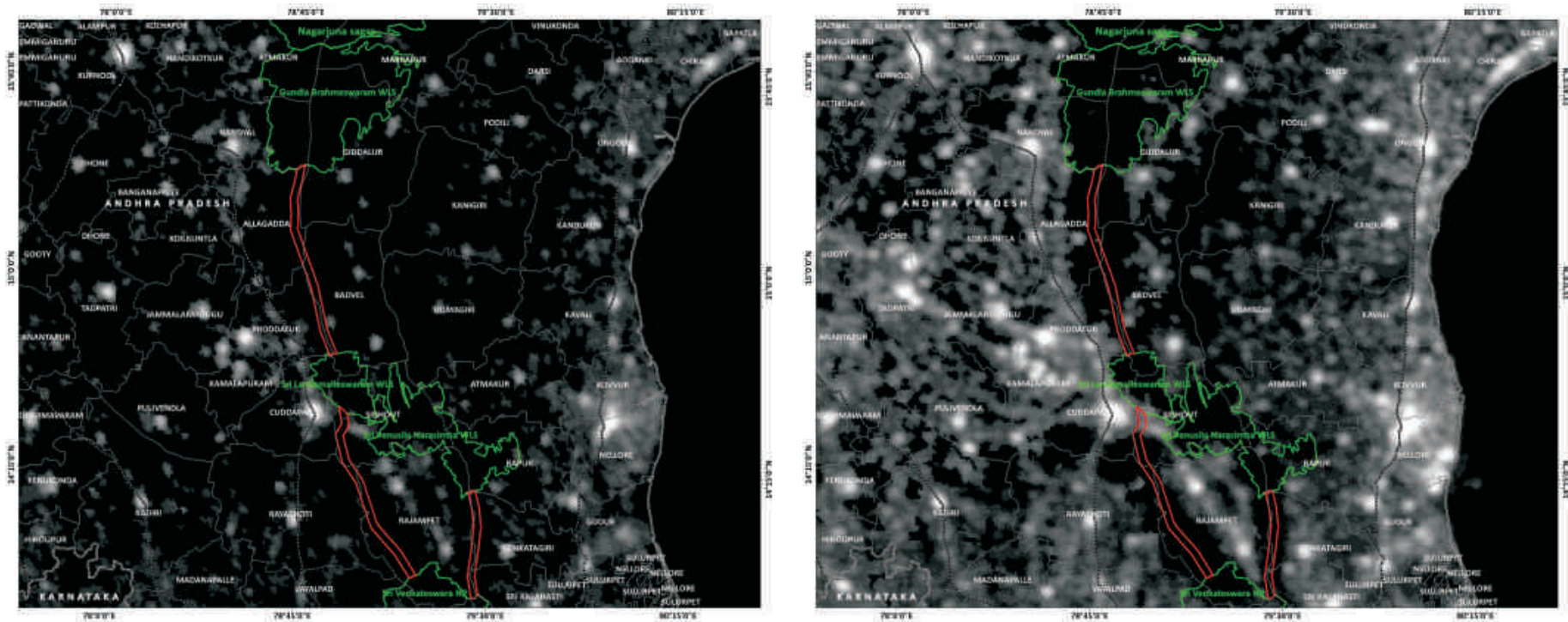
| Village_ID | State          | District | Tehsil           | Village             | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|----------------|----------|------------------|---------------------|------------------------|-------------------------|------------------------|-------------------------|
| 2          | Andhra Pradesh | Nellore  | Venkatgiri       | Vembuluru           | 807                    | 3525                    | 1043                   | 3893                    |
| 9          |                | Chittoor | Rajampet         | Balupalle           | 71                     | 1041                    | 77                     | 279                     |
| 10         |                |          | Chandragiri      | Karakambadi (Rural) | 1698                   | 7173                    | 2684                   | 10504                   |
| 14         |                | Cuddapah | Badvel           | Jangamrajupalle     | 644                    | 2909                    | 317                    | 1262                    |
| 19         |                |          | Proddatur        | Machupalle          | NA                     | NA                      | NA                     | NA                      |
| 22         |                |          | Rajampet         | Pulapathuru         | 608                    | 2575                    | 544                    | 2018                    |
| 24         |                |          | Sidhout          | Vontithatipalle     | 261                    | 1146                    | 354                    | 1356                    |
| 25         |                |          | Sidhout          | Mulapalle           | 92                     | 396                     | 119                    | 463                     |
| 27         |                |          | Rajampet         | Rollamadugu         | 219                    | 1092                    | 174                    | 680                     |
| 28         |                |          | Rajampet         | Rollamadugu         | 219                    | 1092                    | 174                    | 680                     |
| 31         |                |          | Proddatur/Badvel | Thippireddipalle    | 282                    | 1195                    | 330                    | 1296                    |
| 32         |                |          | Proddatur/Badvel | Mudireddipalle      | 288                    | 1277                    | 328                    | 1260                    |
| 33         |                |          | Proddatur/Badvel | Mittamanipalle      | 788                    | 3681                    | 1079                   | 4253                    |
| 34         |                |          | Proddatur/Badvel | Nandyalampeta       | 2136                   | 9673                    | 2856                   | 11457                   |
| 35         |                |          | Proddatur/Badvel | No Data             | NA                     | NA                      | NA                     | NA                      |
| 36         |                |          | Sidhout          | Jyothi              | 312                    | 1418                    | 388                    | 1449                    |
| 37         |                |          | Sidhout          | Machupalle          | 554                    | 2438                    | 610                    | 2426                    |
| 38         |                |          | Sidhout          | Gundlamoola         | 87                     | 397                     | 106                    | 430                     |
| 39         |                |          | Sidhout          | Kanumalapalle       | 36                     | 181                     | 62                     | 499                     |
| 42         |                |          | Rayachoti        | Gadikota            | 700                    | 2759                    | 811                    | 3093                    |

**Table 2.11.**

*Villages within the Least cost Pathway Corridor between Nagarjunsagar -Sri Venkateswara NP as shown in Fig. 2.49*



**Figure 2.50:**  
*Potential bottlenecks ,  
obstacles and weak  
links within the Least  
Cost Pathway corridor  
connecting  
Nagarjunsagar Sri  
Sailam TR -Sri  
Venkateswara NP*

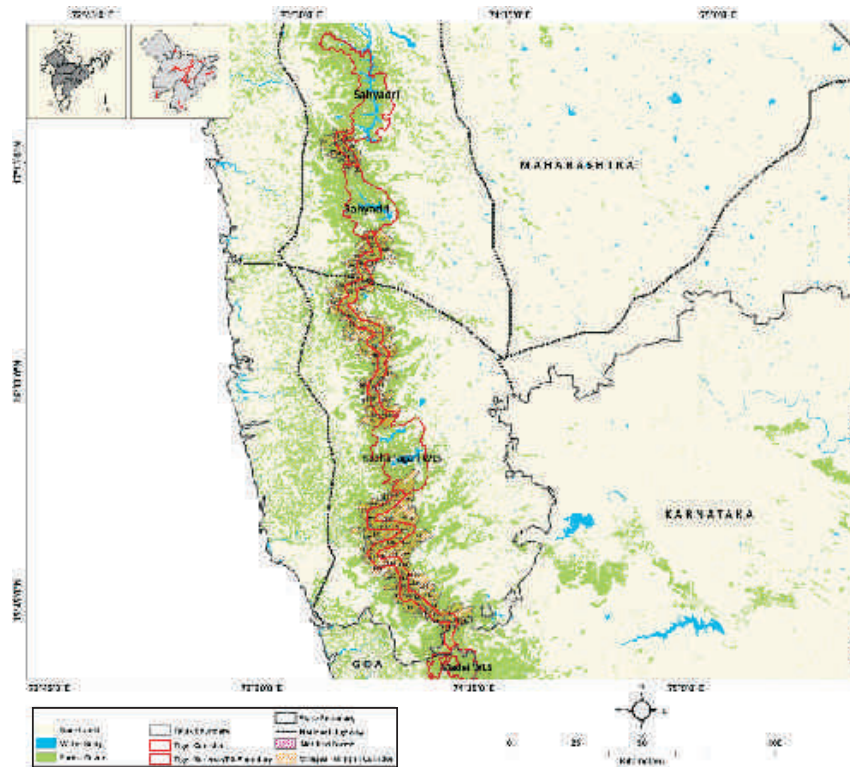


**Figure 2.51:**

Human habitation as depicted by nightlights within the Nagarjunsagar -Sri Sailam TR-Venkestwara NP landscape in the year 1992 and 2012

# SAHYADRI-RADHANAGARI -GOA

The tiger population of the Sahyadris was connected with that of Goa through the Radhanagari Wildlife Sanctuary and further southwards with that of Anshi-Dandeli in Karnataka through the ridge-top forests of the Western Ghats. Tiger numbers estimated for the Sahyadris (20-22 tigers within 560 km<sup>2</sup>) seem to be over estimates.



**Figure 2.52:**  
Least Cost Pathway corridor for Tiger movement within Sahyadri-Radhanagri-Goa overlaid with village map (the village numbers are referenced in Table 2.12)

## Sahyadri-Radhanagri- Goa

|                          |  |
|--------------------------|--|
| <b>Habitat size</b>      | 44453 Km <sup>2</sup>  |
| <b>Source Population</b> | NA   |
| <b>Size of Source</b>    | NA   |
| <b>Protected Areas</b>   | Koyana WLS<br>Chandoli NP<br>Radhanagri WLS<br>Madei WLS (Goa) |
| <b>Corridors</b>         | Koyana-Chandoli<br>Chandoli-Radhanagari<br>Radhanagri-Madei    |

| Village_ID | State       | District | Tehsil      | Village     | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------------|----------|-------------|-------------|------------------------|-------------------------|------------------------|-------------------------|
| 4          | Maharashtra | Kolhapur | Shahuwadi   | Gavadi      | 124                    | 603                     | 133                    | 575                     |
| 5          |             |          | Radhanagari | Savarde     | 282                    | 1447                    | 344                    | 1696                    |
| 6          |             |          | Shahuwadi   | Kumbhavde   | 111                    | 631                     | 170                    | 753                     |
| 7          |             |          | Panhala     | Padasali    | 38                     | 195                     | 42                     | 199                     |
| 8          |             |          | Shahuwadi   | Barki       | 125                    | 615                     | 125                    | 668                     |
| 9          |             |          | Shahuwadi   | Chalanwadi  | 42                     | 178                     | 45                     | 164                     |
| 10         |             |          | Shahuwadi   | Udgiri      | 315                    | 1265                    | 255                    | 1123                    |
| 11         |             |          | Shahuwadi   | Paraleninai | 366                    | 1762                    | 348                    | 1628                    |
| 12         |             |          | Shahuwadi   | Amba        | 235                    | 1136                    | 256                    | 1195                    |
| 13         |             |          | Shahuwadi   | Talavade    | 74                     | 392                     | 145                    | 554                     |
| 14         |             |          | Shahuwadi   | Masnoli     | 223                    | 1126                    | 234                    | 1190                    |
| 15         |             |          | Panhala     | Washi       | 60                     | 336                     | 76                     | 427                     |
| 16         |             |          | Shahuwadi   | Gajapur     | 334                    | 1736                    | 447                    | 1950                    |
| 17         |             |          | Shahuwadi   | Vishalgad   | 84                     | 540                     | 107                    | 588                     |
| 18         |             |          | Shahuwadi   | Anuskura    | 256                    | 1278                    | 246                    | 1089                    |
| 19         |             |          | Shahuwadi   | Injoli      | 82                     | 479                     | 101                    | 527                     |
| 20         |             |          | Bavda       | Katali      | 170                    | 769                     | 116                    | 544                     |
| 21         |             |          | Panhala     | Kolik       | 148                    | 756                     | 184                    | 1053                    |
| 22         |             | Satara   | Patan       | Gothane     | 48                     | 227                     | 63                     | 289                     |
| 22         |             | Kolhapur | Panhala     | Gothane     | 24                     | 146                     | 26                     | 138                     |
| 23         |             |          | Bavda       | Kode Bk     | 152                    | 838                     | 185                    | 983                     |
| 24         |             |          | Bavda       | Asalaj      | 260                    | 1296                    | 320                    | 1619                    |
| 25         |             |          | Bhudragad   | Anturli     | 173                    | 762                     | 175                    | 807                     |
| 26         |             |          | Bavda       | Vesaraf     | 97                     | 472                     | 104                    | 525                     |
| 27         |             |          | Bavda       | Sangashi    | 72                     | 343                     | 77                     | 364                     |
| 28         |             |          | Bavda       | Gagan Bavda | 396                    | 1909                    | 353                    | 1588                    |
| 29         |             |          | Bavda       | Lakhamapur  | 88                     | 486                     | 88                     | 445                     |
| 30         |             |          | Bavda       | Borbet      | 125                    | 629                     | 122                    | 645                     |
| 31         |             |          | Bavda       | Narveli     | 42                     | 194                     | 53                     | 263                     |
| 32         |             |          | Bavda       | Taliye Kh.  | 56                     | 282                     | 91                     | 393                     |

**Table 2.12:**  
Villages within the Least Cost Pathway Corridor between Sahyadri-Radhanagari-Goa as shown in Fig. 2.52

| Village_ID | State | District  | Tehsil       | Village             | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|-----------|--------------|---------------------|------------------------|-------------------------|------------------------|-------------------------|
| 33         |       |           | Radhanagari  | Manbet              | 181                    | 968                     | 175                    | 879                     |
| 34         |       |           | Chandgad     | Isapur              | 110                    | 412                     | 102                    | 376                     |
| 35         |       |           | Bhudragad    | Shivdav             | 286                    | 1313                    | 222                    | 958                     |
| 36         |       |           | Bhudragad    | Chikkewadi          | 7                      | 28                      | 7                      | 28                      |
| 37         |       |           | Bhudragad    | Mathagaon           | 328                    | 1490                    | 323                    | 1514                    |
| 38         |       |           | Bhudragad    | Mani                | 24                     | 114                     | 35                     | 148                     |
| 39         |       |           | Ajra         | Kitvade             | 191                    | 1019                    | 222                    | 974                     |
| 40         |       |           | Chandgad     | Mirwel              | 85                     | 268                     | 88                     | 258                     |
| 41         |       |           | Chandgad     | Kodali              | 462                    | 2058                    | 350                    | 1490                    |
| 42         |       |           | Sawantwadi   | Kumbhavade          | 58                     | 236                     | 72                     | 284                     |
| 43         |       |           | Patan        | Bopoli              | 112                    | 508                     | 126                    | 604                     |
| 44         |       |           | Patan        | Thankal             | 82                     | 418                     | 90                     | 387                     |
| 45         |       |           | Patan        | Nechal              | 71                     | 301                     | 83                     | 392                     |
| 46         |       |           | Patan        | Mendheghar          | 61                     | 272                     | 62                     | 296                     |
| 47         |       |           | Pajapur      | Walwad              | 131                    | 626                     | 129                    | 509                     |
| 48         |       |           | Pajapur      | Kolamb              | 99                     | 517                     | 150                    | 623                     |
| 49         |       |           | Dodamarg     | Khadpade Tarf Banda | 11                     | 37                      | 17                     | 66                      |
| 50         |       |           | Dodamarg     | Bhekurli            | 44                     | 182                     | 38                     | 136                     |
| 51         |       |           | Dodamarg     | Terwan              | 118                    | 415                     | 111                    | 322                     |
| 52         |       |           | Lanja        | Machal              | 96                     | 415                     | 95                     | 427                     |
| 53         |       |           | Chiplun      | Pophali Bk.(n.v.)   | 145                    | 648                     | 154                    | 644                     |
| 54         |       | Ratnagiri | Chiplun      | Pophali             | 967                    | 4425                    | 895                    | 3609                    |
| 55         |       |           | Sangameshwar | Bamnoli             | 247                    | 848                     | 187                    | 609                     |
| 56         |       |           | Pajapur      | Zarye               | 131                    | 486                     | 116                    | 390                     |
| 57         |       |           | Sangameshwar | Ninave              | 51                     | 208                     | 45                     | 152                     |
| 58         |       |           | Lanja        | Palu                | 252                    | 1219                    | 180                    | 763                     |
| 59         |       |           | Chiplun      | Mundhe Tarf Savarda | 194                    | 858                     | 187                    | 740                     |
| 60         |       |           | Chiplun      | Durgwadi Kh.        | 262                    | 1086                    | 262                    | 916                     |
| 61         |       |           | Chiplun      | Durgwadi            | 118                    | 538                     | 77                     | 303                     |
| 62         |       |           | Sangameshwar | Ozare Bk.           | 266                    | 1044                    | 237                    | 754                     |



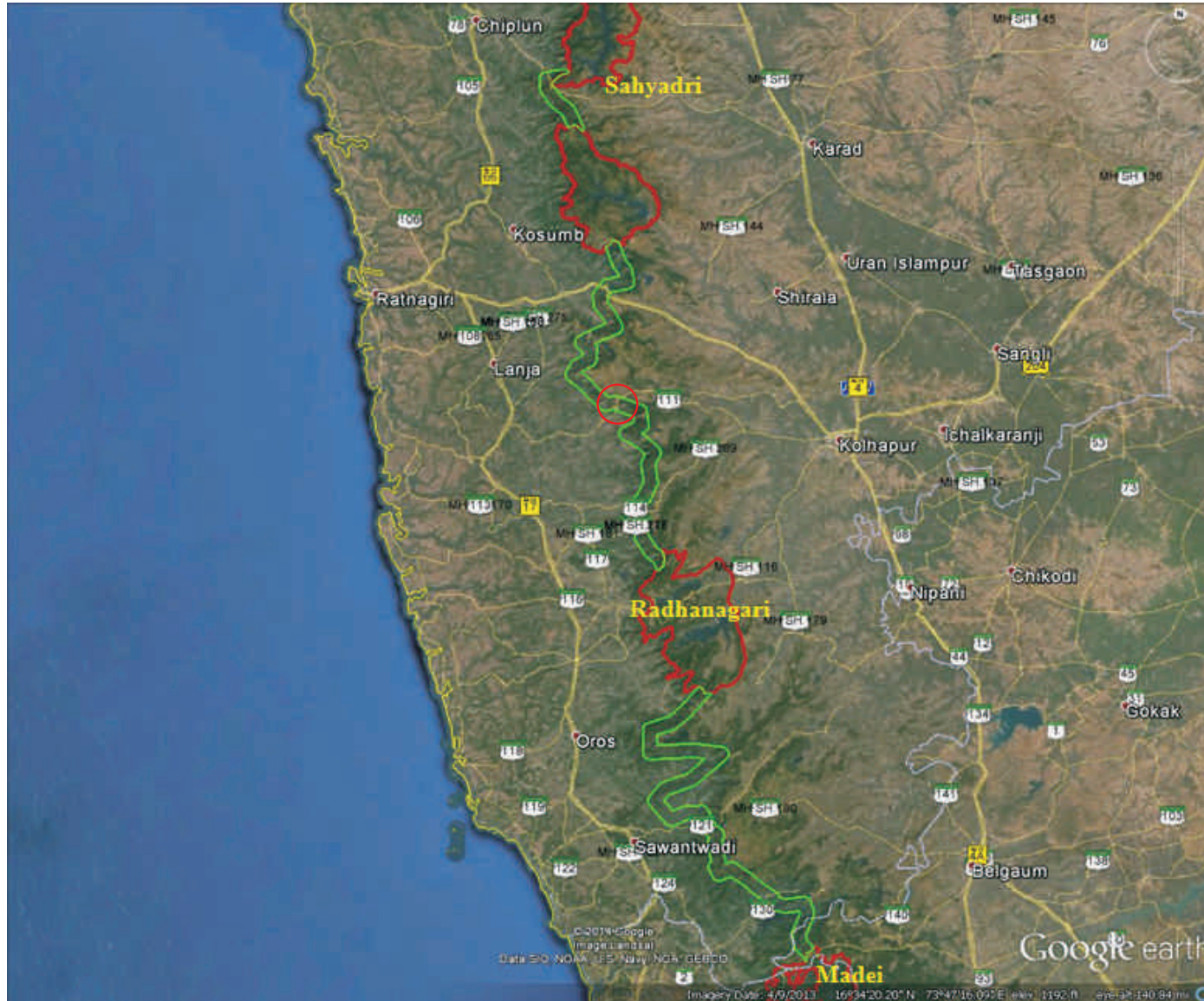


| Village_ID | State | District   | Tehsil       | Village            | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|------------|--------------|--------------------|------------------------|-------------------------|------------------------|-------------------------|
| 63         |       |            | Lanja        | Kurang             | 163                    | 711                     | 154                    | 561                     |
| 64         |       |            | Lanja        | Kondage            | 200                    | 862                     | 193                    | 733                     |
| 65         |       |            | Chiplun      | Manjutri           | 36                     | 157                     | 19                     | 66                      |
| 66         |       |            | Sangameshwar | Karandewadi (N.V.) | 84                     | 345                     | 83                     | 245                     |
| 67         |       |            | Sangameshwar | Khadi Kolvan       | 147                    | 529                     | 118                    | 344                     |
| 68         |       |            | Lanja        | Khorninko          | 218                    | 791                     | 191                    | 586                     |
| 69         |       |            | Sangameshwar | Dakhin             | 121                    | 627                     | 165                    | 580                     |
| 70         |       |            | Sangameshwar | Murshi             | 239                    | 1010                    | 230                    | 811                     |
| 71         |       |            | Sangameshwar | Bhadkambe          | 315                    | 1358                    | 313                    | 1273                    |
| 72         |       |            | Sangameshwar | Bhovade            | 205                    | 974                     | 208                    | 795                     |
| 73         |       |            | Sangameshwar | Devade             | 393                    | 1651                    | 353                    | 1253                    |
| 74         |       |            | Sangameshwar | Wadi Adhishti      | 62                     | 246                     | 49                     | 159                     |
| 75         |       |            | Lanja        | Prabhanvalli       | 580                    | 2502                    | 618                    | 2377                    |
| 76         |       |            | Lanja        | Bhambed            | 680                    | 3042                    | 663                    | 2679                    |
| 77         |       |            | Lanja        | Hardkhale          | 346                    | 1608                    | 344                    | 1443                    |
| 78         |       |            | Pajapur      | Yeradav            | 131                    | 543                     | 135                    | 487                     |
| 79         |       |            | Pajapur      | Pangari Kh.        | 106                    | 434                     | 63                     | 221                     |
| 80         |       |            | Pajapur      | Kajirda            | 240                    | 1007                    | 212                    | 751                     |
| 81         |       |            | Pajapur      | Karak              | 348                    | 1420                    | 390                    | 1501                    |
| 82         |       |            | Kudal        | Nileli             | 118                    | 559                     | 161                    | 576                     |
| 83         |       | Satara     | Patan        | Torane             | 59                     | 280                     | 74                     | 371                     |
| 84         |       |            | Patan        | Waghane            | 42                     | 185                     | 32                     | 125                     |
| 85         |       | Sindhudurg | Vaibhavvadi  | Jambhavade         | 93                     | 469                     | 88                     | 406                     |
| 86         |       |            | Vaibhavvadi  | Mounde             | 114                    | 474                     | 114                    | 384                     |
| 87         |       |            | Patan        | Ghatmatha          | 32                     | 195                     | 43                     | 197                     |
| 88         |       |            | Patan        | Kemase             | 21                     | 108                     | 15                     | 78                      |
| 89         |       |            | Patan        | Kondhavale         | 126                    | 588                     | 160                    | 818                     |
| 90         |       |            | Patan        | Govare             | 84                     | 366                     | 121                    | 624                     |
| 91         |       |            | Vaibhavvadi  | Sadure             | 206                    | 879                     | 243                    | 821                     |
| 92         |       |            | Patan        | Patharpunj         | 45                     | 198                     | 56                     | 260                     |

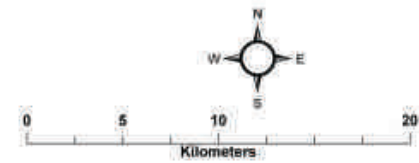
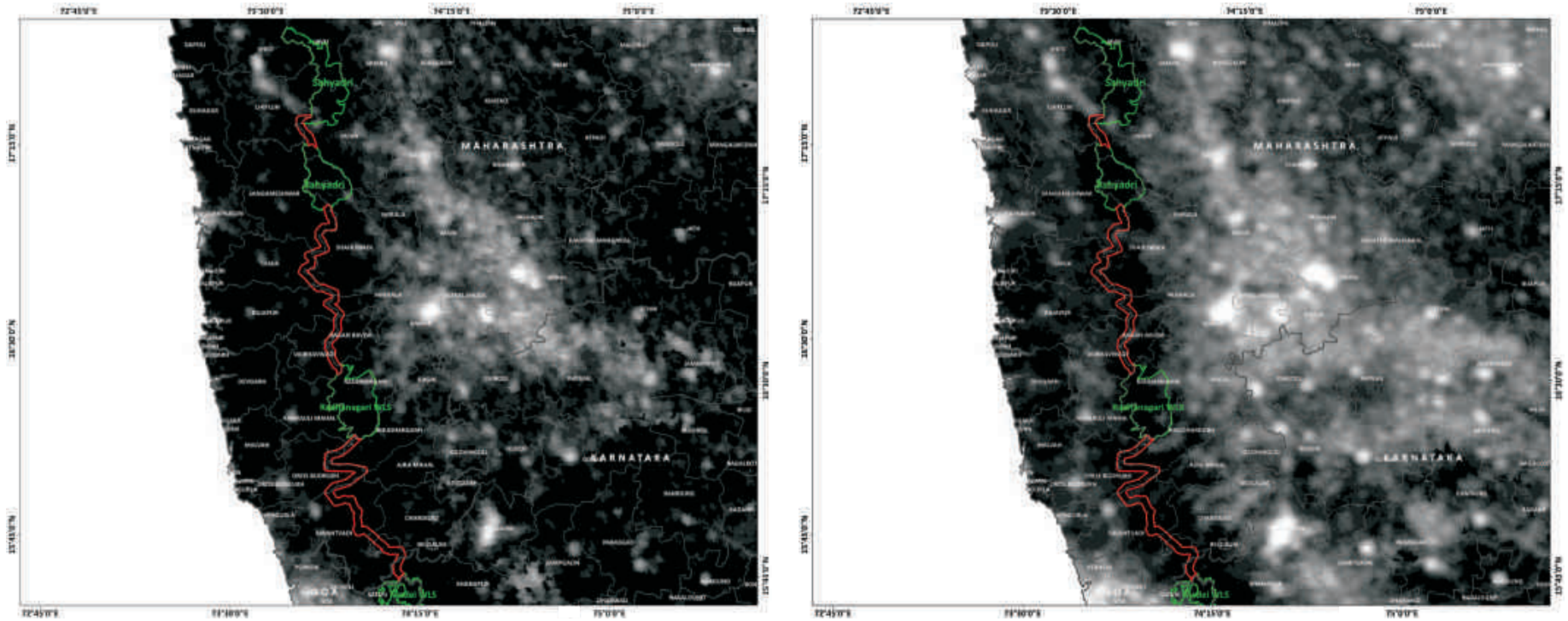
| Village_ID | State | District | Tehsil      | Village        | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|-------------|----------------|------------------------|-------------------------|------------------------|-------------------------|
| 93         |       |          | Patan       | Kolane         | 48                     | 216                     | 68                     | 302                     |
| 95         |       |          | Vaibhavvadi | Ainari         | 153                    | 648                     | 148                    | 566                     |
| 96         |       |          | Vaibhavvadi | Bhui Bawada    | 298                    | 1205                    | 310                    | 1102                    |
| 97         |       |          | Kudal       | Wasoli         | 151                    | 569                     | 152                    | 509                     |
| 98         |       |          | Vaibhavvadi | Ringewadi      | 89                     | 334                     | 87                     | 281                     |
| 99         |       |          | Vaibhavvadi | Kurli          | 423                    | 1941                    | 297                    | 1181                    |
| 100        |       |          | Dodamarg    | Zolambe        | 262                    | 1263                    | 266                    | 1104                    |
| 101        |       |          | Dodamarg    | Hewale         | 96                     | 430                     | 106                    | 449                     |
| 102        |       |          | Dodamarg    | Fukeri         | 70                     | 300                     | 79                     | 309                     |
| 103        |       |          | Sawantwadi  | Fansavade      | 57                     | 395                     | 48                     | 251                     |
| 104        |       |          | Vaibhavvadi | Bhattiwadi     | 80                     | 332                     | 90                     | 285                     |
| 105        |       |          | Vaibhavvadi | Karul          | 277                    | 1204                    | 280                    | 1058                    |
| 106        |       |          | Vaibhavvadi | Navale         | 201                    | 1005                    | 222                    | 939                     |
| 107        |       |          | Vaibhavvadi | Shirale Arule  | 60                     | 272                     | 72                     | 229                     |
| 108        |       |          | Sawantwadi  | Konas          | 114                    | 503                     | 132                    | 487                     |
| 109        |       |          | Kudal       | More           | 161                    | 764                     | 184                    | 931                     |
| 110        |       |          | Sawantwadi  | Kesari         | 148                    | 653                     | 152                    | 700                     |
| 111        |       |          | Kankavli    | Yevteshwargaon | 101                    | 441                     | 108                    | 408                     |
| 112        |       |          | Kudal       | Narur          | 217                    | 1090                    | 283                    | 1112                    |
| 113        |       |          | Sawantwadi  | Shirshinge     | 468                    | 2132                    | 484                    | 1810                    |
| 114        |       |          | Kudal       | Sakirde        | 46                     | 204                     | 56                     | 192                     |
| 115        |       |          | Kudal       | Durganagar     | 108                    | 456                     | 120                    | 430                     |
| 116        |       |          | Kudal       | Bharani        | 236                    | 1091                    | 250                    | 1043                    |
| 117        |       |          | Kudal       | Ghotage        | 411                    | 1622                    | 406                    | 1550                    |
| 118        |       |          | Kudal       | Pangrad        | 292                    | 1284                    | 287                    | 1055                    |
| 119        |       |          | Kudal       | Nerur K.narur  | 399                    | 1757                    | 440                    | 1633                    |
| 120        |       |          | Kudal       | Pulas          | 144                    | 730                     | 165                    | 701                     |
| 121        |       |          | Sawantwadi  | Gharap         | 74                     | 328                     | 64                     | 283                     |
| 122        |       |          | Kudal       | Anjivade       | 60                     | 226                     | 61                     | 189                     |
| 123        |       |          | Kudal       | Shivapur       | 251                    | 988                     | 294                    | 1055                    |



| Village_ID | State | District | Tehsil     | Village          | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|------------|------------------|------------------------|-------------------------|------------------------|-------------------------|
| 124        |       |          | Kudal      | Keravade K.narur | 253                    | 1182                    | 313                    | 1373                    |
| 125        |       |          | Kudal      | Chafeli          | 81                     | 416                     | 122                    | 473                     |
| 126        |       |          | Kudal      | Upavade          | 119                    | 522                     | 153                    | 497                     |
| 127        |       |          | Sawantwadi | Sawarwad         | 210                    | 1166                    | 232                    | 1231                    |
| 128        |       |          | Sawantwadi | Sangeli          | 623                    | 2837                    | 698                    | 2855                    |
| 129        |       |          | Sawantwadi | Verle            | 469                    | 1965                    | 473                    | 1754                    |
| 130        |       |          | Sawantwadi | Kalambist        | 552                    | 2210                    | 553                    | 2005                    |
| 131        |       |          | Sawantwadi | Ambegaon         | 221                    | 1083                    | 267                    | 1163                    |
| 132        |       |          | Sawantwadi | Ovaliye          | 152                    | 624                     | 157                    | 621                     |
| 133        |       |          | Sawantwadi | Madkhol          | 742                    | 3448                    | 829                    | 3539                    |
| 134        |       |          | Sawantwadi | Parpoli          | 181                    | 751                     | 178                    | 593                     |
| 135        |       |          | Sawantwadi | Devsu            | 177                    | 722                     | 171                    | 741                     |
| 136        |       |          | Sawantwadi | Kegad            | 115                    | 562                     | 129                    | 497                     |
| 137        |       |          | Sawantwadi | Danoli           | 75                     | 305                     | 79                     | 263                     |
| 138        |       |          | Sawantwadi | Chaukul          | 400                    | 1555                    | 397                    | 1254                    |
| 139        |       |          | Sawantwadi | Udeli            | 2                      | 4                       | 3                      | 8                       |
| 140        |       |          | Dodamarg   | Terwanmedhe      | 125                    | 478                     | 120                    | 504                     |
| 141        |       |          | Dodamarg   | Ghatiwade        | 7                      | 35                      | 12                     | 60                      |
| 142        |       |          | Dodamarg   | Palye            | 111                    | 517                     | 113                    | 474                     |
| 143        |       |          | Dodamarg   | Sonawal          | 91                     | 415                     | 112                    | 515                     |
| 144        |       |          | Patan      | Valvane          | NA                     | NA                      | NA                     | NA                      |
| 145        |       |          | Bhudragad  | Hanamante        | NA                     | NA                      | NA                     | NA                      |
| 146        |       |          | Shahuwadi  | Golivane         | NA                     | NA                      | NA                     | NA                      |
| 147        |       |          | Shahuwadi  | Wadi Kalkavane   | NA                     | NA                      | NA                     | NA                      |
| 148        |       |          | Dodamarg   | Sargave          | 28                     | 93                      | NA                     | NA                      |
| 149        |       |          | Dodamarg   | Aynode           | 130                    | 631                     | NA                     | NA                      |
| 150        |       |          | Dodamarg   | Kendre Kh.       | 7                      | 37                      | NA                     | NA                      |
| 151        |       |          | Dodamarg   | Pal              | 41                     | 184                     | NA                     | NA                      |
| 152        |       |          | Dodamarg   | Kendre Bk.       | 13                     | 55                      | NA                     | NA                      |



**Figure 2.53:**  
Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Sahyadri-Radhanagri-Goa



**Figure 2.54:**

Human habitation as depicted by nightlights within the Sahyadri-Radhanagri-Goa landscape in the year 1992 and 2012



# WESTERN GHATS



3

## WESTERN GHATS LANDSCAPE

From an ecological perspective, this region with a total forested area of 1,01,467 km<sup>2</sup> (Qureshi et al. 2006) comprising of nine notified Tiger Reserves, three proposed Tiger Reserve, viz., Sathyamangalam Tiger Reserve in Tamil Nadu and Kudremukh and Biligiri Rangaswamy Temple Hills (BRT) Wildlife Sanctuary in Karnataka; 20 National Parks and about 68 Wildlife Sanctuaries forms one of the largest Protected Area networks in India. The Nilgiri and Agasthiya-Malai Biosphere Reserves are also located within this zone in addition to several Reserved Forests and sacred groves, totalling to about 5.8% of the total forested area in the Western Ghats alone. This landscape has the potential to have contiguous tiger occupancy from the Dang forests in Gujarat up to the Palakkad Gap in Kerala and then again from Parambikulam-Indira Gandhi complex upto Kalakad-Mundanthurai Tiger Reserve. Within this landscape the most important source population is the Nagarahole-Mudumalai-Wayanad population which spans the three States of Karnataka, Tamil Nadu and Kerala with a high density (average density of over 4 tigers per 100 km<sup>2</sup>) tiger population occupying a large area (over 9000 km<sup>2</sup>). The other sources though occupying sufficiently large patches of habitat are of low tiger density (1-2 tigers per 100 km<sup>2</sup>) and their nuclei are centred within Protected Area complexes. These source populations are Kalakad-Mundanthurai, Periyar and the Parambikulam-Indira Gandhi complex south of the Palakkad Gap, while Kudremukh, Bhadra, Anshi and Dandeli are north of the Palakkad Gap. A few tigers are also recorded from the forests in Goa and from the Sayahadri Tiger Reserve in

Maharashtra. The populations in Goa and Maharashtra depend significantly on the narrow forest connectivity of the Western Ghat ridge.

The Western Ghat tiger populations are more connected with each other when compared to tiger populations in Central India and the Shivalik-Gangetic Plains landscapes. The habitat matrix in the Western Ghats is more conducive for tiger occupancy. However, the habitat connectivity is threatened by plantations, agriculture, industrial and infrastructural development. It would be prudent to timely identify and legitimize the minimal corridors needed for the conservation objective of ensuring gene flow between the Western Ghats tiger populations in times to come. The major impediments to tiger conservation in this zone are the existence of hydro-electric projects, hunting (Madhusudan and Karanth 2002) and deforestation of large areas for commercial plantations.

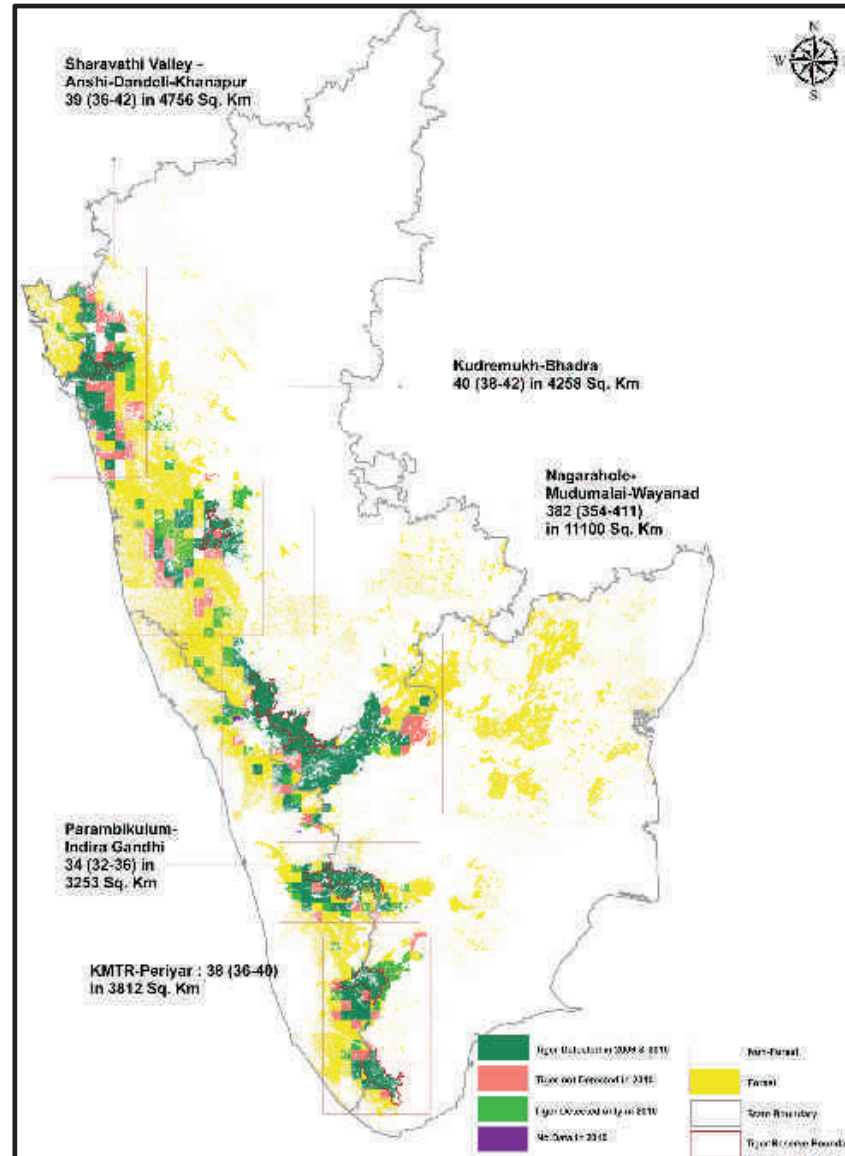
The Least Cost Path analysis provides the optimal corridor between Protected Areas. The minimal corridors defined here need to be safeguarded through policy and formal legislation. A designation of "ecosensitive areas" to these minimal habitat corridors would ensure that land uses within these corridors are not altered to such drastic levels that the corridors become non-functional and lose their conservation significance. These corridors have been designed based on the habitat potential for supporting tigers (occupancy probability), however, they would also fulfill the needs of many other wildlife species.

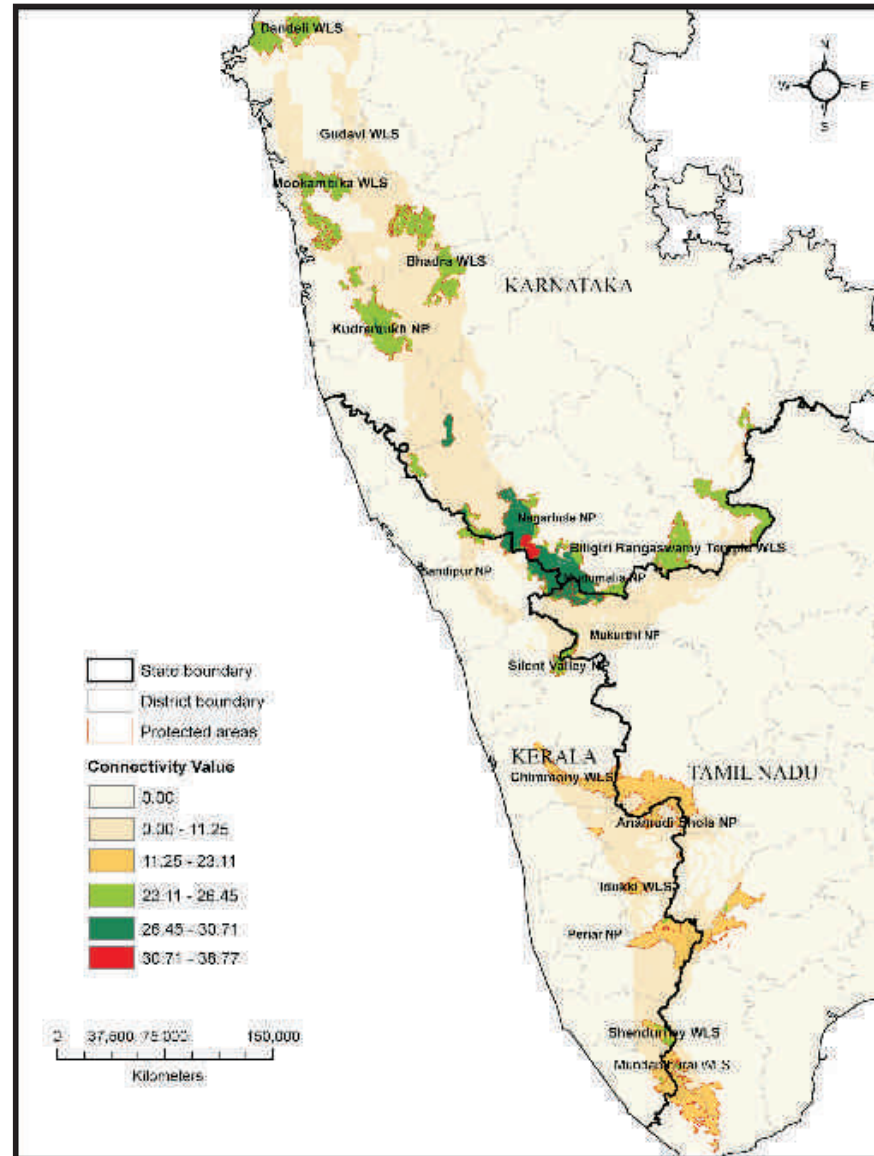




**Figure 3.1:**

*Habitat Connectivity in Western Ghats Landscape*





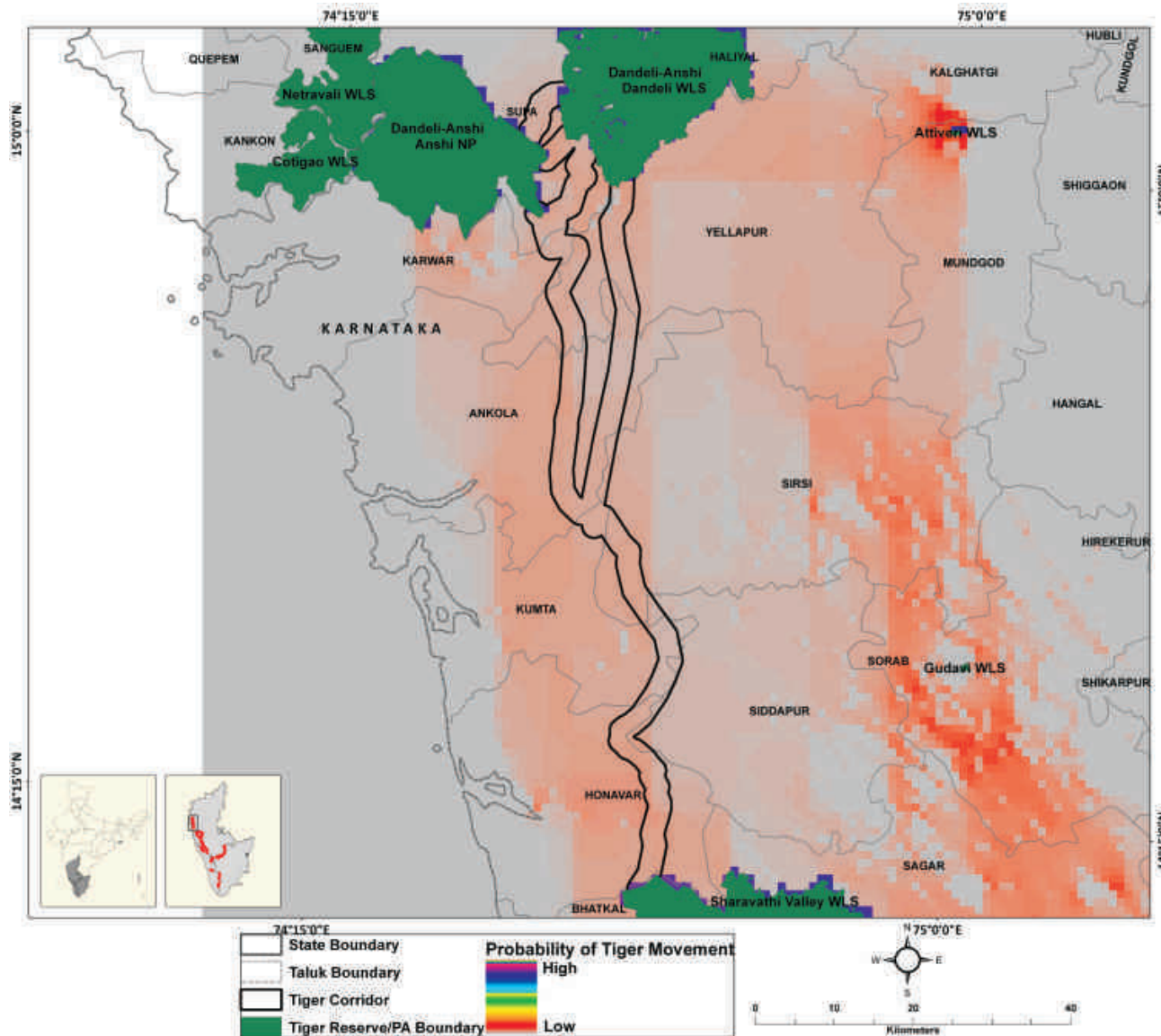
**Figure 3.2:**  
*Potential habitat connectivity for tiger movement between Western Ghats as depicted by CIRCUITSCAPE model*

## ANSHI-DANDELI-SHARAVATHI VALLEY

This complex consists of the protected areas of Mollam-Netravali, Anshi-Dandeli, Sharavathi Valley-Mookambika along with Reserved Forests of Haliyal and Yellapur. To the north, this complex is connected to the forests of Goa which continue to the Sahayadri Tiger Reserve in Maharashtra with sporadic records of tiger occupancy. While the forest connectivity between this complex and the southern Kudremukh-Bhadra complex is weak, interspersed by plantation and agricultural mosaics, evidence exists through camera trapped pictures to confirm movement of tigers between the two areas (Ullas Karanth, Pers. Com.). Tiger population in 2010 within this region was estimated to be between 36 and 42 tigers with occupancy in an area of 4,756 km<sup>2</sup>, indicating a decline in tiger occupied area since 2006. This decline was observed in the forests connecting Anshi-Dandeli to forests of Goa in the north and to forests of Sharavathi Valley in the south.

Anshi and Dandeli are connected through contiguous forests, the least cost pathways (north of Ulavi settlement), formalizing this connectivity would secure these forests for the future. The corridor connectivity between Anshi-Dandeli and Sharavathi Valley is long and traverses through plantation and agriculture mosaics. However, the least cost pathway and Circuitscape flows minimizes passage through private lands and suggests the ideal corridor to connect the two major tiger landscapes of Karnataka. Two corridors, one from Anshi and another from Dandeli emerge from either side of the Kodalalli Reservoir and meet north of the Benne Hole falls. The bottlenecks for this corridor were at Jog Falls where a narrow strip of forest (1.5 km) remains as a connectivity. This connectivity, if formally recognized and restored would promote gene flow across major populations of the Western Ghats from Pune to Palakkad.

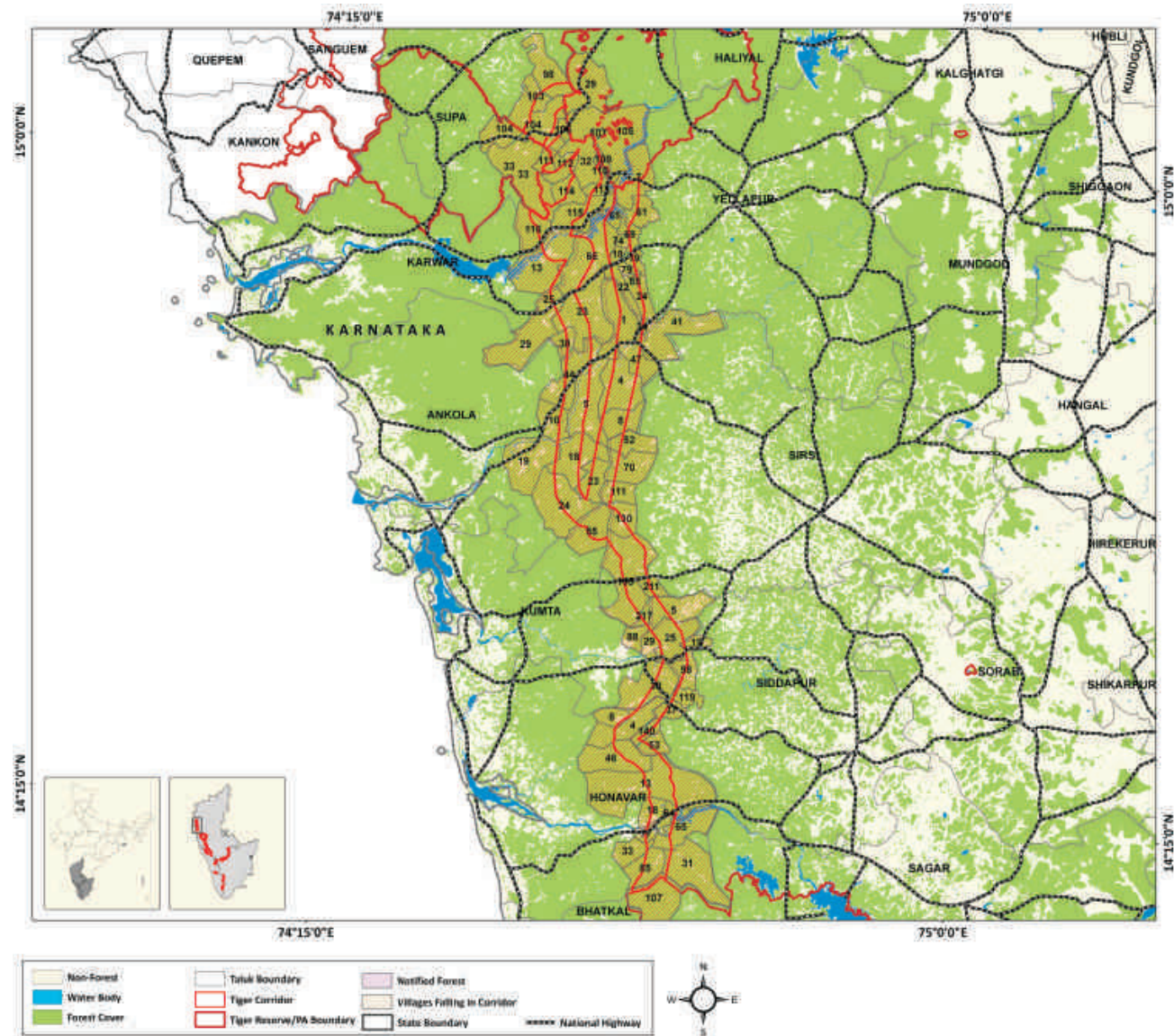
| <b>Anshi-Dandeli-Sharavathi Valley Corridor</b> |   |
|---|---|
| <b>Habitat size</b>                             | 40589 Sq. Km <sup>2</sup>   |
| <b>Source Population</b>                        | Anshi NP<br>Dandeli WLS   |
| <b>Size of Source</b>                           | 39 (36-42) tigers in 4756 Km <sup>2</sup>                           |
| <b>Protected Areas</b>                          | Anshi NP<br>Dandeli WLS<br>Sharavathi WLS                           |
| <b>Corridors</b>                                | Dandeli-Sharavathi WLS<br>Anshi-Sharavathi WLS<br>Dandeli-Anshi WLS |



**Figure 3.3:** Potential habitat connectivity for tiger movement between Anshi-Dandeli-Sharavathi Valley as depicted by CIRCUITSCAPE model

**Figure 3.4:**

Least Cost Pathway corridor for Tiger movement between Anshi-Dandeli-Sharavathi Valley overlaid with village map (the village numbers are referenced in Table 3.1)



| Village_ID | State     | District | Tehsil   | Village     | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-----------|----------|----------|-------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Karnataka | Karwar   | Yellapur | Joglepal    | 10                     | 49                      | 9                      | 42                      |
| 2          |           |          | Yellapur | Bare        | 166                    | 852                     | 204                    | 877                     |
| 3          |           |          | Yellapur | Kattige     | 82                     | 415                     | 419                    | 1898                    |
| 4          |           |          | Yellapur | Targar      | 30                     | 165                     | 37                     | 171                     |
| 5          |           |          | Yellapur | Vajralli    | 134                    | 630                     | 133                    | 552                     |
| 6          |           |          | Yellapur | Kodlagadde  | 57                     | 322                     | 245                    | 943                     |
| 7          |           |          | Yellapur | Mavinamane  | 342                    | 1746                    | 397                    | 1748                    |
| 8          |           |          | Yellapur | Gullapur    | 175                    | 773                     | 226                    | 893                     |
| 9          |           |          | Yellapur | Bare        | 166                    | 852                     | 204                    | 877                     |
| 10         |           |          | Yellapur | Kodlagadde  | 57                     | 322                     | 245                    | 943                     |
| 11         |           |          | Yellapur | Bigar       | 42                     | 231                     | 43                     | 192                     |
| 12         |           |          | Yellapur | Geral       | 91                     | 422                     | 81                     | 398                     |
| 13         |           |          | Yellapur | Balagara    | 134                    | 759                     | 143                    | 627                     |
| 14         |           |          | Yellapur | Barballi    | 36                     | 127                     | Na                     | Na                      |
| 15         |           |          | Yellapur | Kalche      | 268                    | 1208                    | 298                    | 1075                    |
| 16         |           |          | Yellapur | Baginakatte | 37                     | 156                     | 32                     | 124                     |
| 17         |           |          | Yellapur | Hongadde    | 57                     | 245                     | 56                     | 222                     |
| 18         |           |          | Ankola   | Shevkar     | 63                     | 420                     | 73                     | 448                     |
| 19         |           |          | Ankola   | Sunkasal    | 208                    | 966                     | 229                    | 930                     |
| 20         |           |          | Ankola   | Kodlagadde  | 211                    | 937                     | 245                    | 943                     |
| 21         |           |          | Ankola   | Halvalli    | 307                    | 1361                    | 345                    | 1461                    |
| 22         |           |          | Ankola   | Dongri      | 127                    | 635                     | 145                    | 660                     |
| 23         |           |          | Ankola   | Kammani     | 38                     | 168                     | 54                     | 217                     |
| 24         |           |          | Ankola   | Hebbul      | 97                     | 503                     | 119                    | 533                     |
| 25         |           |          | Ankola   | Kuntgani    | 186                    | 933                     | 247                    | 1030                    |
| 26         |           |          | Ankola   | Hillur      | 512                    | 2366                    | 620                    | 2499                    |
| 27         |           |          | Ankola   | Manigadde   | 23                     | 140                     | 30                     | 137                     |
| 28         |           |          | Ankola   | Achave      | 406                    | 1853                    | 490                    | 1969                    |
| 29         |           |          | Ankola   | Kalleshvar  | NA                     | NA                      | NA                     | NA                      |
| 30         |           |          | Honavar  | Hulegar     | 284                    | 1126                    | 190                    | 629                     |

**Table 3.1**

*Villages within the Least Cost Pathway Corridor between Anshi-Dandeli-Sharavathi Valley as shown in Fig. 3.4*

| Village_id | State | District | Tehsil  | Village        | No Of Household (2001) | Total Population (2001) | No Of Household (2011) | Total Population (2011) |
|------------|-------|----------|---------|----------------|------------------------|-------------------------|------------------------|-------------------------|
| 31         |       |          | Honavar | Jan            | NA                     | NA                      | NA                     | NA                      |
| 32         |       |          | Honavar | Kabbinahakkal  | NA                     | NA                      | NA                     | NA                      |
| 33         |       |          | Honavar | Heggargadde    | NA                     | NA                      | NA                     | NA                      |
| 34         |       |          | Honavar | Hirebail       | 200                    | 937                     | 268                    | 1062                    |
| 35         |       |          | Honavar | Hosgod         | 40                     | 229                     | 52                     | 264                     |
| 36         |       |          | Honavar | Mahime         | 505                    | 2308                    | 594                    | 2685                    |
| 37         |       |          | Honavar | Hadgeri        | 79                     | 348                     | 93                     | 389                     |
| 38         |       |          | Honavar | Shirkur        | 74                     | 336                     | 84                     | 378                     |
| 39         |       |          | Honavar | Nagarbastikere | 712                    | 3476                    | 787                    | 3617                    |
| 40         |       |          | Honavar | Kandoddi       | 54                     | 282                     | 69                     | 359                     |
| 41         |       |          | Joida   | Hebbal         | 19                     | 106                     | 755                    | 3833                    |
| 42         |       |          | Joida   | Bidoli         | 57                     | 264                     | 71                     | 296                     |
| 43         |       |          | Joida   | Amboli         | 171                    | 916                     | 190                    | 956                     |
| 44         |       |          | Joida   | Yarmukh        | 98                     | 432                     | 99                     | 413                     |
| 45         |       |          | Joida   | Chaper         | 16                     | 67                      | 20                     | 86                      |
| 46         |       |          | Joida   | Bhedasgadde    | NA                     | NA                      | NA                     | NA                      |
| 47         |       |          | Joida   | Kodagihittal   | NA                     | NA                      | NA                     | NA                      |
| 48         |       |          | Joida   | Shivapura      | 46                     | 200                     | 9                      | 33                      |
| 49         |       |          | Joida   | Tulasageri     | 4                      | 14                      | 3                      | 9                       |
| 50         |       |          | Joida   | Ulvi           | 135                    | 735                     | 178                    | 767                     |
| 51         |       |          | Joida   | Netragi        | Na                     | Na                      | Na                     | Na                      |
| 52         |       |          | Joida   | Kodatalli      | Na                     | Na                      | Na                     | Na                      |
| 53         |       |          | Joida   | Birkoi         | 121                    | 381                     | 63                     | 244                     |
| 54         |       |          | Joida   | Sulageri       | NA                     | NA                      | NA                     | NA                      |
| 55         |       |          | Karwar  | Devkar         | 120                    | 409                     | 91                     | 397                     |
| 56         |       |          | Kumta   | Medini         | 47                     | 254                     | 64                     | 268                     |
| 57         |       |          | Kumta   | Morse          | 35                     | 140                     | 41                     | 165                     |
| 58         |       |          | Kumta   | Bangane        | 75                     | 409                     | 109                    | 474                     |
| 59         |       |          | Kumta   | Yan            | 94                     | 427                     | 125                    | 495                     |
| 60         |       |          | Kumta   | Negalagone     | NA                     | NA                      | NA                     | NA                      |

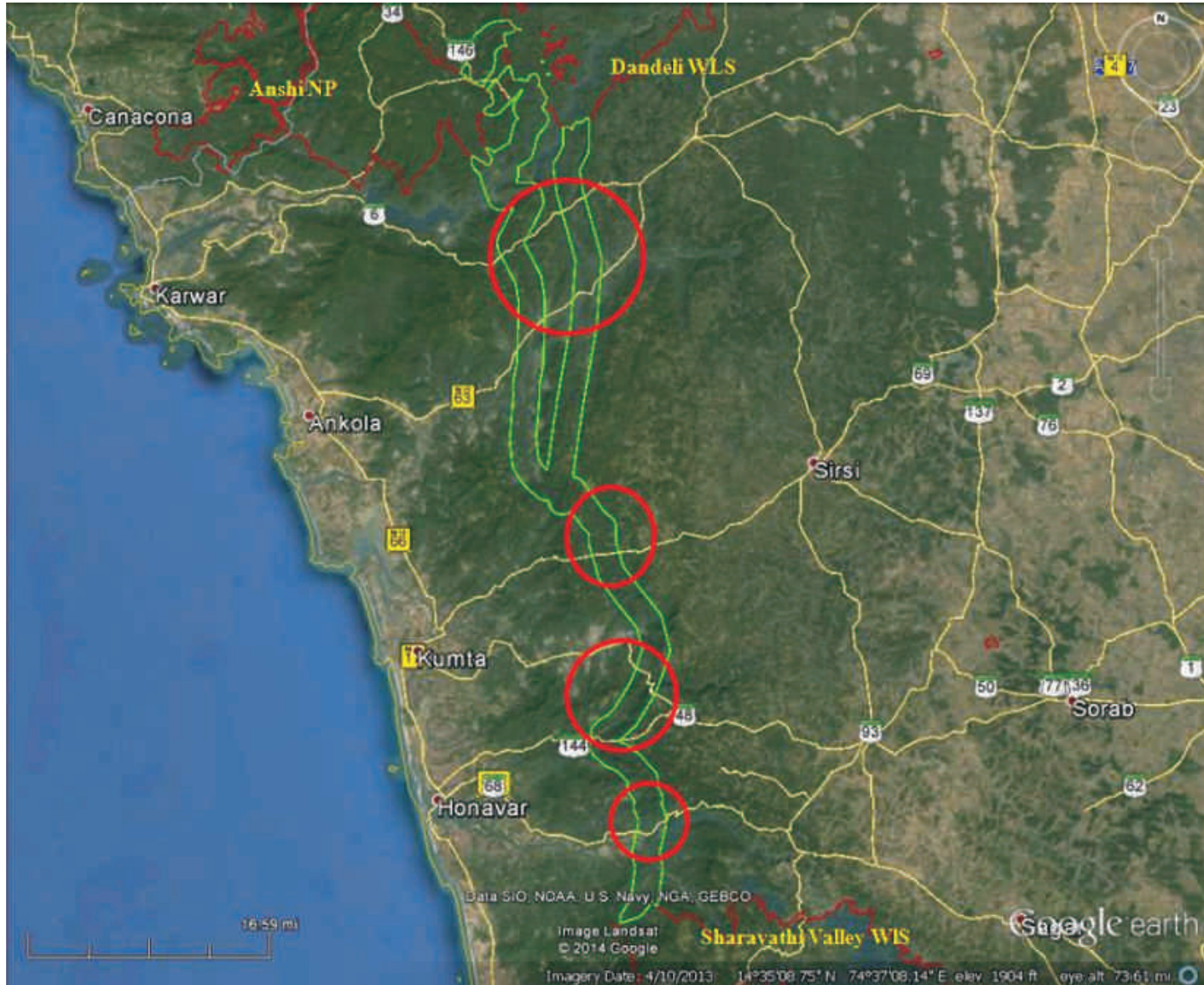
| Village_ID | State | District | Tehsil   | Village       | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|----------|---------------|------------------------|-------------------------|------------------------|-------------------------|
| 61         |       | Shimoga  | Sagar    | Uralagallu    | 36                     | 150                     | 41                     | 133                     |
| 62         |       | Karwar   | Siddapur | Hallibail     | 71                     | 389                     | 79                     | 354                     |
| 63         |       |          | Siddapur | Nilkund       | 43                     | 201                     | 63                     | 247                     |
| 64         |       |          | Siddapur | Bilegod       | 75                     | 440                     | 89                     | 423                     |
| 65         |       |          | Siddapur | Kodigadde     | 60                     | 301                     | 83                     | 372                     |
| 66         |       |          | Siddapur | Hukkali       | 31                     | 173                     | 49                     | 201                     |
| 67         |       |          | Siddapur | Gijagini      | 51                     | 303                     | 67                     | 324                     |
| 68         |       |          | Siddapur | Niragod       | 7                      | 26                      | 10                     | 37                      |
| 69         |       |          | Sirsi    | Kelaginkeri   | 68                     | 377                     | 84                     | 385                     |
| 70         |       |          | Sirsi    | Mundaganamane | 122                    | 555                     | 128                    | 588                     |
| 71         |       |          | Sirsi    | Hosur         | 26                     | 112                     | 29255                  | 116821                  |
| 72         |       |          | Sirsi    | Harsimane     | 50                     | 227                     | 54                     | 223                     |
| 73         |       |          | Sirsi    | Bengaon       | 137                    | 641                     | 170                    | 695                     |
| 74         |       |          | Sirsi    | Hebre         | 207                    | 957                     | 229                    | 947                     |
| 75         |       |          | Sirsi    | Bugadi        | 5                      | 14                      | 5                      | 27                      |
| 76         |       |          | Joida    | Gund          | 67                     | 321                     | 64                     | 300                     |
| 77         |       |          | Joida    | Bidoli        | 57                     | 264                     | 71                     | 296                     |
| 78         |       |          | Joida    | Shidoli       | Na                     | Na                      | Na                     | Na                      |
| 79         |       |          | Joida    | Amboli        | 171                    | 916                     | 190                    | 956                     |
| 80         |       |          | Joida    | Ambarade      | NA                     | NA                      | NA                     | NA                      |

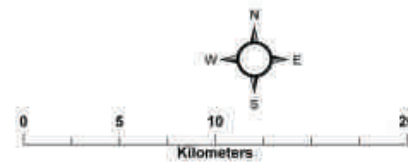
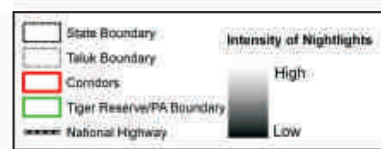
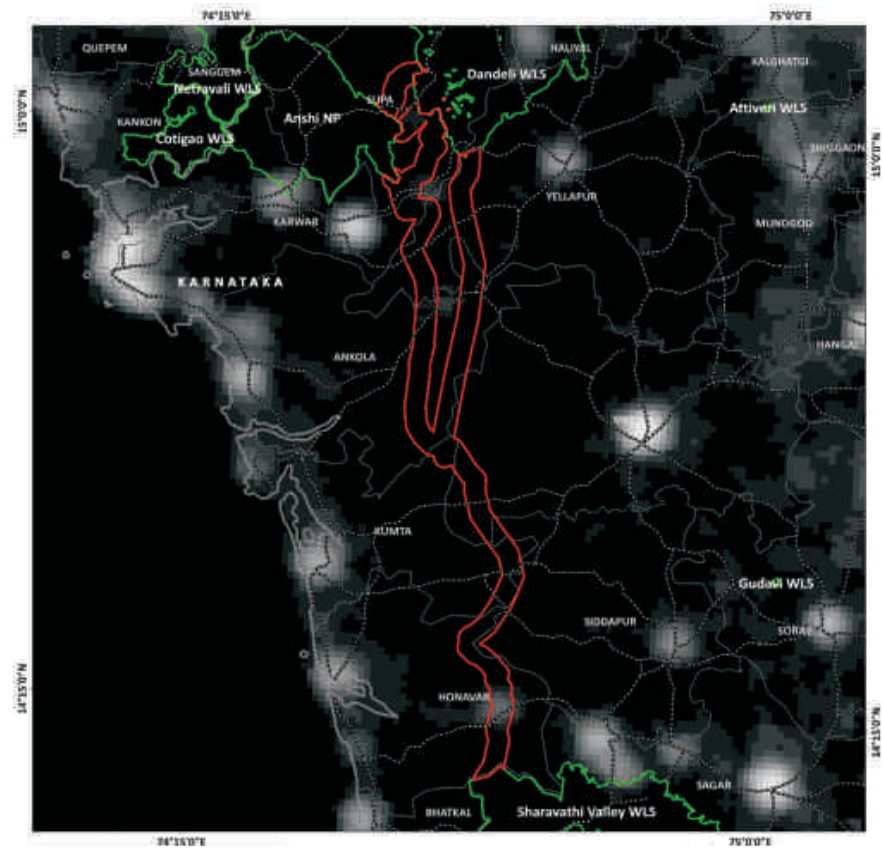
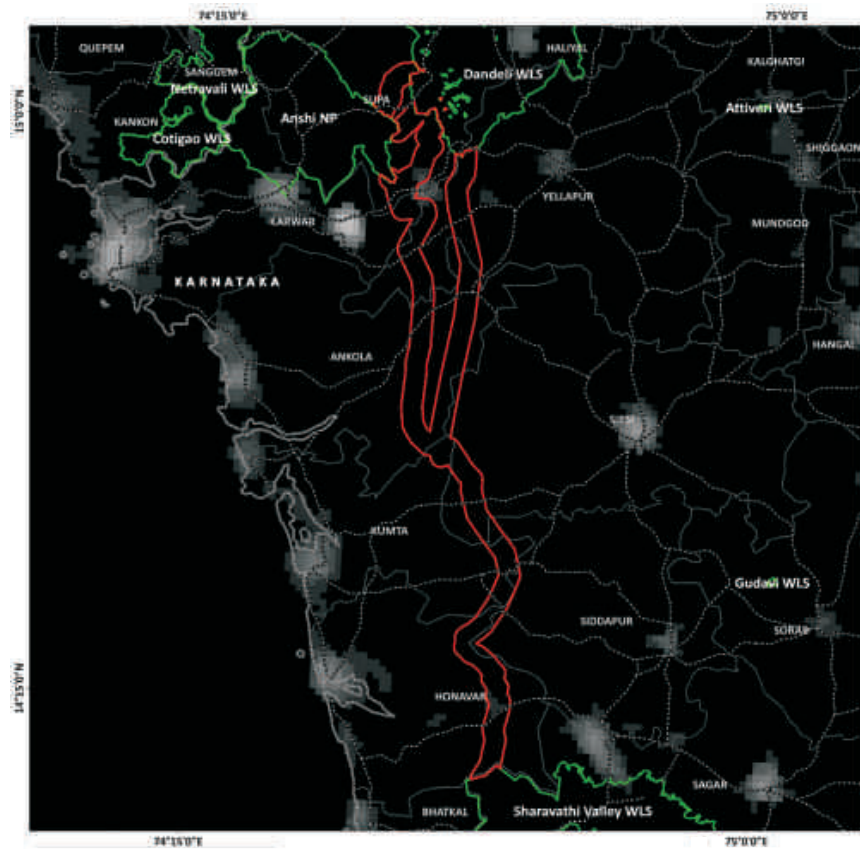




**Figure 3.5:**

*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Anshi-Dandeli-Sharavathi Valley*





**Figure 3.6:**  
Human habitation as depicted by nightlights within the Anshi-Dandeli-Sharavathi Valley landscape in the year 1992 and 2012

## KUDREMUKH-BHADRA

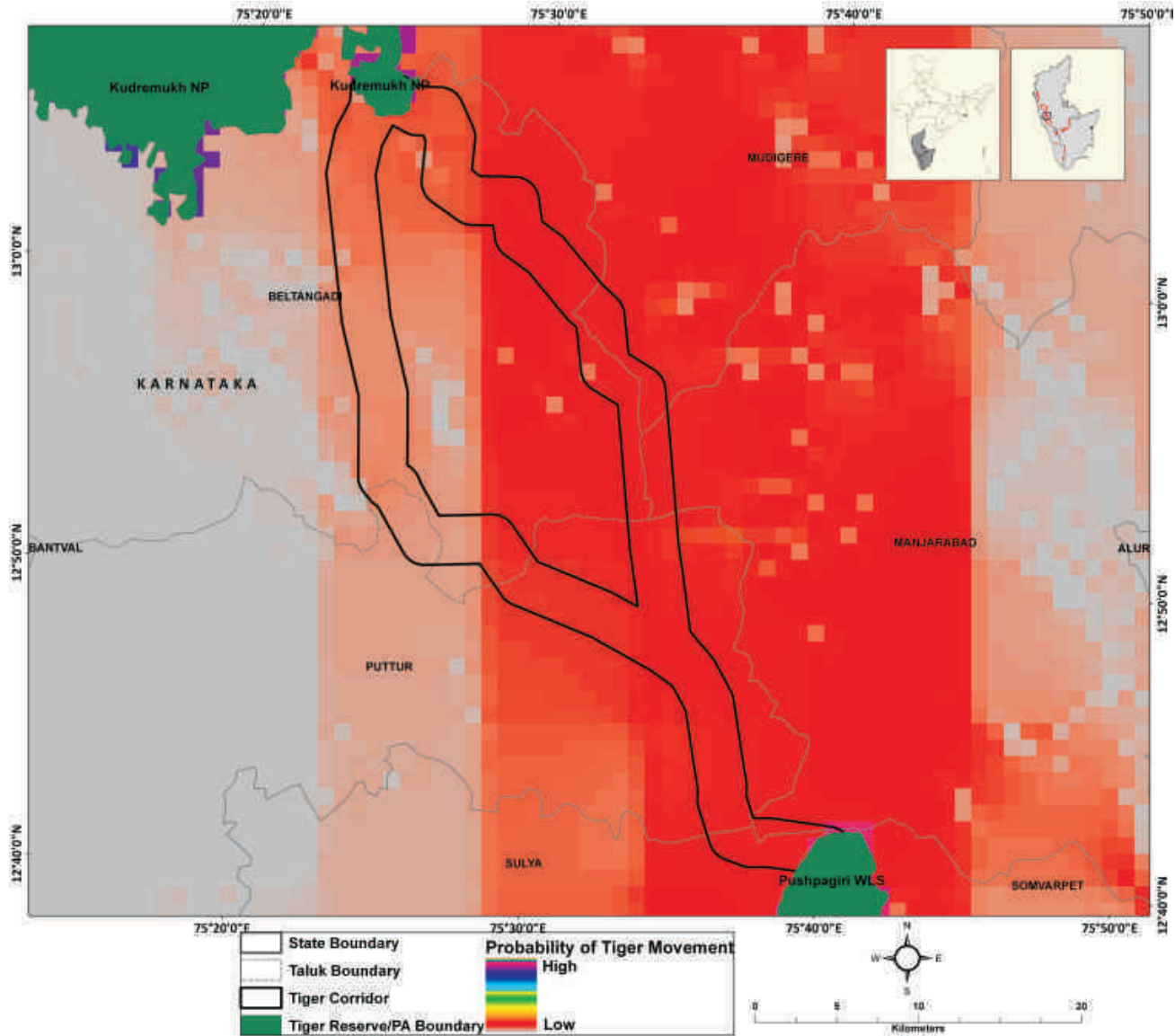
This complex comprises of the central part of the Western Ghats in Karnataka and includes Kudremukh National Park and Bhadra Tiger Reserve. Kudremukh National Park is a proposed Tiger Reserve site and occupies parts of Karkala taluka in Udupi, Belthangadi taluka in Dakshin Kannada and Mudigere, Sringeri and Koppa taluka in Chikmagalur district. Immediately north of Kudremukh is Someshwara Wildlife Sanctuary while Shettihalli Wildlife Sanctuary is located north of Bhadra Tiger Reserve. While this region has relatively low abundance of tigers, the area holds good potential for tiger persistence. The tiger population in 2010 within this complex was estimated to be between 38 and 42 tigers with occupancy in an area of 4,258 km<sup>2</sup>. The area occupied by tigers and the estimated tiger population within this landscape showed a decline in 2010 compared to 2006. The loss in tiger occupancy was observed in the forests south of Bhadra (Chikmagalur taluka), and south-west of Kudremukh (Belthangadi taluka). To the south of this tiger complex is the Nagarahole-Mudumalai-Wayanad complex, with small Protected Areas in-between such as Pushpagiri Wildlife Sanctuary and Talakaveri Wildlife Sanctuary connected with Brahmagiri Wildlife Sanctuary by Padinalknad and Kerti Reserved Forests. The intervening habitat matrix between the Protected Area complexes consist of plantations, agriculture and some scattered habitation along with other Reserved Forests such as Kabbinala, Kagneri and Kiribag. The corridor linkages identified within this landscape and between this landscape and tiger landscapes to the north and south by least cost pathways and Circuitscape flows are essential elements to ensure long term tiger persistence. Connectivity between the Protected Areas within the Kudremukh-Bhadra complex was patchy.

### Kudremukh-Pushpagiri Corridor

|                          |   |
|--------------------------|---|
| <b>Habitat size</b>      | 40589 Km <sup>2</sup>                     |
| <b>Source Population</b> | Kudremukh-Bhadra                          |
| <b>Size of Source</b>    | 40 (38-42) tigers in 4258 Km <sup>2</sup> |
| <b>Protected Areas</b>   | Kudremukh WLS<br>Pushpagiri WLS           |
| <b>Corridors</b>         | Kudremukh NP-Pushpagiri WLS               |

### Someshwara WLS-Kudremukh NP-Bhadra WLS Corridor

|                          |  |
|--------------------------|--|
| <b>Habitat size</b>      | 40589 Km <sup>2</sup>                                  |
| <b>Source Population</b> | Kudremukh-Bhadra                                       |
| <b>Size of Source</b>    | 40 (38-42) in 4258 Km <sup>2</sup>                     |
| <b>Protected Areas</b>   | Kudremukh NP<br>Someshwara WLS<br>Bhadra WLS           |
| <b>Corridors</b>         | Kudremukh NP-Someshwara WLS<br>Kudremukh NP-Bhadra WLS |

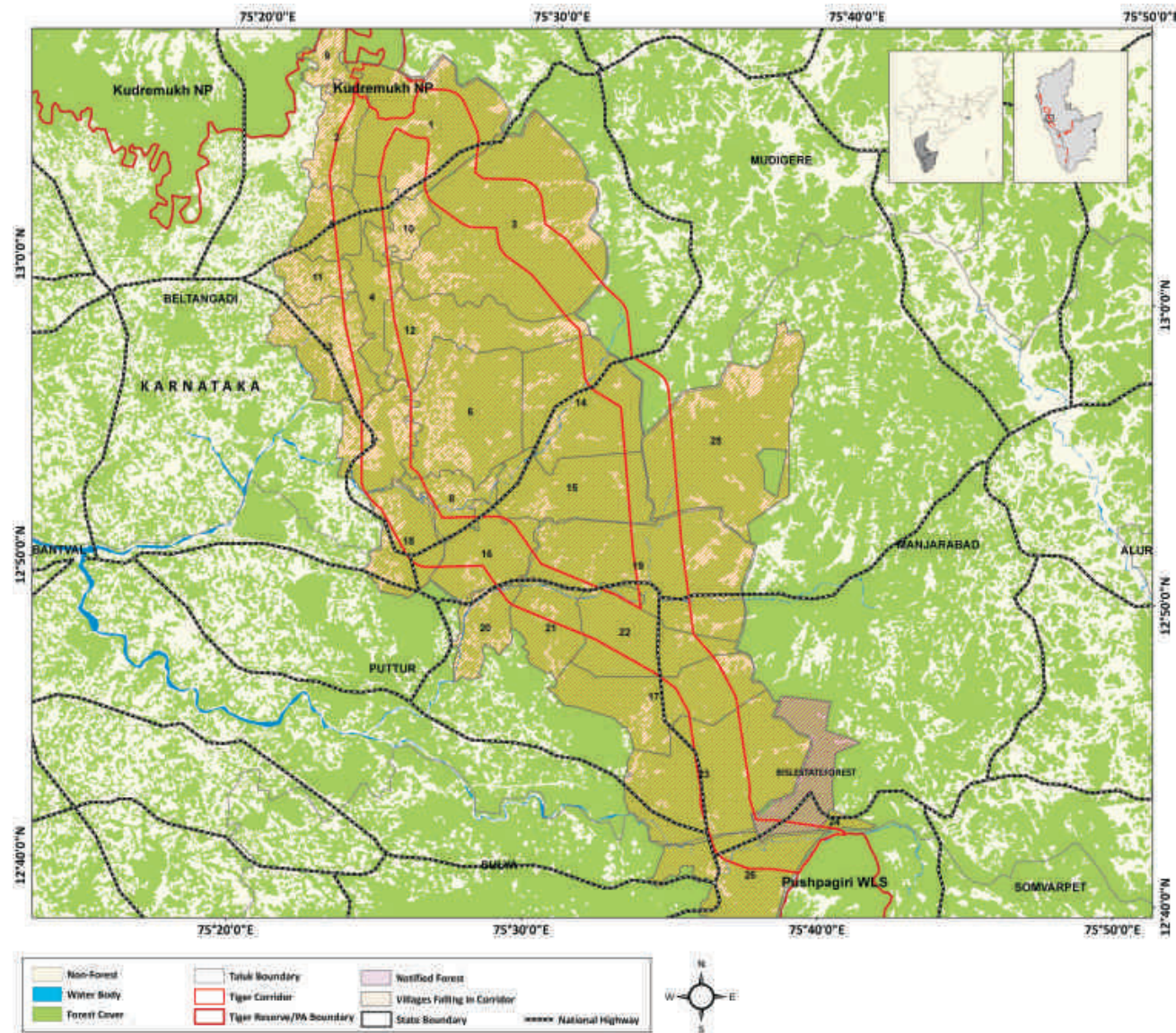


**Figure 3.7:**

Potential habitat connectivity for tiger movement between Kudremukh-Pushpagiri Corridor as depicted by CIRCUITSCAPE model

**Figure 3.8:**

Least Cost Pathway corridor for tiger movement between Kudremukh-Pushpagiri overlaid with village map ( the village numbers are referenced in Table 3.2)



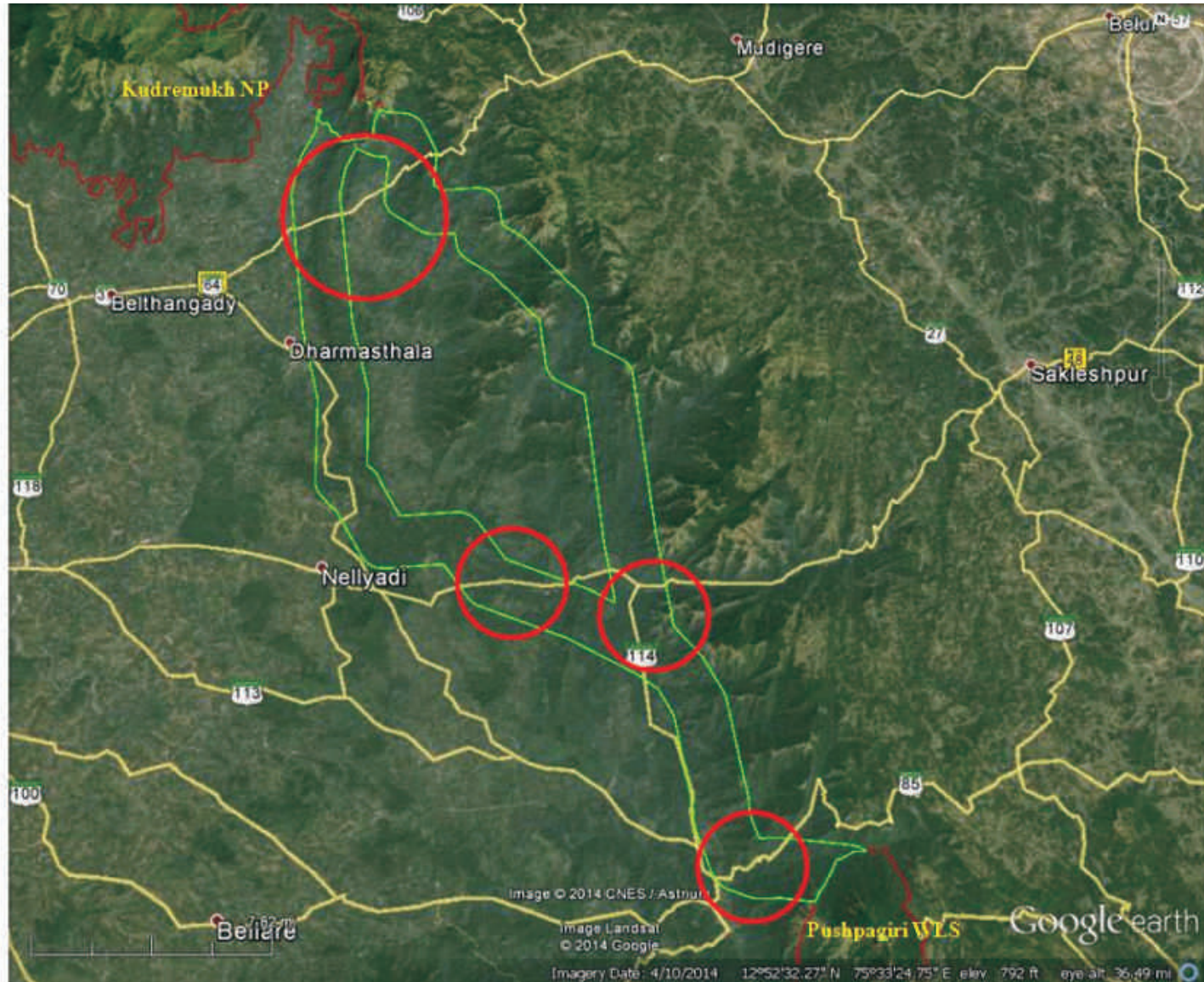
| Village_ID | State     | District  | Tehsil      | Village          | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-----------|-----------|-------------|------------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Karnataka | Mangalore | Belthangadi | Charmadi         | 818                    | 4668                    | 977                    | 5169                    |
| 2          |           |           | Belthangadi | Kadirudyavara    | 626                    | 3360                    | 737                    | 3421                    |
| 3          |           |           | Belthangadi | Neriya           | 1213                   | 6191                    | 1394                   | 6802                    |
| 4          |           |           | Belthangadi | Chibidre         | 360                    | 2212                    | 462                    | 2372                    |
| 5          |           |           | Belthangadi | Mundaje          | 770                    | 3804                    | 903                    | 4259                    |
| 6          |           |           | Belthangadi | Kalanja          | 907                    | 4515                    | 1057                   | 4988                    |
| 7          |           |           | Belthangadi | Nidle            | 579                    | 2905                    | 667                    | 3025                    |
| 8          |           |           | Belthangadi | Hathyadka        | 590                    | 2835                    | 629                    | 2789                    |
| 9          |           |           | Belthangadi | Mittabagilu      | 613                    | 3341                    | 773                    | 4002                    |
| 10         |           |           | Belthangadi | Totatadi         | 634                    | 3222                    | 750                    | 3591                    |
| 11         |           |           | Belthangadi | Kalmanja         | 589                    | 3192                    | 771                    | 3709                    |
| 12         |           |           | Belthangadi | Puduvetta        | 612                    | 3060                    | 731                    | 3343                    |
| 13         |           |           | Belthangadi | Dharmastala      | 1868                   | 9258                    | 2181                   | 9818                    |
| 14         |           |           | Belthangadi | Shisla           | 434                    | 2070                    | 471                    | 2090                    |
| 15         |           |           | Belthangadi | Shibaje Male     | Na                     | Na                      | Na                     | Na                      |
| 16         |           |           | Belthangadi | Rekya            | 450                    | 2092                    | 500                    | 2079                    |
| 17         |           |           | Puttur      | Kombar           | 525                    | 2586                    | 592                    | 2684                    |
| 18         |           |           | Puttur      | Koukradi         | 815                    | 4281                    | 1039                   | 4916                    |
| 19         |           |           | Puttur      | Shiradi          | 672                    | 3164                    | 746                    | 2933                    |
| 20         |           |           | Puttur      | Nujibaltila      | 682                    | 3320                    | 759                    | 3278                    |
| 21         |           |           | Puttur      | Kenje            | Na                     | Na                      | Na                     | Na                      |
| 22         |           |           | Puttur      | Shirivagilu      | 143                    | 714                     | 153                    | 667                     |
| 23         |           |           | Puttur      | Bilenele         | 740                    | 3501                    | 819                    | 3580                    |
| 24         |           | Hassan    | Sakaleshpur | Na               | Na                     | Na                      | 82                     | 335                     |
| 25         |           |           | Sakaleshpur | Kumarhalli       | Na                     | Na                      | Na                     | Na                      |
| 26         |           |           | Sakaleshpur | Bislestateforest | Na                     | Na                      | Na                     | Na                      |
| 27         |           | Mangalore | Sulya       | Subrahmanya      | 810                    | 3447                    | 1012                   | 4443                    |

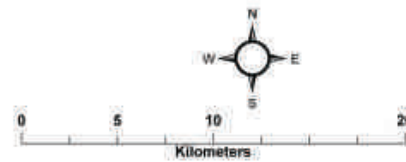
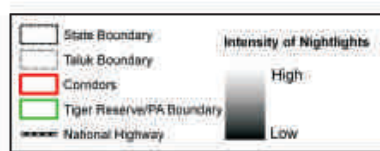
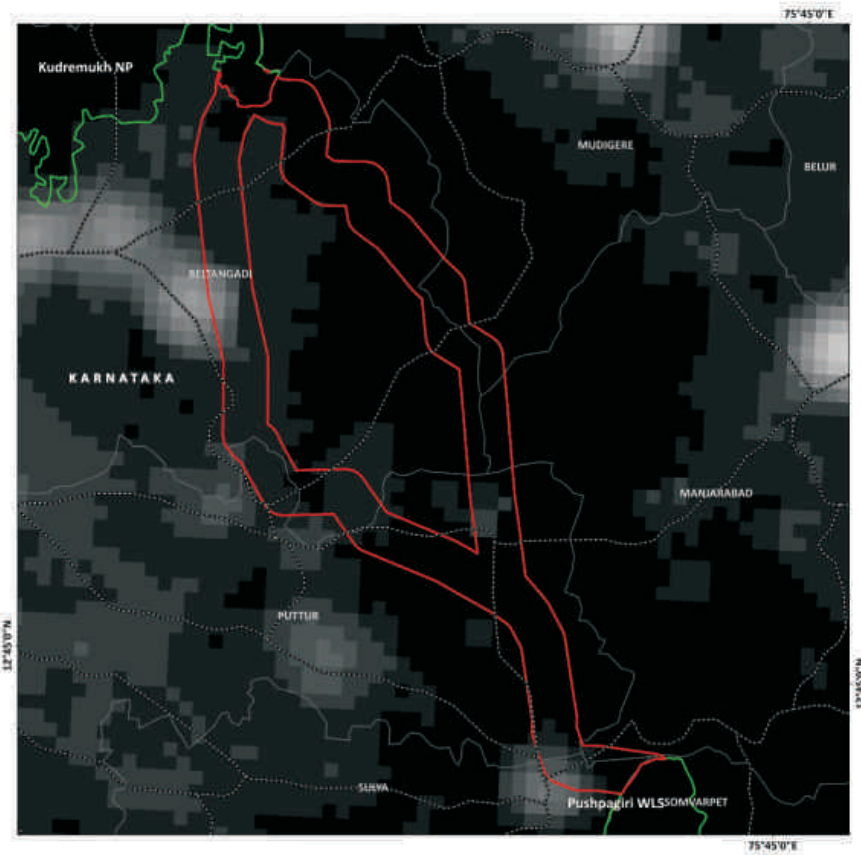
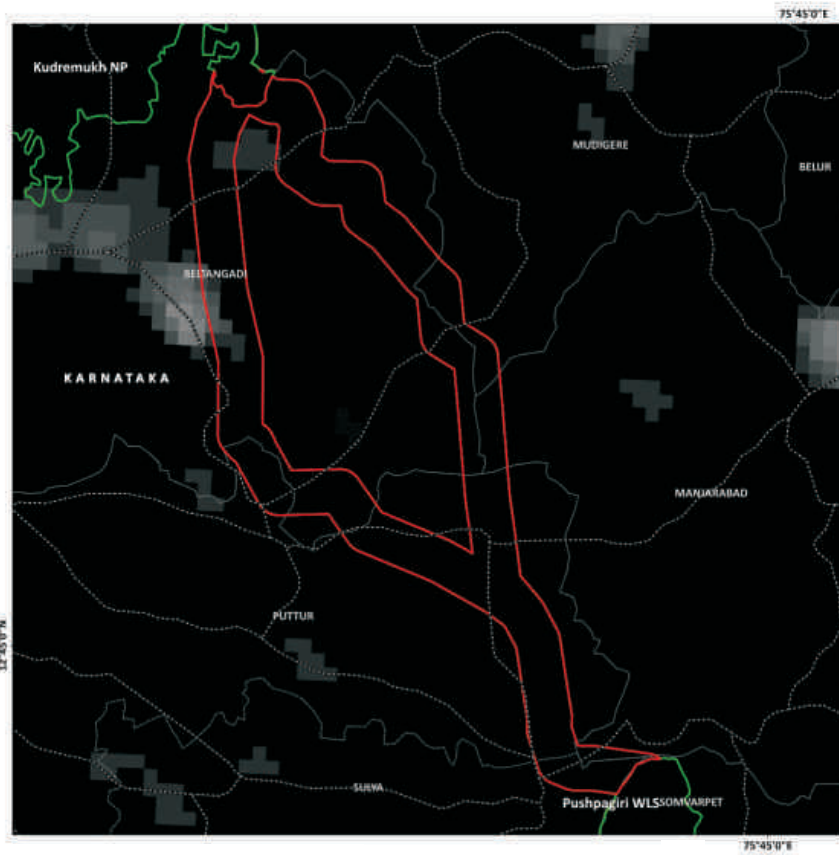
**Table 3.2:**

*Villages within the Least Cost Pathway Corridor between Kudremukh-Pushpagiri Valley as shown in Fig. 3.8*

**Figure 3.9:**

*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Kudremukh-Pushpagiri*



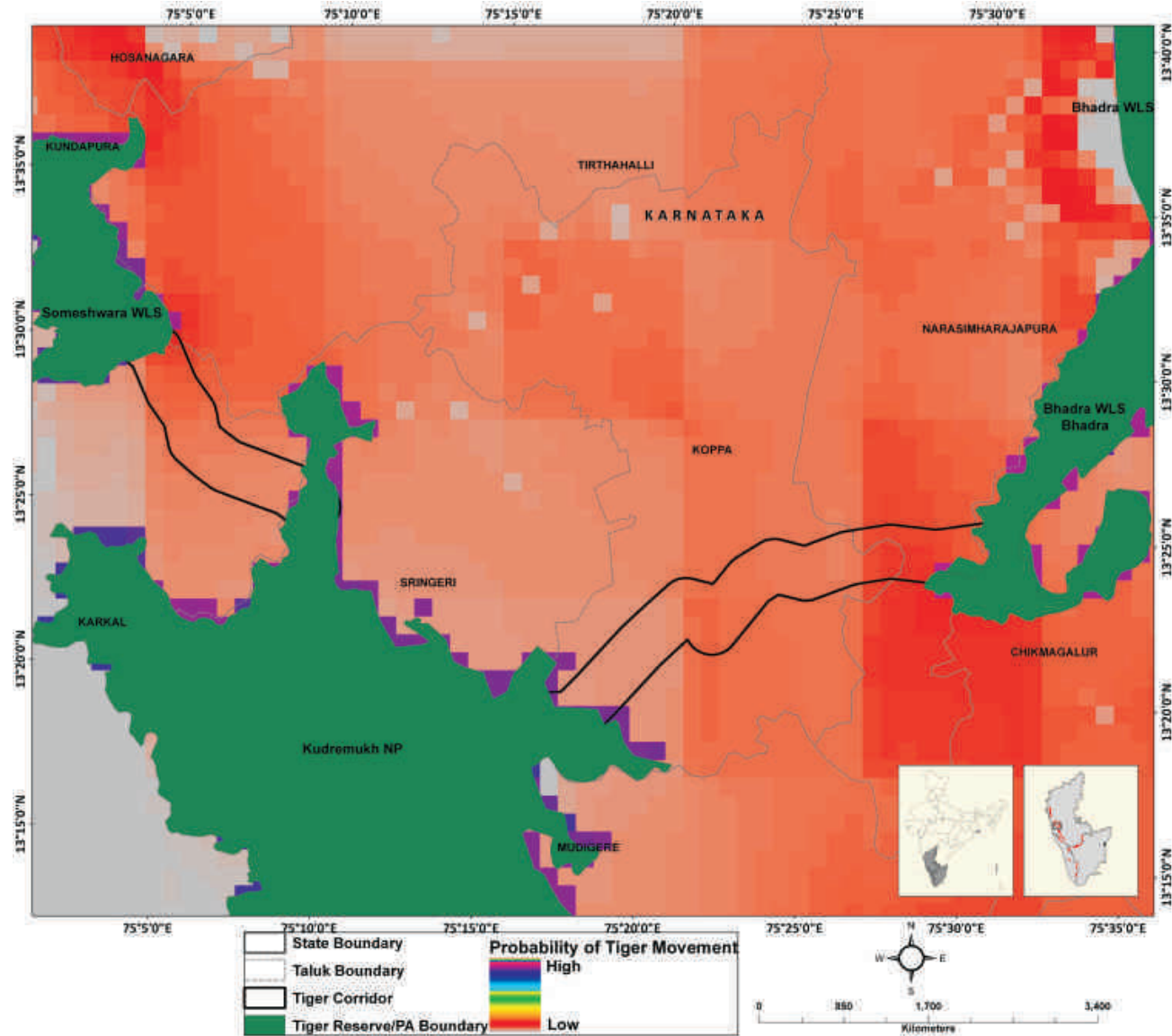


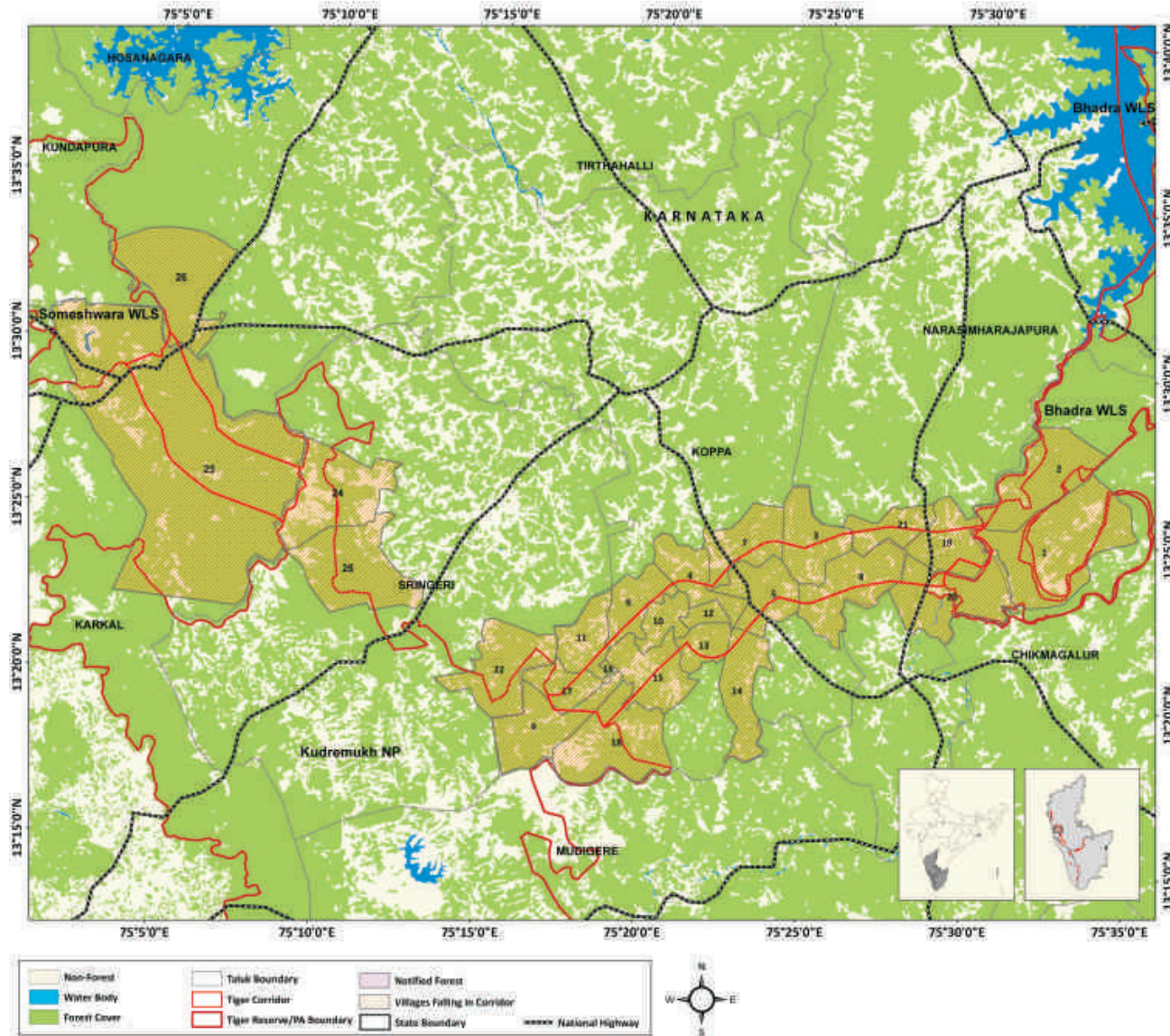
**Figure 3.10:**  
*Human habitation as depicted by nightlights within the Kudremukh-Pushpagiri Corridor landscape in the year 1992 and 2012*



**Figure 3.11:**

Potential habitat connectivity for tiger movement between Someshwara WLS-Kudremukh NP-Bhadra WLS Corridor as depicted by CIRCUITSCAPE model



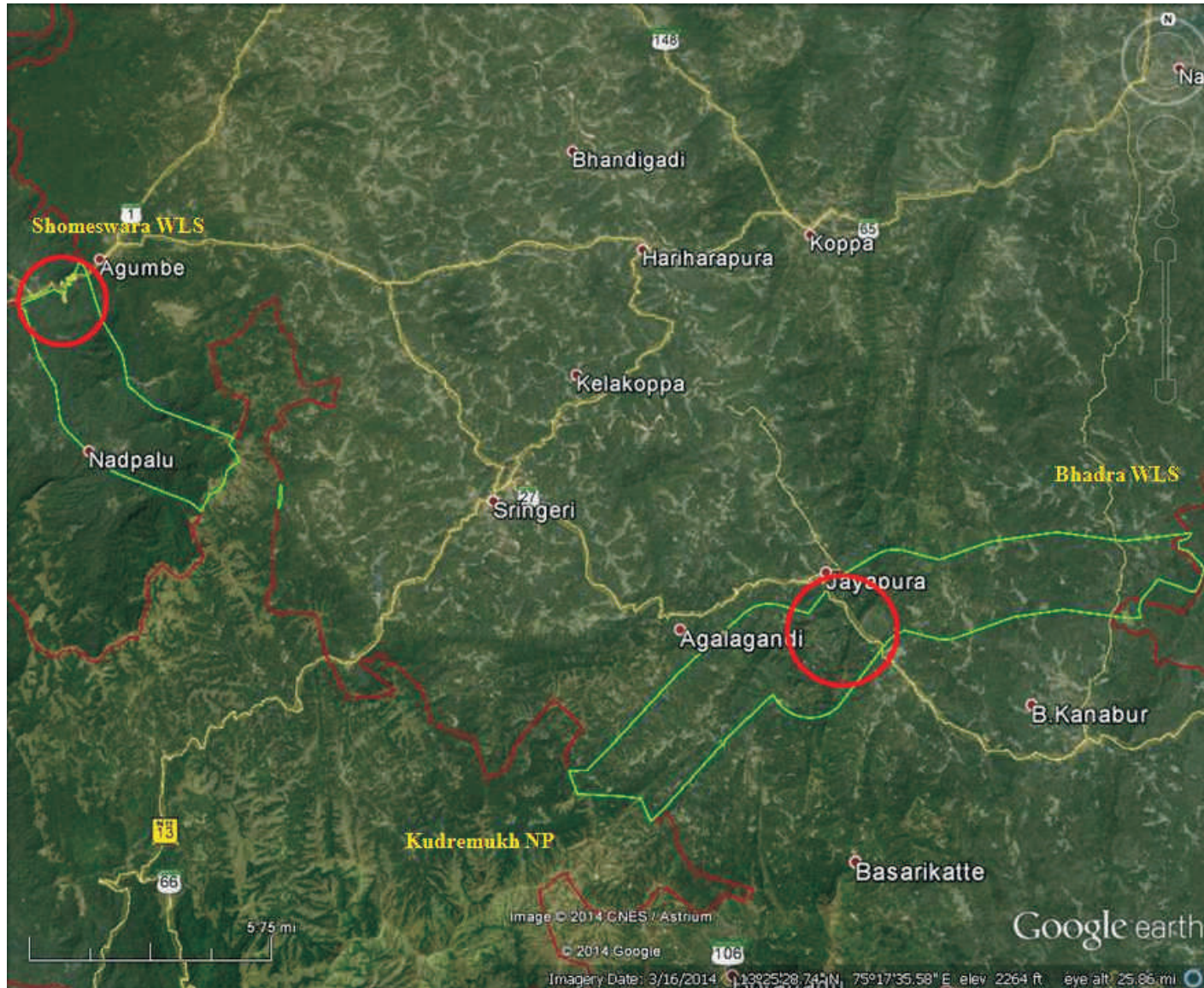


**Figure 3.12:** Least Cost Pathway corridor for tiger movement between Someshwara WLS- Kudremukh NP-Bhadra WLS overlaid with village map (the village numbers are referenced in Table 3.3)

| Village_ID | State     | District    | Tehsil       | Village           | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-----------|-------------|--------------|-------------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Karnataka | Chikmagalur | Chikmagalur  | Bidare            | 606                    | 2727                    | 557                    | 2250                    |
| 2          |           |             | Chikmagalur  | Shirgota          | 166                    | 705                     | 140                    | 504                     |
| 3          |           |             | Koppa        | Hiregadde         | 352                    | 1551                    | 24                     | 101                     |
| 4          |           |             | Koppa        | Kulur             | 402                    | 1884                    | 455                    | 1874                    |
| 5          |           |             | Koppa        | Yelemadalu        | 473                    | 2094                    | 527                    | 2117                    |
| 6          |           |             | Koppa        | Megur             | 106                    | 568                     | 104                    | 527                     |
| 7          |           |             | Koppa        | Jayapur           | 874                    | 3696                    | 917                    | 3454                    |
| 8          |           |             | Koppa        | Adigebail         | 560                    | 2362                    | 509                    | 1943                    |
| 9          |           |             | Koppa        | Agalagundi        | 247                    | 1137                    | 234                    | 918                     |
| 10         |           |             | Koppa        | Hulagaradi        | 121                    | 562                     | 111                    | 486                     |
| 11         |           |             | Koppa        | Heggar            | 172                    | 784                     | 150                    | 641                     |
| 12         |           |             | Koppa        | Bachal Kan        | Na                     | Na                      | Na                     | Na                      |
| 13         |           |             | Koppa        | Guddetota         | 264                    | 1137                    | 262                    | 1053                    |
| 14         |           |             | Koppa        | Honnugundi        | 289                    | 1333                    | 288                    | 1350                    |
| 15         |           |             | Koppa        | Bhairadevar       | 421                    | 1809                    | 439                    | 1617                    |
| 16         |           |             | Koppa        | Na                | Na                     | Na                      | 82                     | 335                     |
| 17         |           |             | Koppa        | Harlane           | 142                    | 706                     | 139                    | 573                     |
| 18         |           |             | Koppa        | Kallugudda        | 224                    | 1088                    | 249                    | 1001                    |
| 19         |           |             | N.r.pura     | Kolhalli          | Na                     | Na                      | 151                    | 681                     |
| 20         |           |             | N.r.pura     | Maduguni          | Na                     | Na                      | Na                     | Na                      |
| 21         |           |             | N.r.pura     | Megaramakki       | 155                    | 690                     | 187                    | 710                     |
| 22         |           |             | Sringeri     | Malnadu           | 130                    | 731                     | 157                    | 742                     |
| 23         |           | Udupi       | Karkal       | Nadpal            | 509                    | 2578                    | 563                    | 2478                    |
| 24         |           | Chikmagalur | Sringeri     | Rushyashringapura | 365                    | 1588                    | 394                    | 1501                    |
| 25         |           |             | Sringeri     | Yedahalli         | 240                    | 1162                    | 80                     | 407                     |
| 26         |           | Shimoga     | Thirthahalli | Agumbe            | NA                     | NA                      | NA                     | NA                      |

**Table 3.3:**

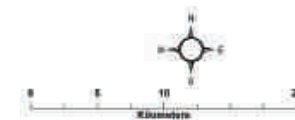
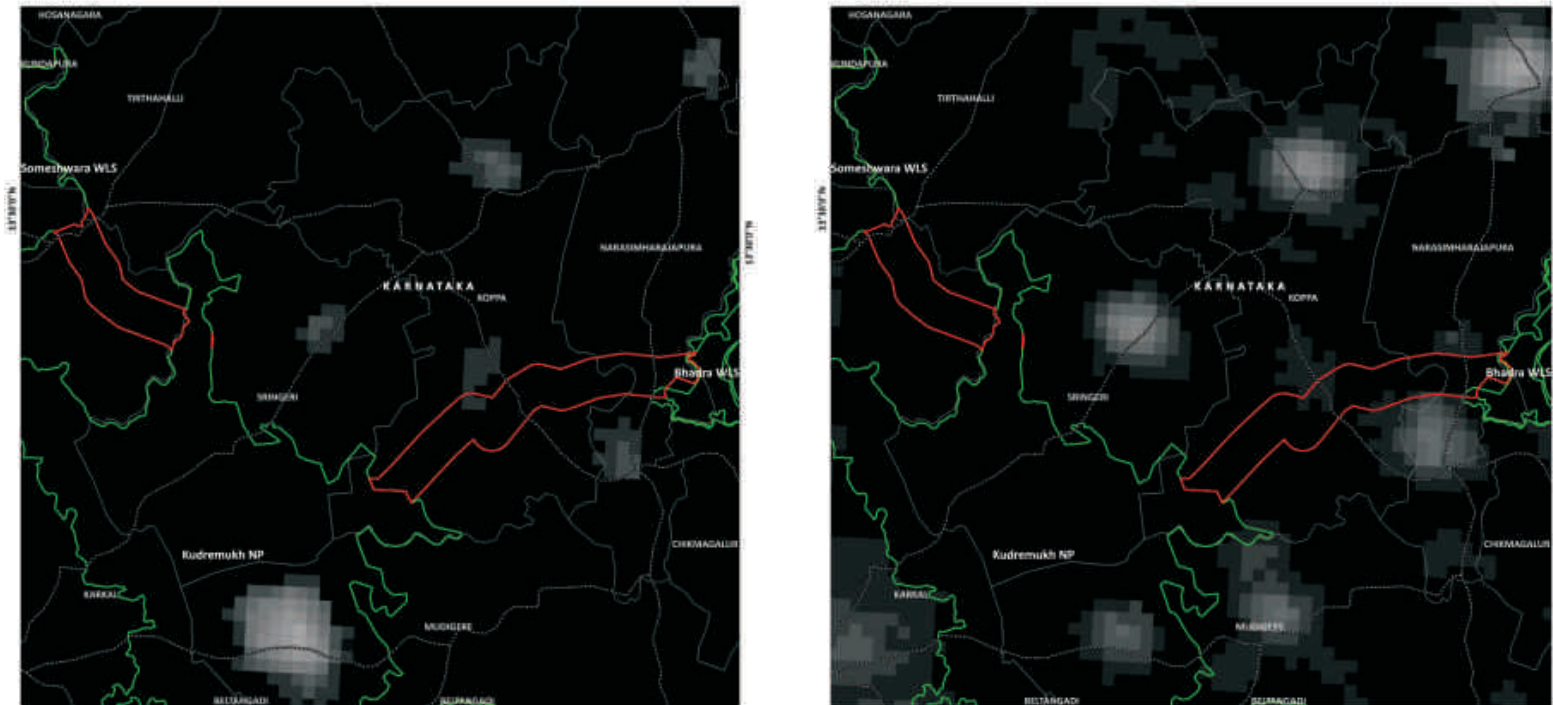
*Villages within the Least Cost Pathway Corridor between Someshwara WLS-Kudremukh NP-Bhadra WLS as shown in Fig. 3.12*



**Figure 3.13:**  
Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Shomeswara WLS- Kudremukh NP-Bhadra WLS

**Figure 3.14:**

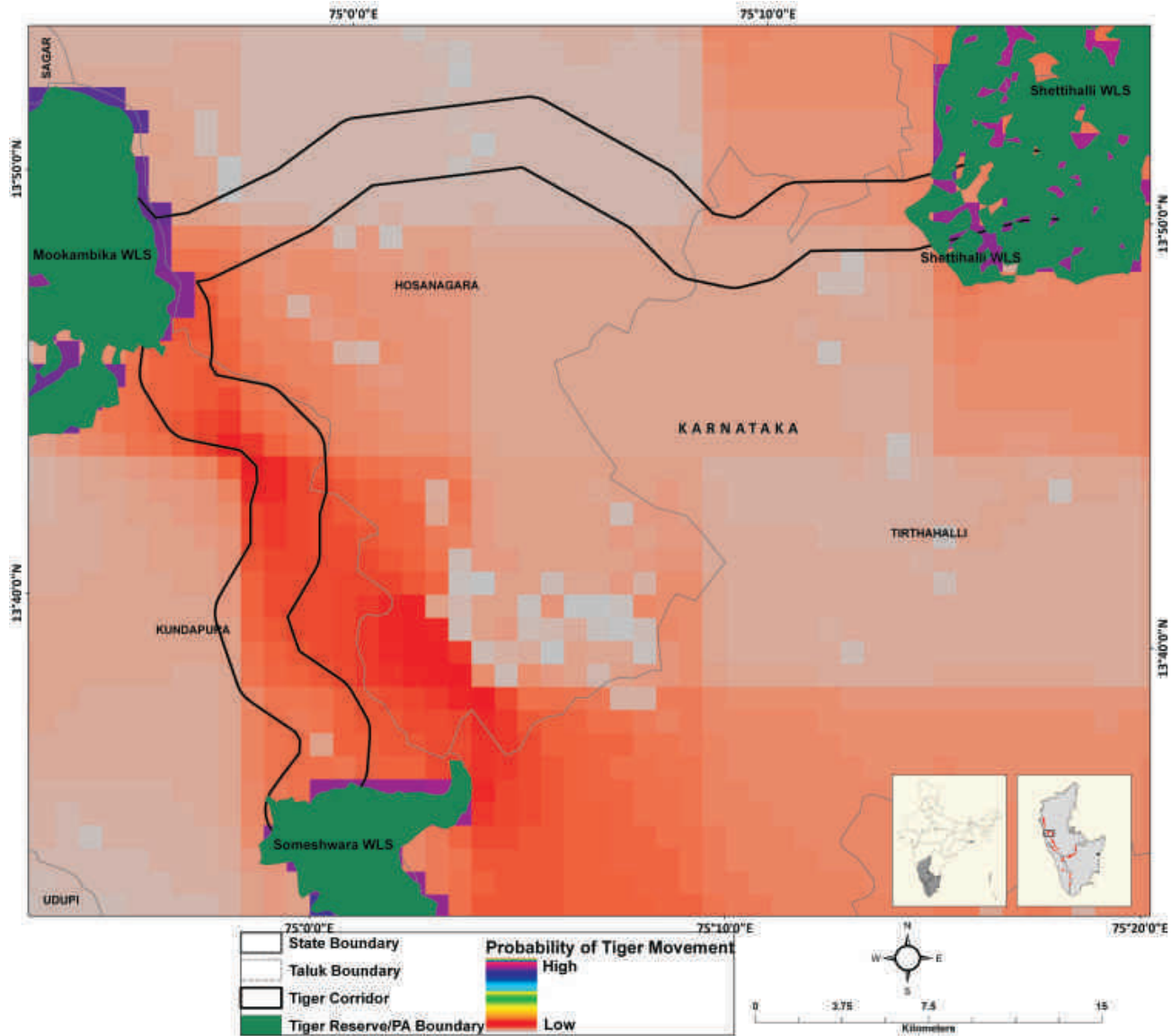
Human habitation as depicted by nightlights within the Someshwara WLS-Kudremukh NP-Bhadra WLS Corridor landscape in the year 1992



**Someshwara-Mookambika-Shettihalli WLS corridor**

|                          |  |
|--------------------------|--|
| <b>Habitat size</b>      | 40589 Sq. Km   |
| <b>Source Population</b> | Anshi NP<br>Dandeli WLS  |
| <b>Size of Source</b>    | 39 (36-42) tigers in 4756 Sq. Km                               |
| <b>Protected Areas</b>   | Someshwara WLS<br>Mookambika WLS<br>Shettihali WLS             |
| <b>Corridors</b>         | Someshwara WLS-Mookambika WLS<br>Mookambika WLS-Shettihali WLS |

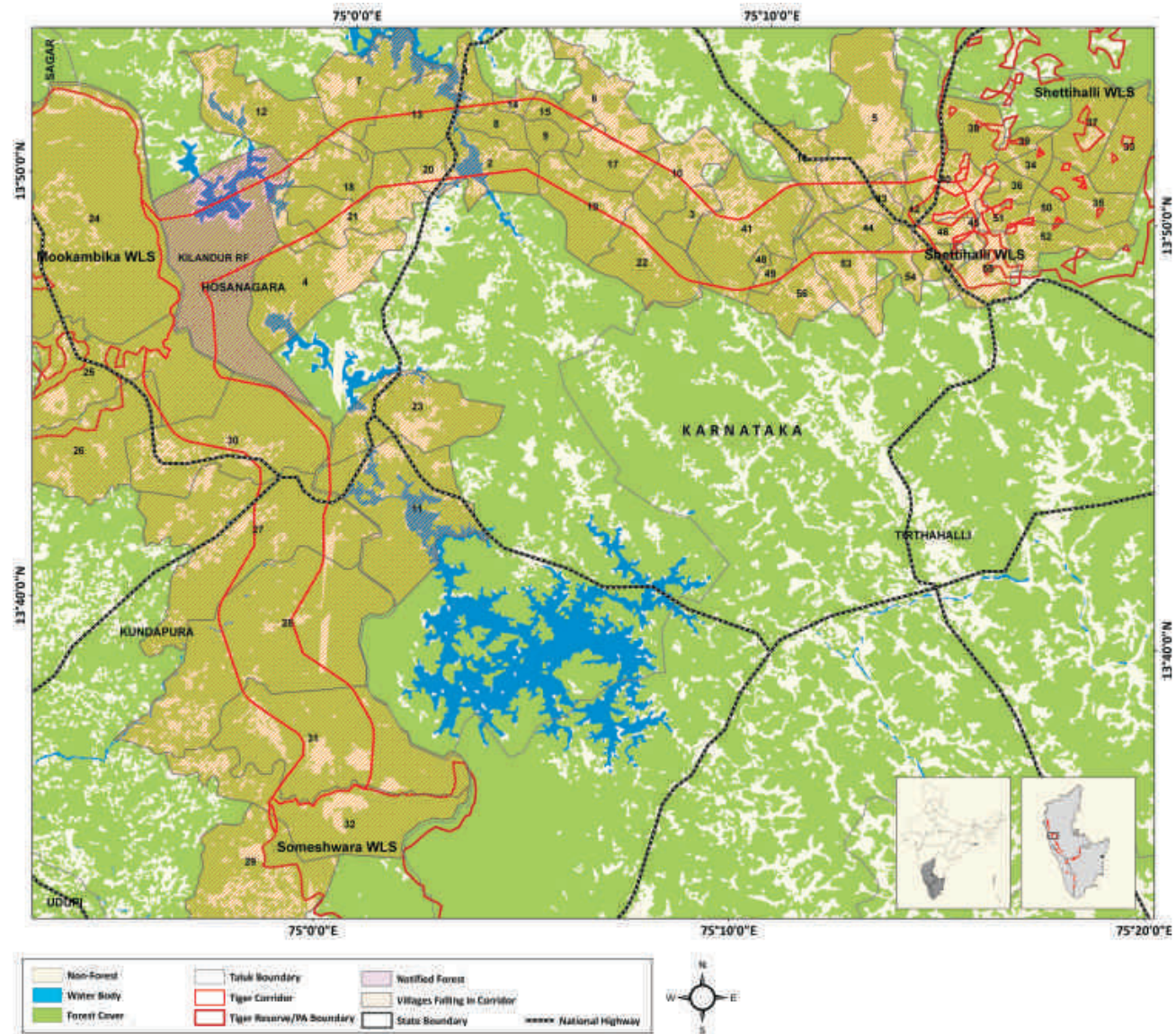
Mookambika Wildlife Sanctuary is connected to Someshwara Wildlife Sanctuary in the south through Reserved Forests of Hulikal, Varahi and Tombattu; which is further connected to Kudremukh National Park through contiguous forest. On the east, Mookambika Wildlife Sanctuary is poorly connected to Shettihali Wildlife Sanctuary through narrow ridge-top forests, the last part (8-10 km) of which traverses habitation and agriculture, with small patches of forests providing "stepping stone" connectivity.



**Figure 3.15:**  
Potential habitat connectivity for tiger movement between Someshwara-Mookambika-Shettihalli WLS corridor as depicted by CIRCUITSCAPE model

**Figure 3.16:**

Least Cost Pathway corridor for tiger movement between Someshwara-Mookambika-Shettihalli WLS overlaid with village map (the village numbers are referenced in Table 3.4)



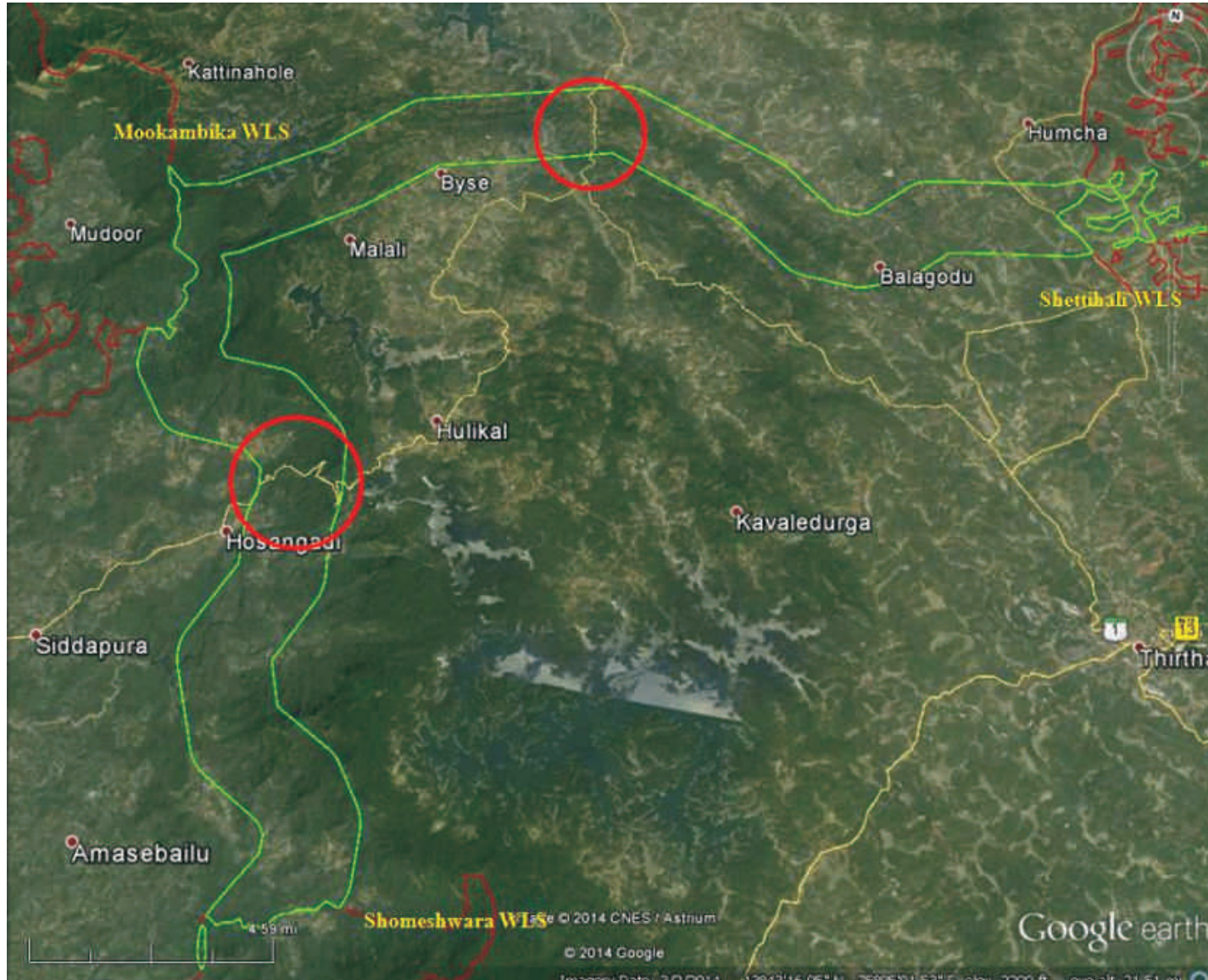
| Village_ID | State     | District | Tehsil     | Village            | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-----------|----------|------------|--------------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Karnataka | Shimoga  | Hosanagara | Balekoppa          | 26                     | 200                     | 43                     | 207                     |
| 2          |           |          | Hosanagara | Kodase             | 52                     | 260                     | 66                     | 255                     |
| 3          |           |          | Hosanagara | Billodi            | 89                     | 384                     | 96                     | 438                     |
| 4          |           |          | Hosanagara | Malali             | 55                     | 288                     | 59                     | 353                     |
| 5          |           |          | Hosanagara | Malalikoppa        | 83                     | 436                     | 96                     | 446                     |
| 6          |           |          | Hosanagara | Gorgodu            | 161                    | 858                     | 204                    | 954                     |
| 7          |           |          | Hosanagara | Aramanekoppa       | 218                    | 1023                    | 234                    | 958                     |
| 8          |           |          | Hosanagara | Haniya             | 76                     | 370                     | 80                     | 320                     |
| 9          |           |          | Hosanagara | Nellunde           | 40                     | 199                     | 50                     | 197                     |
| 10         |           |          | Hosanagara | Sonale             | 229                    | 1154                    | 248                    | 1134                    |
| 11         |           |          | Hosanagara | Nidagodu           | 154                    | 692                     | 266                    | 1043                    |
| 12         |           |          | Hosanagara | Mattikai           | 166                    | 753                     | 193                    | 766                     |
| 13         |           |          | Hosanagara | Brahmanataruve     | 85                     | 384                     | 102                    | 369                     |
| 14         |           |          | Hosanagara | Kukkodagasaramane  | 112                    | 488                     | 140                    | 501                     |
| 15         |           |          | Hosanagara | Ramachandrapur     | 117                    | 617                     | 38                     | 121                     |
| 16         |           |          | Hosanagara | Honnebailu         | 211                    | 1034                    | 228                    | 883                     |
| 17         |           |          | Hosanagara | Trineve            | 188                    | 924                     | 202                    | 916                     |
| 18         |           |          | Hosanagara | Brahmanvad         | 95                     | 443                     | 114                    | 494                     |
| 19         |           |          | Hosanagara | Togare             | 142                    | 705                     | 152                    | 637                     |
| 20         |           |          | Hosanagara | Basavanbyana       | 49                     | 245                     | 55                     | 262                     |
| 21         |           |          | Hosanagara | Baise              | 183                    | 886                     | 208                    | 961                     |
| 22         |           |          | Hosanagara | Kalluvidiabbigalla | 97                     | 462                     | 114                    | 417                     |
| 23         |           |          | Hosanagara | Kairakunda         | 732                    | 3001                    | 475                    | 1704                    |
| 24         |           | Udupi    | Kundapura  | Muduru             | 660                    | 3033                    | 694                    | 2973                    |
| 25         |           |          | Kundapura  | Halihole           | 443                    | 2460                    | 495                    | 2328                    |
| 26         |           |          | Kundapura  | Bellal             | 499                    | 2728                    | 552                    | 2780                    |
| 27         |           |          | Kundapura  | Hosangadi          | 1040                   | 4972                    | 1131                   | 4872                    |
| 28         |           |          | Kundapura  | Machattu           | 456                    | 2722                    | 532                    | 2616                    |
| 29         |           |          | Kundapura  | Shedimane          | 413                    | 2023                    | 492                    | 2370                    |
| 30         |           |          | Kundapura  | Yedamoge           | NA                     | NA                      | NA                     | NA                      |

**Table 3.4:**

*Villages within the Least Cost Pathway Corridor between Someshwara-Mookambika-Shettihalli WLS as shown in Fig. 3.16*



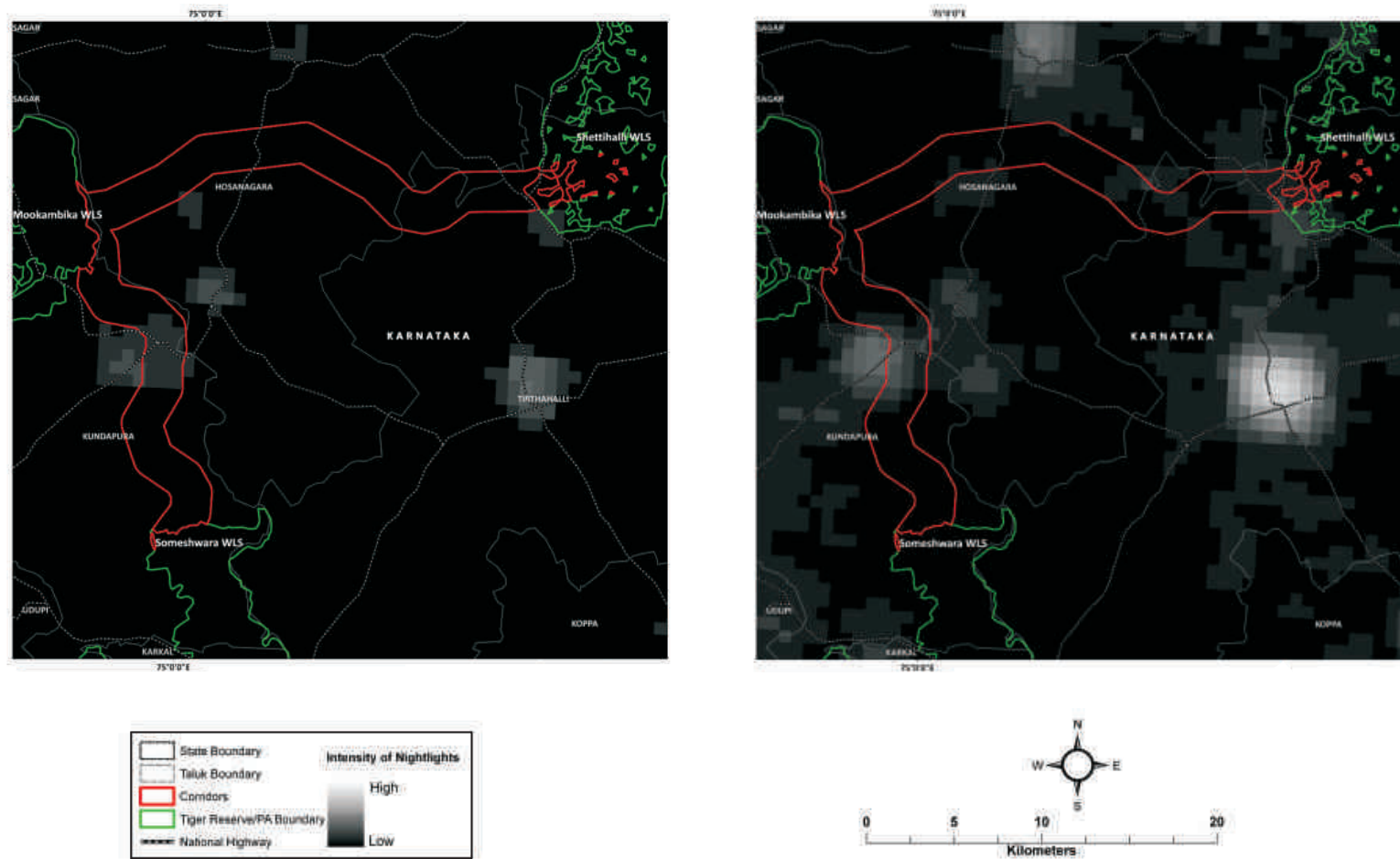
| Village_ID | State | District | Tehsil       | Village         | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|--------------|-----------------|------------------------|-------------------------|------------------------|-------------------------|
| 31         |       |          | Kundapura    | Amasebail       | 524                    | 2654                    | 614                    | 3034                    |
| 32         |       |          | Kundapura    | Samshe          | NA                     | NA                      | NA                     | NA                      |
| 33         |       | Shimoga  | Thirthahalli | Vatigar         | 55                     | 263                     | 60                     | 255                     |
| 34         |       |          | Thirthahalli | Hire Kallahalli | 29                     | 163                     | 33                     | 142                     |
| 35         |       |          | Thirthahalli | Torebail        | 87                     | 411                     | 108                    | 459                     |
| 36         |       |          | Thirthahalli | Chik Kallahalli | 54                     | 348                     | 73                     | 315                     |
| 37         |       |          | Thirthahalli | Alur            | 99                     | 499                     | 3                      | 13                      |
| 38         |       |          | Thirthahalli | Kesare          | 123                    | 497                     | 109                    | 417                     |
| 39         |       |          | Thirthahalli | Umblebailu      | 8                      | 37                      | 9                      | 38                      |
| 40         |       |          | Thirthahalli | Muniyur         | 277                    | 1273                    | 308                    | 1414                    |
| 41         |       |          | Thirthahalli | Shankarapura    | 245                    | 1168                    | 19                     | 72                      |
| 42         |       |          | Thirthahalli | Mandaka         | 18                     | 62                      | 18                     | 62                      |
| 43         |       |          | Thirthahalli | Shankarahalli   | 36                     | 207                     | 41                     | 209                     |
| 44         |       |          | Thirthahalli | Hosakoppa       | 39                     | 210                     | 14                     | 66                      |
| 45         |       |          | Thirthahalli | Karekoppa       | 6                      | 25                      | 221                    | 947                     |
| 46         |       |          | Thirthahalli | Hadigallu       | 179                    | 839                     | 271                    | 1078                    |
| 47         |       |          | Thirthahalli | Halavanahalli   | 60                     | 274                     | 63                     | 237                     |
| 48         |       |          | Thirthahalli | Balagodu        | 26                     | 100                     | 32                     | 108                     |
| 49         |       |          | Thirthahalli | Aralasurali     | 109                    | 508                     | 130                    | 460                     |
| 50         |       |          | Thirthahalli | Bidi            | 15                     | 78                      | 1025                   | 4445                    |
| 51         |       |          | Thirthahalli | Melina Kadkod   | 36                     | 181                     | 41                     | 178                     |
| 52         |       |          | Thirthahalli | Demalapura      | 158                    | 688                     | 188                    | 767                     |
| 53         |       |          | Thirthahalli | Malleswara      | 188                    | 935                     | 351                    | 1498                    |
| 54         |       |          | Thirthahalli | Kardiga         | 135                    | 670                     | 178                    | 727                     |
| 55         |       |          | Thirthahalli | Konanduru       | 883                    | 4009                    | 996                    | 3973                    |
| 56         |       |          | Thirthahalli | Siragaru        | 274                    | 1217                    | 296                    | 1210                    |



**Figure 3.17:**  
 Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Someshwara-Mookambika-Shettihalli WLS

**Figure 3.18:**

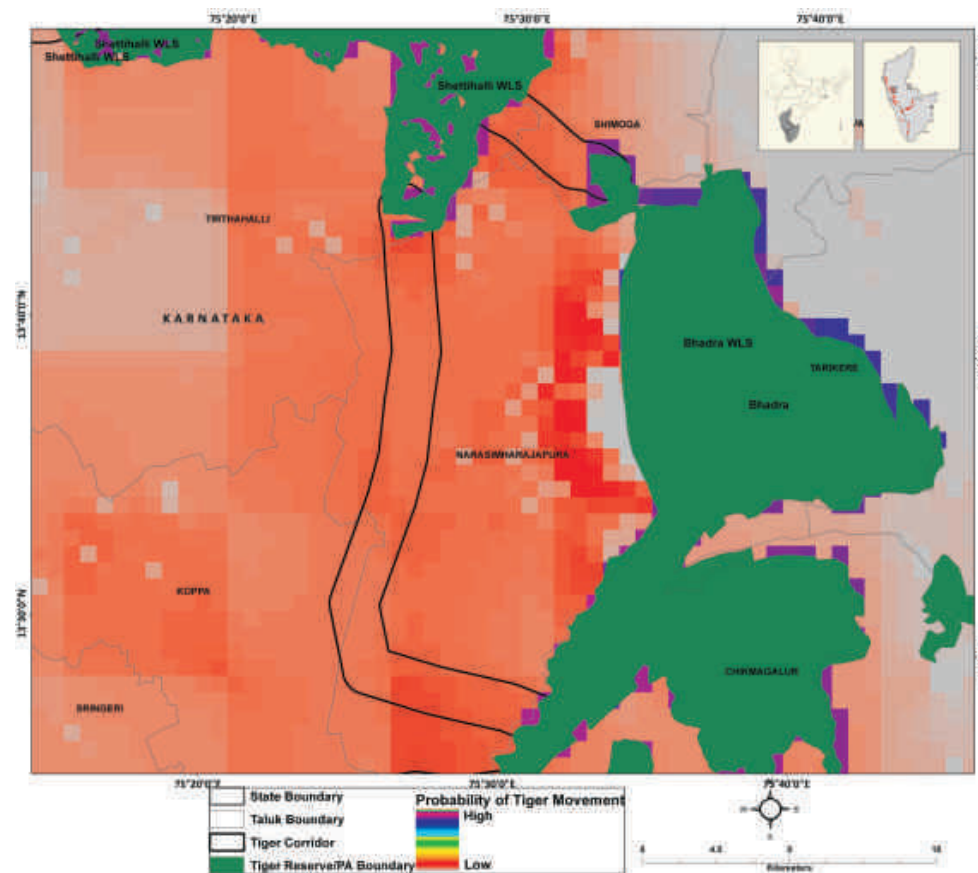
Human habitation as depicted by nightlights within the Someshwara-Mookambika-Shettihalli WLS Corridor landscape in the year 1992



The Reserved Forests of Northern Cardamom Hills, Choranyedahalli, Kakanhosudi and Tamadihalli connect Shettihalli Wildlife Sanctuary to the northern parts of Bhadra Tiger Reserve. While this habitat matrix is permeable for wildlife movement, it is dotted with few agricultural developments which could grow into barriers at a later date. Connectivity to the southern portion of Bhadra with Shettihalli was only through ridge top forests and at risk of being broken at some places by agriculture development. Habitat matrix intervening Bhadra Tiger Reserve and Kudremukh National Park was conducive for movement of tigers and their prey, but designating a formal corridor within this matrix would ensure this connectivity for the future.

**Bhadra-Shettihalli WLS Corridor**

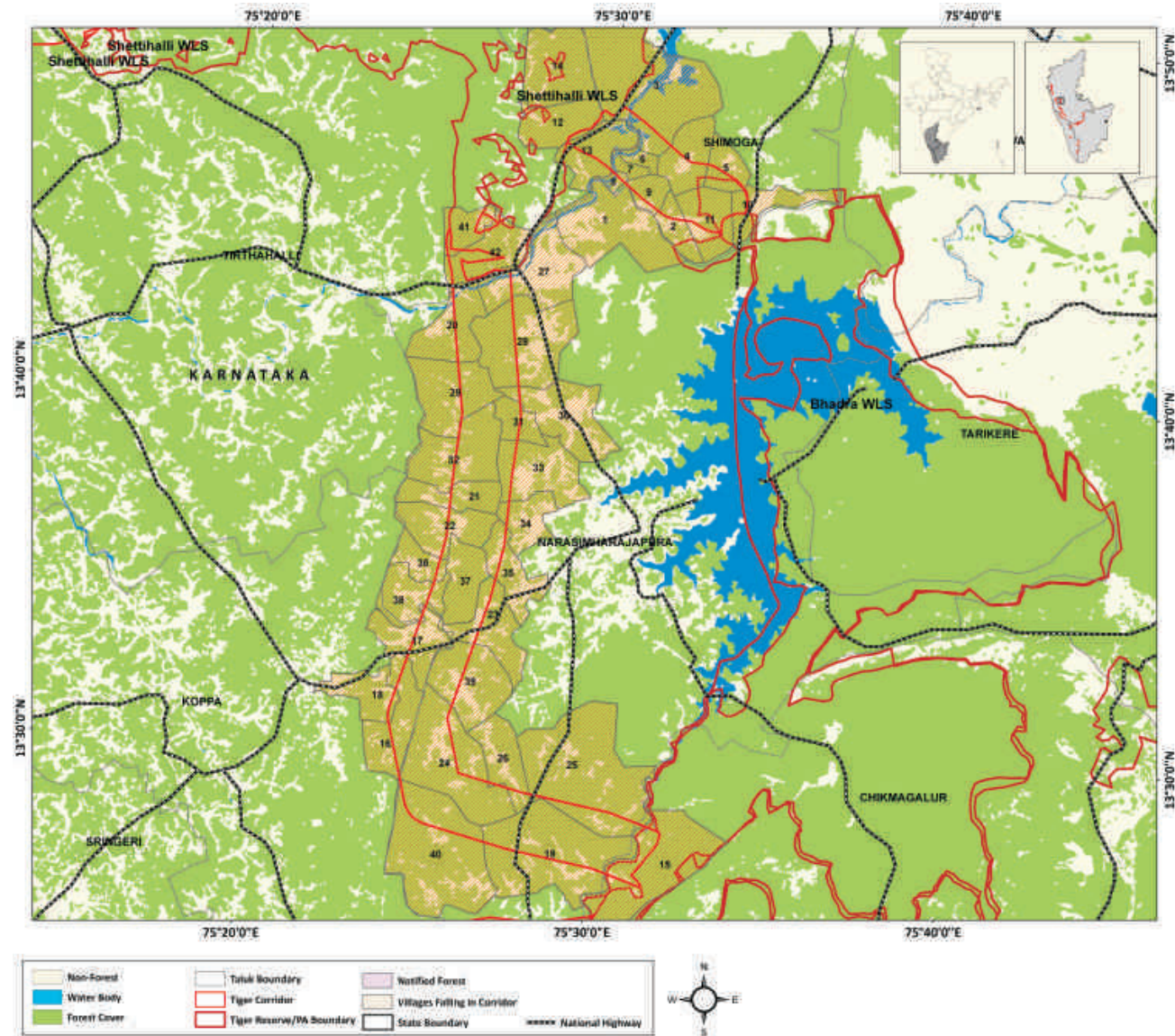
|                          |  |
|--------------------------|--|
| <b>Habitat size</b>      | 40589 Km <sup>2</sup>                                      |
| <b>Source Population</b> | Kudremukh-Bhadra   |
| <b>Size of Source</b>    | 40 (38-42) tigers in 4258 Km <sup>2</sup>                  |
| <b>Protected Areas</b>   | Bhadra WLS<br>Shettihali WLS                               |
| <b>Corridors</b>         | Shettihali WLS-Bhadra WLS 1<br>Shettihali WLS-Bhadra WLS 2 |



**Figure 3.19:**  
Potential habitat connectivity for tiger movement between Bhadra-Shettihalli WLS Corridor as depicted by CIRCUITSCAPE model

**Figure 3.20:**

Least Cost Pathway corridor for tiger movement between Bhadra-Shettihalli WLS overlaid with village map ( the village numbers are referenced in Table 3.5)



| Village_ID | State     | District    | Tehsil            | Village           | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-----------|-------------|-------------------|-------------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Karnataka | Chikmagalur | N.R.Pura          | Kanaburu          | NA                     | NA                      | NA                     | NA                      |
| 2          |           | Shimoga     | Shimoga           | Lingapura         | 2                      | 8                       | 174                    | 895                     |
| 3          |           |             | Shimoga           | Sakrebailu        | 6                      | 32                      | 11                     | 49                      |
| 4          |           |             | Shimoga           | Kaitotlu          | 64                     | 316                     | 55                     | 241                     |
| 5          |           |             | Shimoga           | Sarigere          | 29                     | 139                     | 30                     | 123                     |
| 6          |           |             | Shimoga           | Chitemane         | NA                     | NA                      | NA                     | NA                      |
| 7          |           |             | Shimoga           | Naldlle           | NA                     | NA                      | NA                     | NA                      |
| 8          |           |             | Shimoga           | Biligalu          | 340                    | 1681                    | 190                    | 852                     |
| 9          |           |             | Shimoga           | Siddammaji Hosuru | 40                     | 160                     | 40                     | 162                     |
| 10         |           |             | Shimoga           | Bairapura         | Na                     | Na                      | 47                     | 196                     |
| 11         |           |             | Shimoga           | Kakanhosudi       | 95                     | 440                     | 105                    | 392                     |
| 12         |           |             | Thirthahalli      | Talale            | 57                     | 262                     | 201                    | 929                     |
| 13         |           |             | Thirthahalli      | Bommanahalli      | 5                      | 21                      | 253                    | 1372                    |
| 14         |           |             | Thirthahalli      | Kigadi            | 86                     | 357                     | 84                     | 312                     |
| 15         |           | Chikmagalur | Chikmagalur       | Shirgota          | 166                    | 705                     | 140                    | 504                     |
| 16         |           |             | Koppa             | Nuggi             | 444                    | 1980                    | 449                    | 1693                    |
| 17         |           |             | Koppa             | Talamakki         | 332                    | 1609                    | 442                    | 1703                    |
| 18         |           |             | Koppa             | Bintaravalli      | 477                    | 2256                    | 721                    | 3029                    |
| 19         |           |             | N.R.Pura          | Adavalli          | Na                     | Na                      | 75                     | 314                     |
| 20         |           |             | Narasimharajapura | Konakere          | 103                    | 558                     | 127                    | 502                     |
| 21         |           |             | Narasimharajapura | Bellur            | 87                     | 372                     | 151                    | 615                     |
| 22         |           |             | Narasimharajapura | Konodi            | 161                    | 742                     | 176                    | 679                     |
| 23         |           |             | Narasimharajapura | Sankse            | 205                    | 892                     | 211                    | 855                     |
| 24         |           |             | Narasimharajapura | Haravari          | 371                    | 1588                    | 413                    | 1590                    |
| 25         |           |             | Narasimharajapura | Alehalli          | 156                    | 618                     | 149                    | 536                     |
| 26         |           |             | Narasimharajapura | Davana            | 119                    | 552                     | 140                    | 512                     |
| 27         |           |             | N.R.Pura          | Muttinakoppa      | NA                     | NA                      | NA                     | NA                      |
| 28         |           |             | N.R.Pura          | Madaburu          | NA                     | NA                      | NA                     | NA                      |
| 29         |           |             | N.R.Pura          | Malandur          | NA                     | NA                      | NA                     | NA                      |
| 30         |           |             | N.R.pura          | Kadabinabail      | NA                     | NA                      | NA                     | NA                      |

**Table 3.5:**

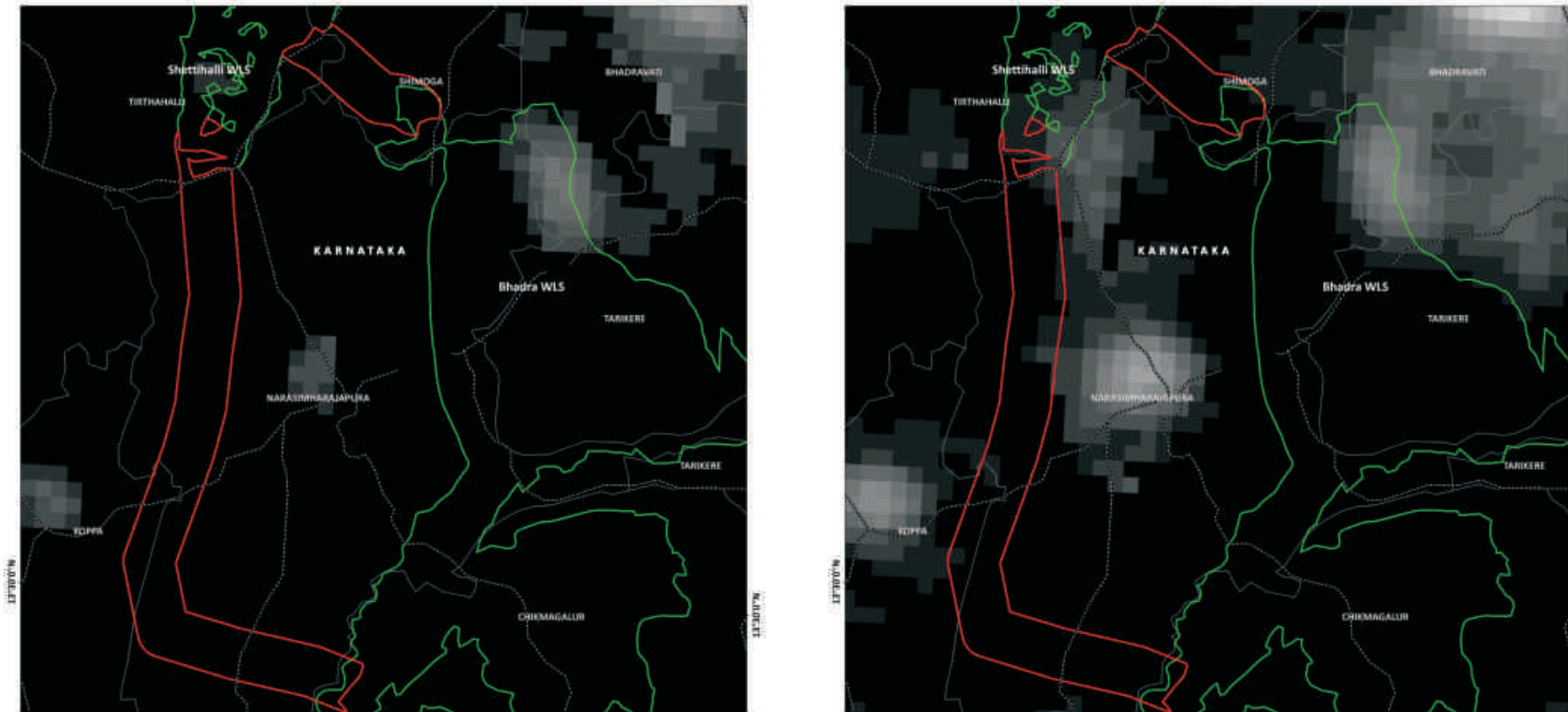
*Villages within the Least Cost Pathway Corridor between Bhadra-Shettihalli WLS as shown in Fig. 3.20*

| Village ID | State | District | Tehsil       | Village     | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|--------------|-------------|------------------------|-------------------------|------------------------|-------------------------|
| 31         |       |          | N.R.Pura     | Neralakoppa | NA                     | NA                      | 8                      | 41                      |
| 32         |       |          | N.R.Pura     | Hatur       | NA                     | NA                      | NA                     | NA                      |
| 33         |       |          | N.R.Pura     | Badagabail  | NA                     | NA                      | NA                     | NA                      |
| 34         |       |          | N.R.Pura     | Simmase     | NA                     | NA                      | NA                     | NA                      |
| 35         |       |          | N.R.Pura     | Gubbage     | NA                     | NA                      | NA                     | NA                      |
| 36         |       |          | N.R.Pura     | Kamalapur   | NA                     | NA                      | NA                     | NA                      |
| 37         |       |          | N.R.Pura     | Sedgaru     | NA                     | NA                      | 65                     | 274                     |
| 38         |       |          | N.R.Pura     | Situr       | NA                     | NA                      | NA                     | NA                      |
| 39         |       |          | N.R.Pura     | Kanuru      | NA                     | NA                      | 250                    | 1048                    |
| 40         |       |          | N.R.Pura     | Karkeshvar  | NA                     | NA                      | NA                     | NA                      |
| 41         |       | Shimoga  | Thirthahalli | Hemmakki    | 87                     | 403                     | 407                    | 1707                    |
| 42         |       | Shimoga  | Thirthahalli | Lingapur    | 437                    | 2028                    | 191                    | 1002                    |



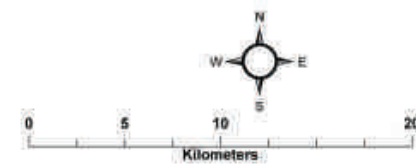
**Figure 3 21:**  
*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Bhadra-Shettihali WLS*





**Figure 3.22:**

*Human habitation as depicted by nightlights within the Bhadra-Shettihalli WLS landscape in the year 1992 and 2012*



The connectivity to the south from Kudremukh National Park to Pushpagiri Wildlife Sanctuary, and then directly onto Nagarahole National Park and to Wayanad Tiger Reserve (Kerala) via Talakaveri Wildlife Sanctuary and Brahmagiri Wildlife Sanctuary is one of the most precarious corridor systems within the Western Ghats. The connectivity of Kudremukh-Bhadra complex to the Nagarahole-Bandipur-Mudumalai-Wayanad complex via the western corridor system (Pushpagiri-Talakaveri-Brahmagiri) as well as the direct connectivity to Nagarahole showed tiger presence suggestive of viable corridors systems. The western corridor is along the steep western slopes of the Ghats and therefore not an easy passage for species like elephants, while the eastern corridor is along moderate gradients but traverses more human impacted habitats. There are two bottlenecks on the eastern corridor; one along the banks of the Cauvery where agricultural development disrupts forest contiguity and another is near Nagarahole, where the corridor passes through an agriculture-forest matrix for the last 8-10 kilometres. Movement of tigers from the Nagarahole-Mudumalai-Wayanad landscape to Kudremukh-Bhadra complex is likely to be an important component for tiger population dynamics in this low density landscape. Formal recognition and protection of these least cost pathways as corridors would help ensure long term tiger persistence within this landscape system.

Wayanad Wildlife Sanctuary shares its north-eastern border with Karnataka and is contiguous with parts of Bandipur and Nagarahole in Karnataka and Mudumalai in Tamil Nadu. The Tholpetty Range of Wayanad in Manantoddy taluka is contiguous with Nagarahole while Kurichiat, Sultan's Battery and Muthanga Ranges are contiguous with Bandipur and Mudumalai Tiger Reserve. This landscape (Nagarahole-Wayanad-Mudumalai) hosts the largest contiguous population of tigers and elephants. Wayanad is connected to the Silent Valley National Park in Kerala through Mudumalai and Mukurti in Tamil Nadu.

#### Nagarahole-Pushpagiri-Talakavery Corridor

|                          |   |
|--------------------------|---|
| <b>Habitat size</b>      | 40589 Km <sup>2</sup>   |
| <b>Source Population</b> | Bandipur-Nagarahole-Mudumalai-Wayanad                           |
| <b>Size of Source</b>    | 382 (354-411) tigers in 11100 Km <sup>2</sup>                   |
| <b>Protected Areas</b>   | Nagarahole WLS<br>Pushpagiri WLS<br>Talacaavery WLS             |
| <b>Corridors</b>         | Nagarahole WLS-Pushpagiri WLS<br>Pushpagiri WLS-Talacaavery WLS |

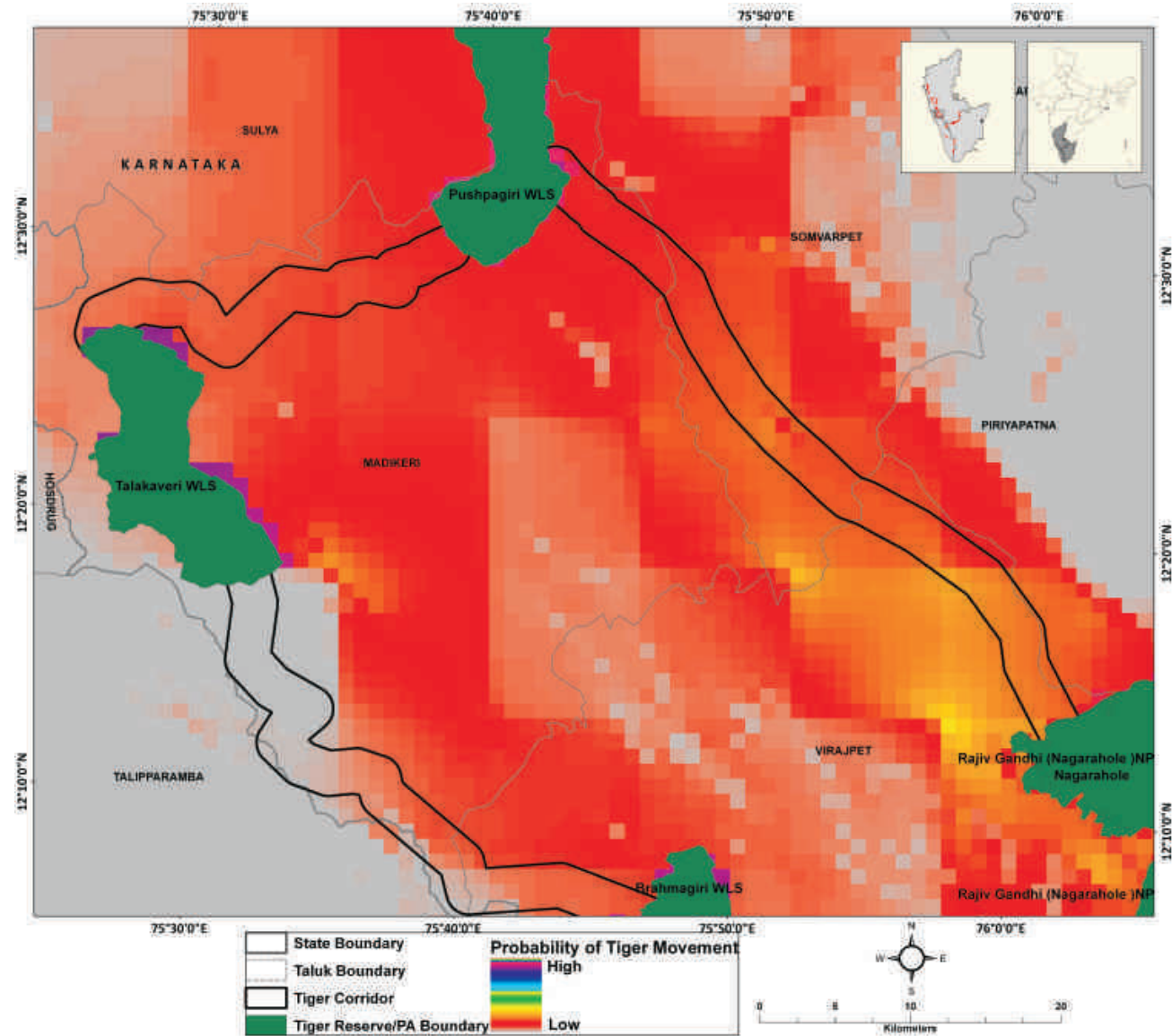
#### Wayanad-Brahmagiri-Talakaveri WLS

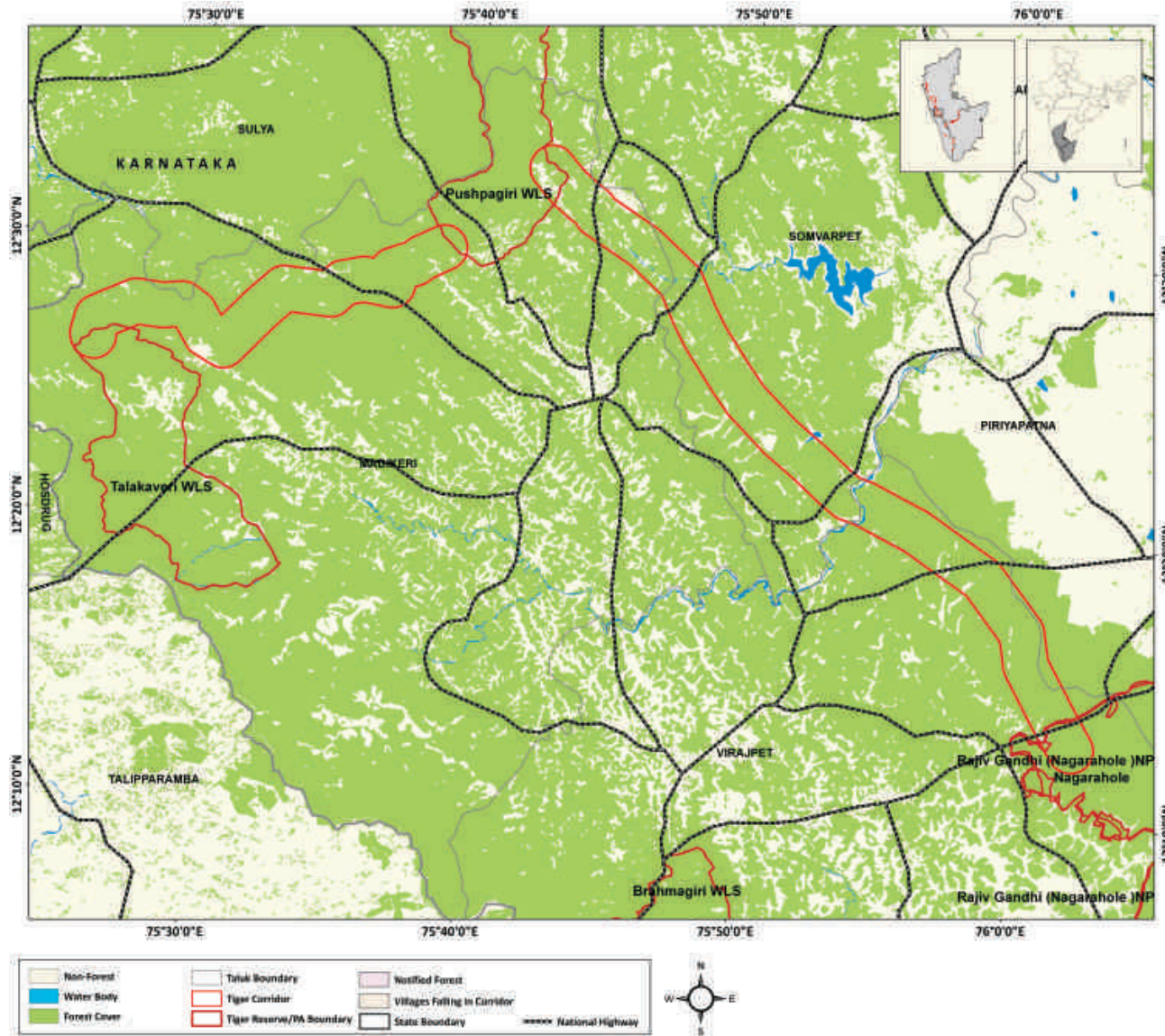
|                          |  |
|--------------------------|--|
| <b>Habitat size</b>      | 40589 Km <sup>2</sup>  |
| <b>Source Population</b> | Bandipur-Nagarahole-Mudumalai-Wayanad                        |
| <b>Size of Source</b>    | 382 (354-411) tigers in 11100 Km <sup>2</sup>                |
| <b>Protected Areas</b>   | Wayanad WLS<br>Brahmagiri WLS<br>Talacaavery WLS             |
| <b>Corridors</b>         | Wayanad WLS-Brahmagiri WLS<br>Brahmagiri WLS-Talacaavery WLS |



**Figure 3.23**

Potential habitat connectivity for tiger movement between Nagarahole-Pushpagiri-Talakaveri-Brahmagiri Corridor as depicted by CIRCUITSCAPE model



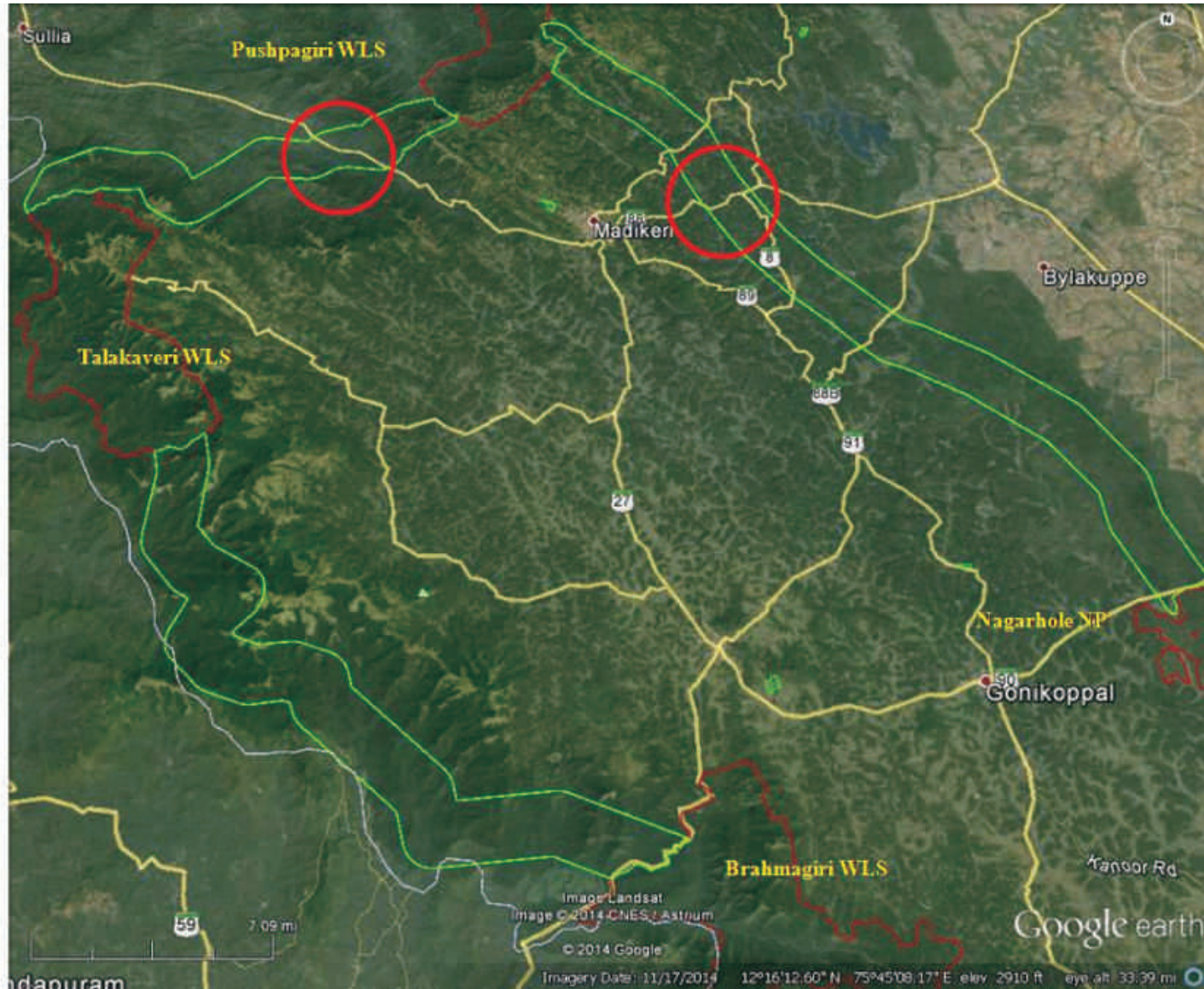


**Figure 3.24:**  
Least Cost Pathway  
corridor for tiger  
movement between  
Nagarahole-Pushpagiri-  
Talakaveri

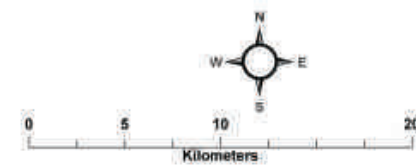
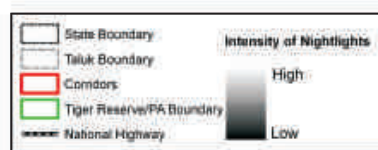
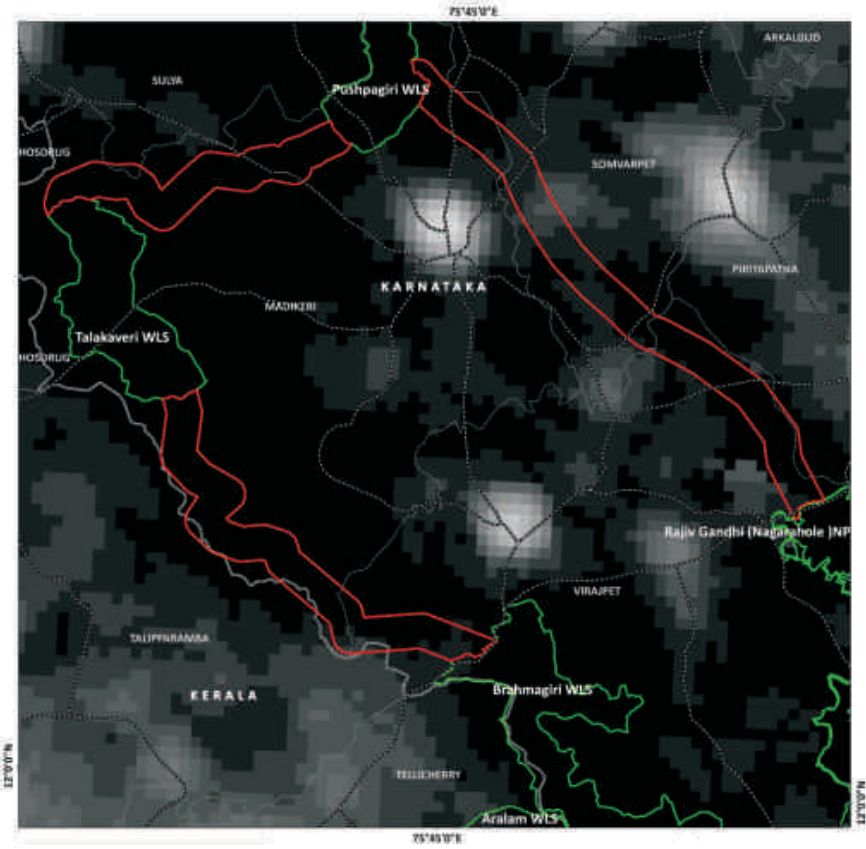
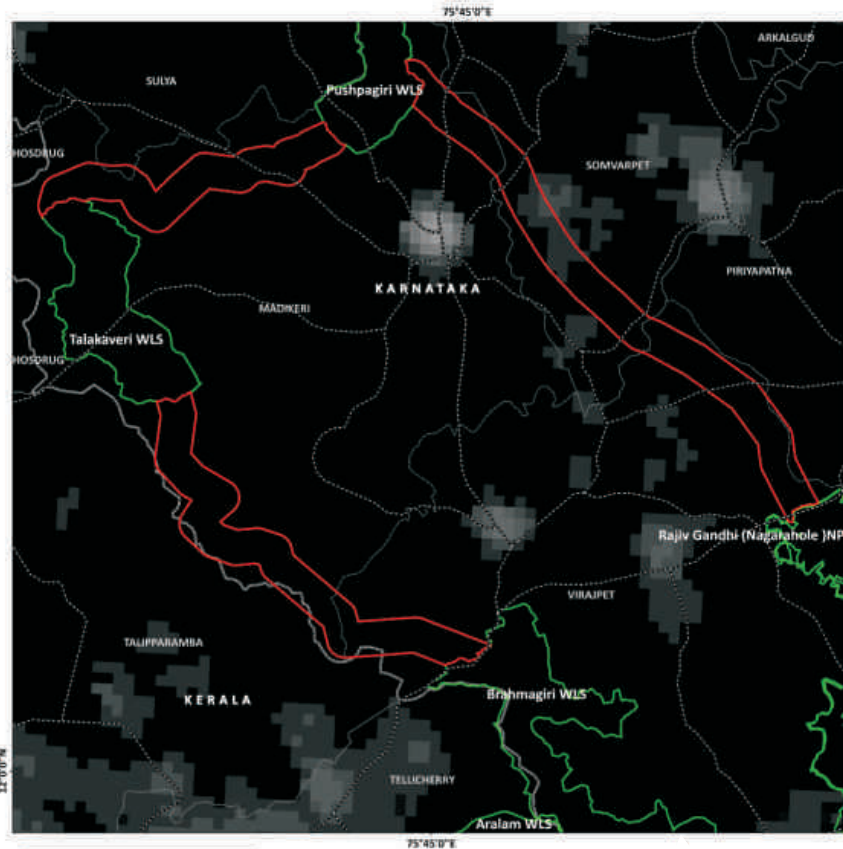
**Figure 3.25:**

Least Cost Pathway corridor for tiger movement between Wayanad-Brahmagiri-Talakaveri WLS





**Figure 3.26:**  
*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Nagarhole-Pushpagiri-Talakaveri-Brahmagiri*



**Figure 3.27:**

*Human habitation as depicted by nightlights within the Nagarahole-Pushpagiri-Talakaveri-Brahmagiri landscape in the year 1992 and 2012*

## NAGARAHOLE-BANDIPUR-MUDUMALAI-WAYANAD

This landscape has the highest tiger population in India within a network of Protected Areas. This landscape encompasses Wayanad in Kerala, Nagarahole-Bandipur in Karnataka along the northern border with Mudumalai in Tamil Nadu and BRT and Cauvery Wildlife Sanctuary along Karnataka-Tamil Nadu border. This contiguous tiger population stretches across three states, viz., Karnataka (Nagarahole-Bandipur), Tamil Nadu (Mudumalai-Segur plateau-Moyar gorge-Sathyamangalam) and Kerala (Wayanad). In 2010-11, tigers were also camera-trapped in the Segur plateau-Moyar gorge-Sathyamangalam region in Tamil Nadu, providing evidence of resident tiger population as well as possible movement of individuals between this region and BRT Wildlife Sanctuary and onwards to Cauvery Wildlife Sanctuary.

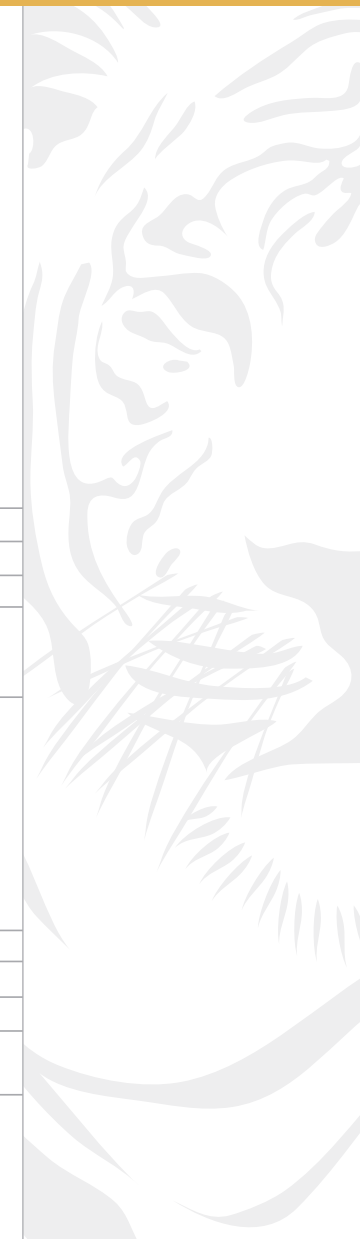
Connectivity between Bandipur, BRT and on to Cauvery Wildlife Sanctuary through the Moyar-Segur-Sathyamangalam forests (Tamil Nadu) shown by the Least Cost Pathways needs to be ensured through inter-state cooperation between Karnataka and Tamil Nadu. Connectivity from BRT to Cauvery Wildlife Sanctuary, though intact, is threatened by growing settlements and agriculture, while connectivity from Cauvery to Bannerghatta Wildlife Sanctuary is through narrow forest strips and "stepping stone" forest patches, in a human-dominated landscape.

### Bandipur-Cauveri Corridor

|                          |  |
|--------------------------|--|
| <b>Habitat size</b>      | 40589 Km <sup>2</sup>  |
| <b>Source Population</b> | Bandipur-Nagarahole-Mudumalai-Wayanad  |
| <b>Size of Source</b>    | 382 (354-411) tigers in 11100 Km <sup>2</sup>                                    |
| <b>Protected Areas</b>   | Bandipur NP<br>Billigiri Ranganathaswamy WLS<br>Cauvery WLS                      |
| <b>Corridors</b>         | Bandipur NP-Biligiri Rangaswamy WLS Corridor<br>Bandipur NP-Cauvery WLS Corridor |

### Cauveri-Bannerghata Corridor

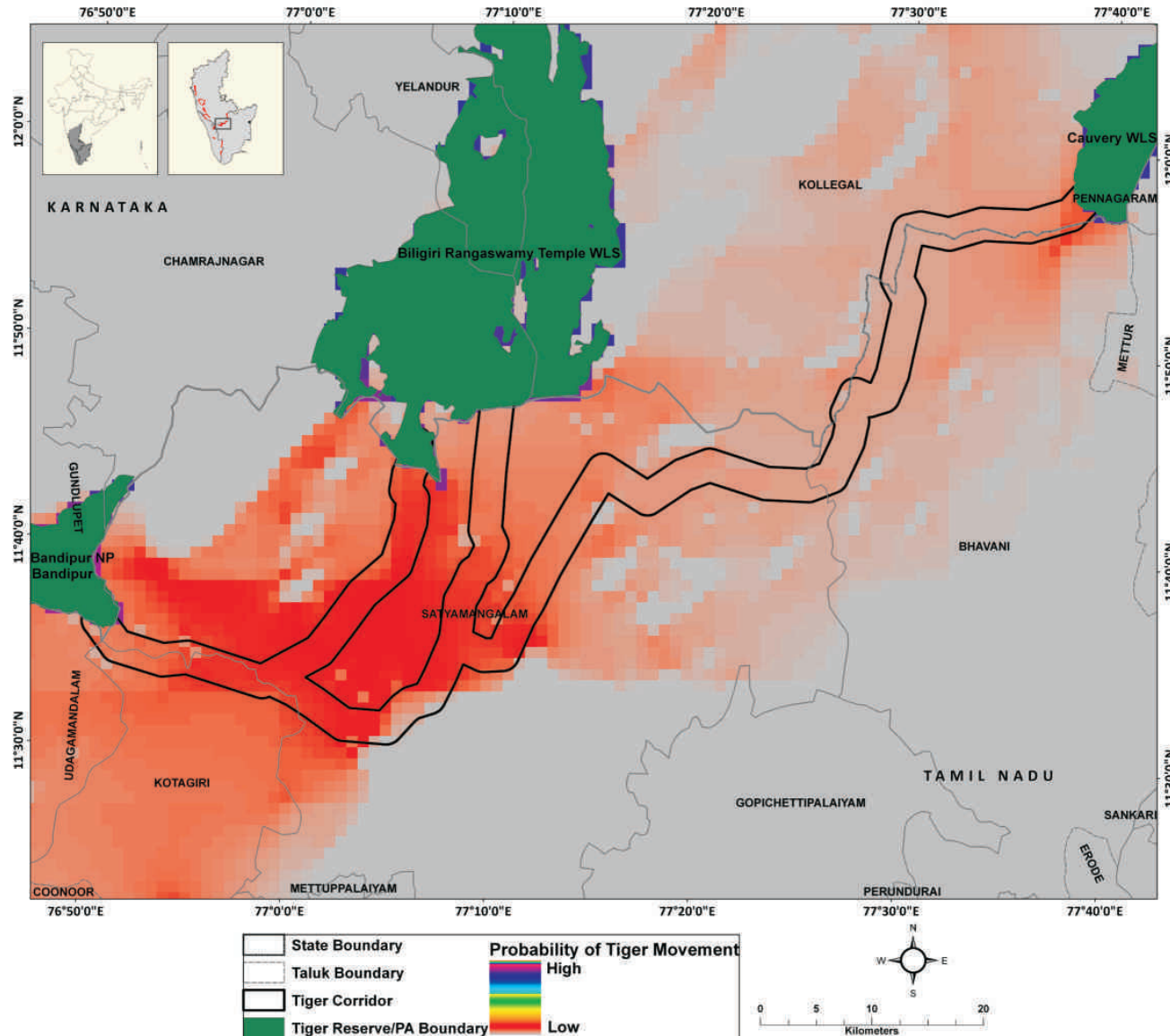
|                          |   |
|--------------------------|---|
| <b>Habitat size</b>      | 40774 Km <sup>2</sup>                         |
| <b>Source Population</b> | Bandipur-Nagarahole-Mudumalai-Wayanad         |
| <b>Size of Source</b>    | 382 (354-411) tigers in 11100 Km <sup>2</sup> |
| <b>Protected Areas</b>   | Cauvery WLS<br>Banerghatta WLS                |
| <b>Corridors</b>         | Cauvery WLS-Banerghatta WLS Corridor          |

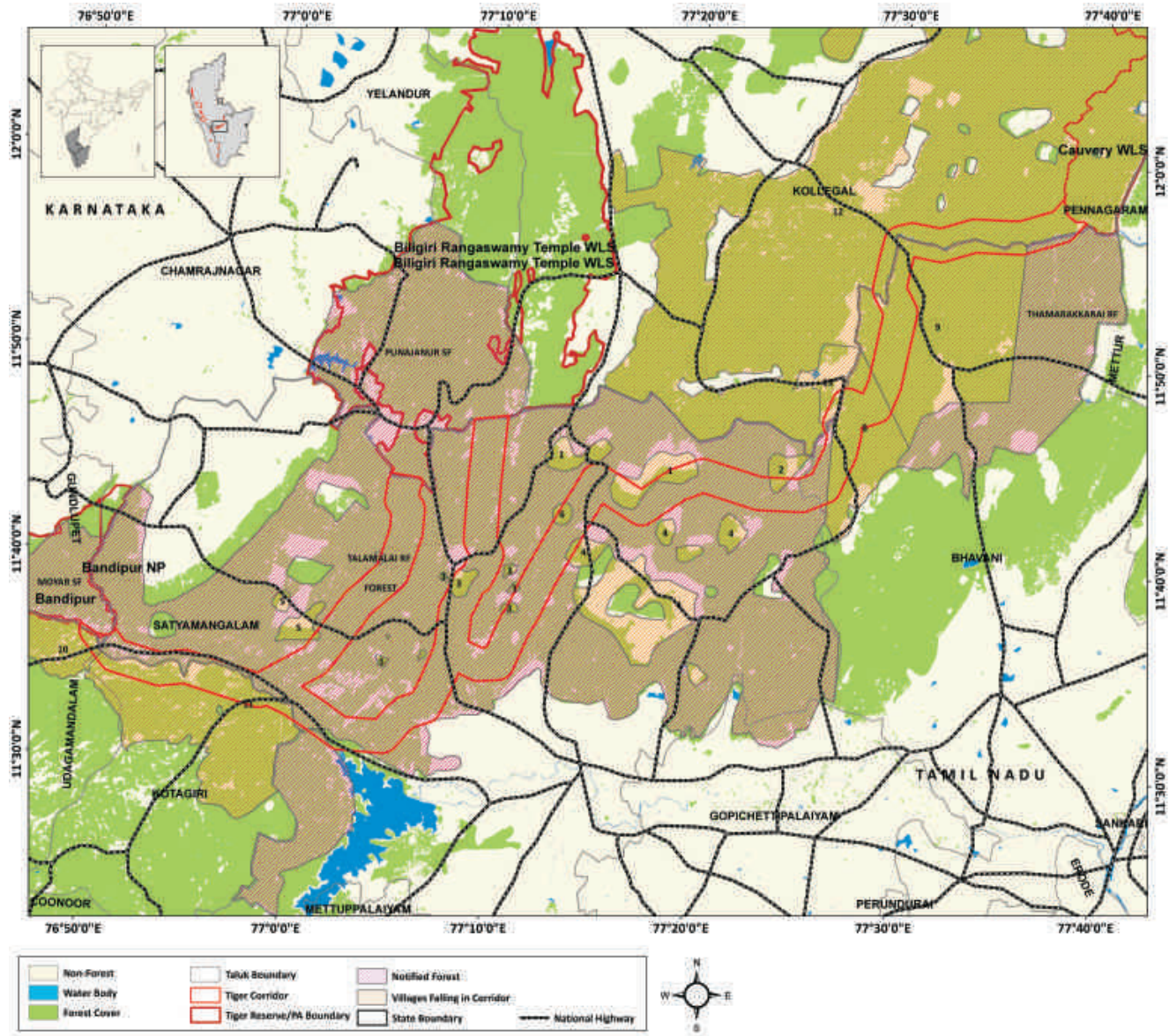




**Figure 3.28:**

Potential habitat connectivity for tiger movement between Bandipur-Cauveri Corridor as depicted by CIRCUITSCAPE model



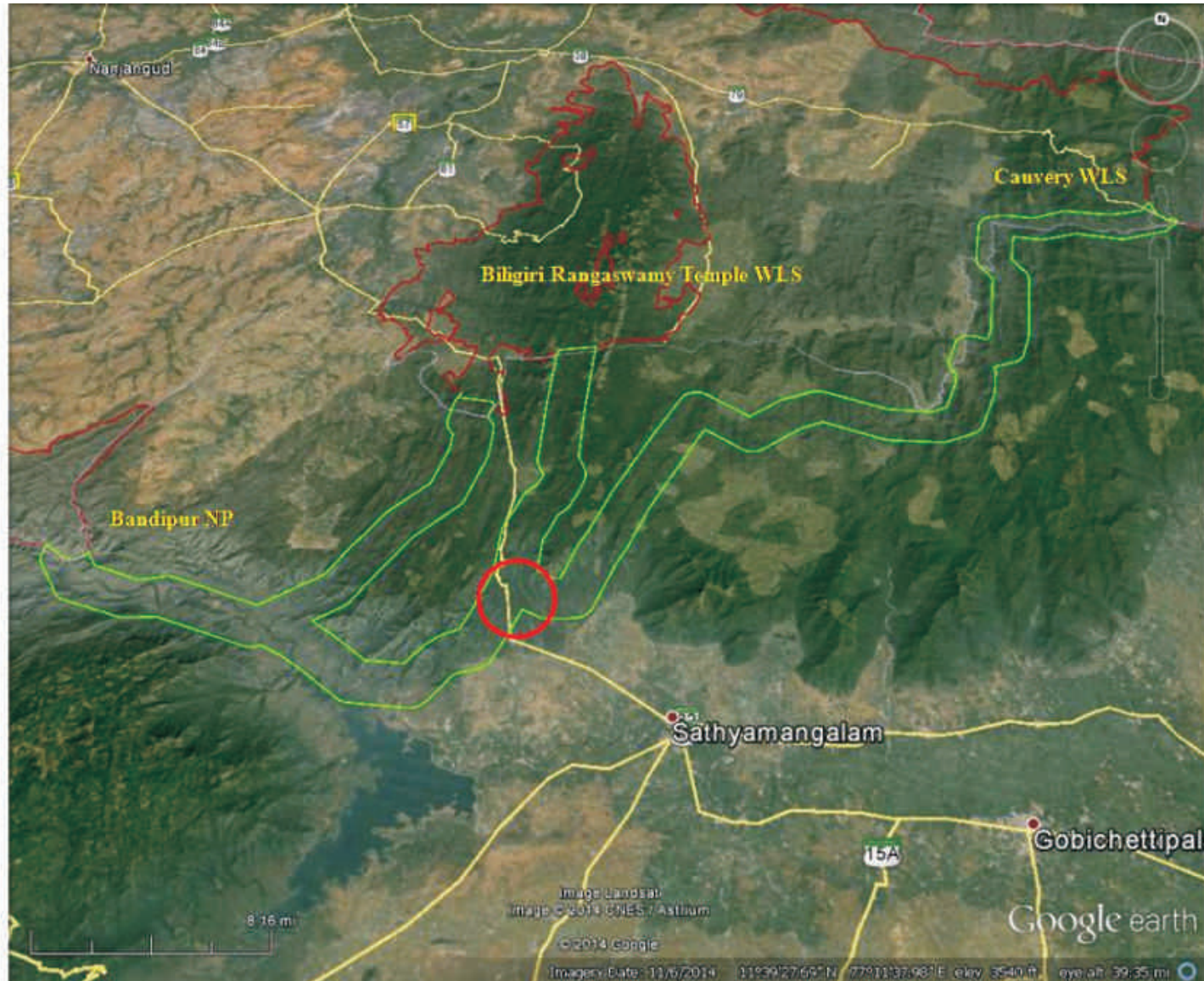


**Figure 3.29:** Least Cost Pathway corridor for tiger movement between Bandipur-Cauvery WLS overlaid with village map (the village numbers are referenced in Table 3.6)

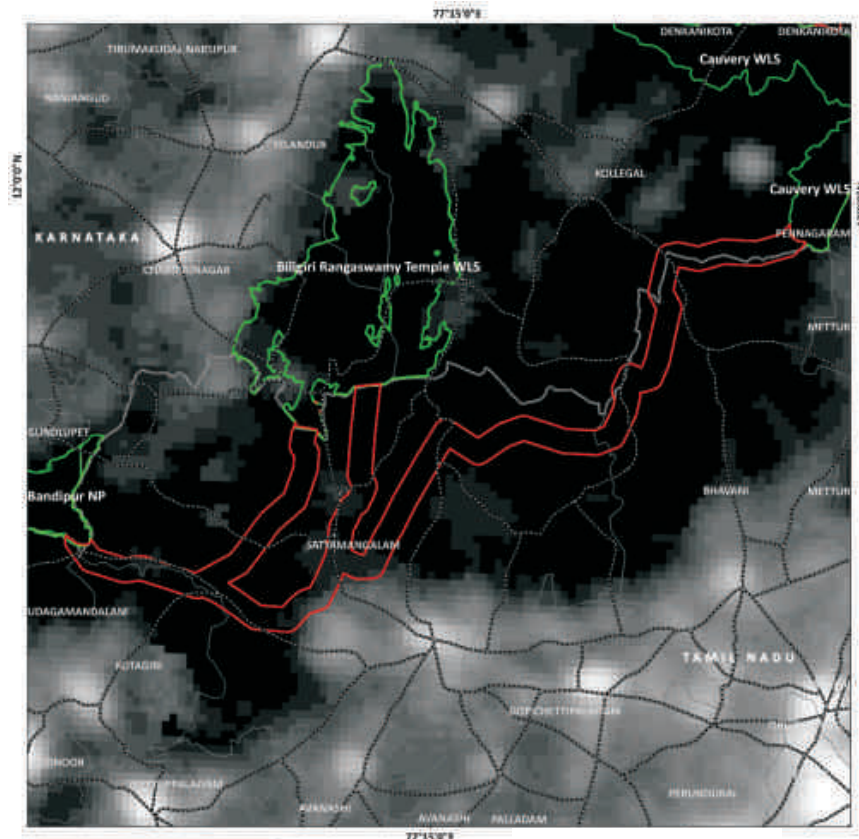
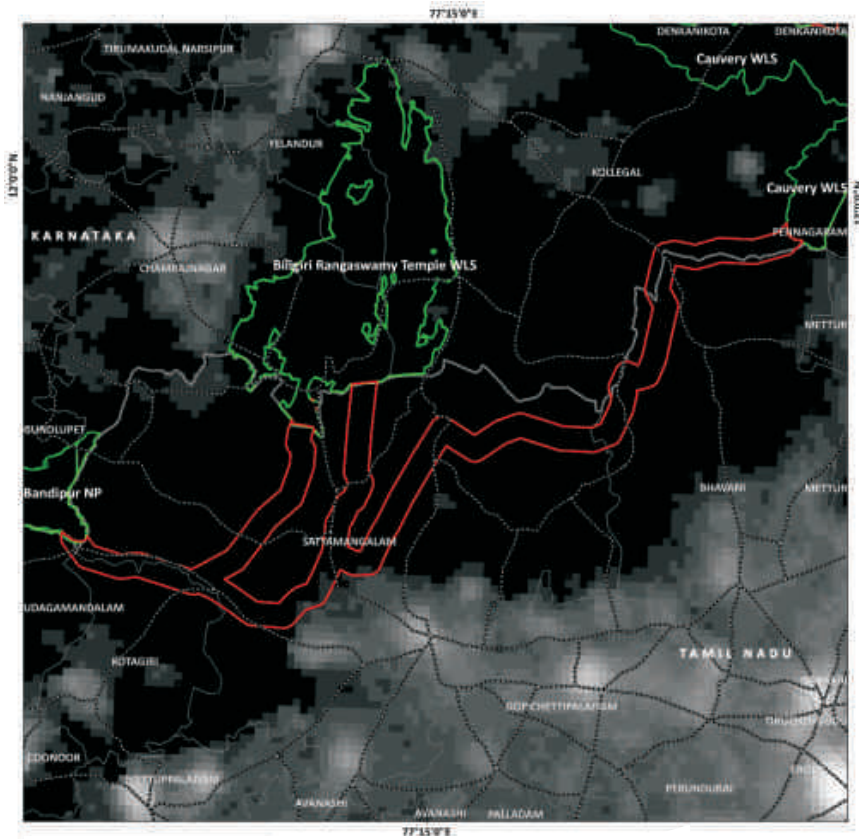


**Table 3.6:**  
Villages within the Least Cost Pathway Corridor between Bandipur-Cauveri WLS as shown in Fig. 3.29

| Village_ID | State      | District        | Tehsil         | Village                  | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|------------|-----------------|----------------|--------------------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Tamil Nadu | Erode           | Sathyamangalam | Thingalur A/b            | NA                     | NA                      | NA                     | NA                      |
| 2          |            |                 | Sathyamangalam | Koothampalayam           | 355                    | 1457                    | 454                    | 1918                    |
| 3          |            |                 | Sathyamangalam | Hassanur                 | 953                    | 3690                    | 1258                   | 4454                    |
| 4          |            |                 | Sathyamangalam | Guthiyalathur            | 3667                   | 14213                   | 4761                   | 17257                   |
| 5          |            |                 | Sathyamangalam | Talamalai                | 919                    | 3659                    | 1295                   | 4828                    |
| 6          |            |                 | Sathyamangalam | Guthiyalathur (addition) | NA                     | NA                      | NA                     | NA                      |
| 8          |            |                 | Bhavani        | Burgur                   | 3651                   | 15874                   | 4128                   | 17529                   |
| 9          |            |                 | Bhavani        | Burgur                   | 3651                   | 15874                   | 4128                   | 17529                   |
| 10         |            | The Nilgiris    | Udhagamandalam | Kadanad                  | 1788                   | 7157                    | 3461                   | 14692                   |
| 11         |            |                 | Kotagiri       | Nilgiri Eastern Slopes   | 476                    | 1369                    | NA                     | NA                      |
| 12         | Karnataka  | Chamaraja Nagar | Kollegal       | NA                       | NA                     | NA                      | 82                     | 335                     |
| 13         |            |                 | Kollegal       | Huggiyam                 | NA                     | NA                      | NA                     | NA                      |

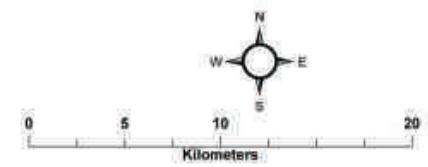


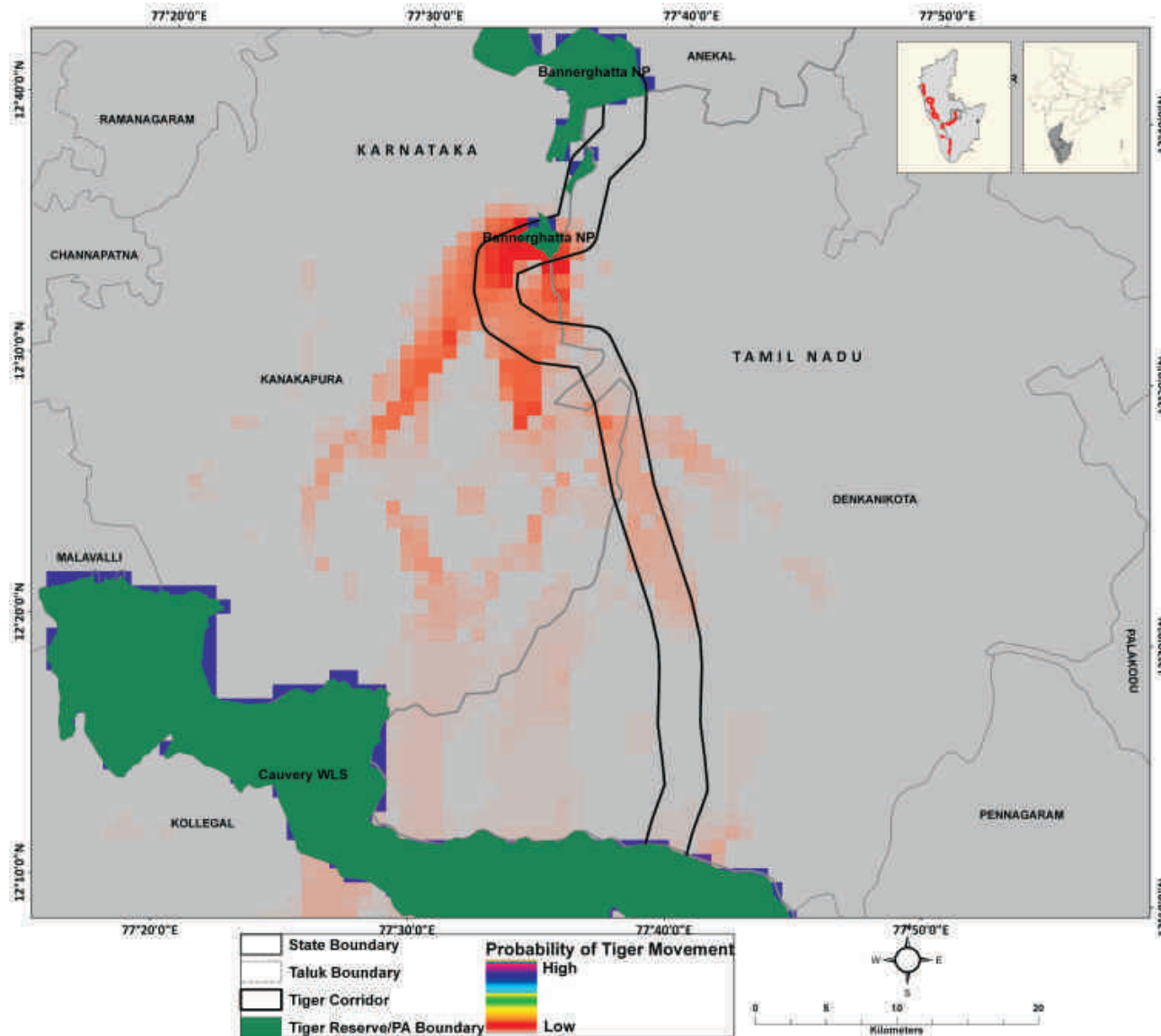
**Figure 3.30:**  
*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Bandipur-Cauveri*



**Figure 3.31:**

*Human habitation as depicted by nightlights within the Bandipur-Cauveri landscape in the year 1992 and 2012*

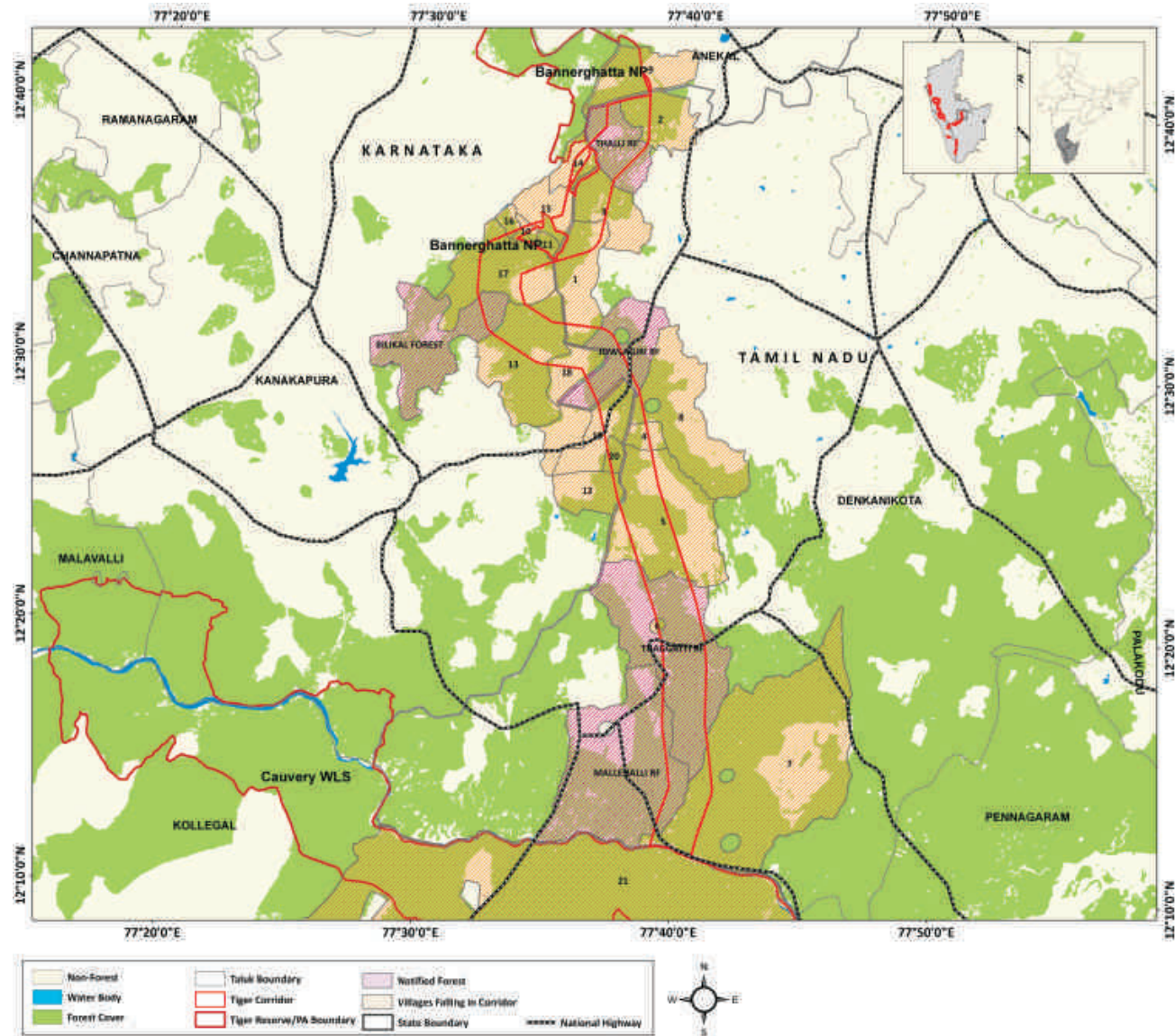




**Figure 3.32:**  
Potential habitat connectivity for tiger movement between Cauveri-Bannerghata Corridor as depicted by CIRCUITSCAPE model

**Figure 3.33:**

Least Cost Pathway corridor for tiger movement between Cauveri-Bannerghata WLS overlaid with village map (the village numbers are referenced in Table 3.7)



| Village_ID | State      | District        | Tehsil        | Village                 | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|------------|-----------------|---------------|-------------------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Tamil Nadu | Dharmapuri      | Denkanikottai | Achubalu                | 567                    | 2581                    | 762                    | 3435                    |
| 2          |            |                 | Denkanikottai | Gumlapuram              | 521                    | 2667                    | 723                    | 3331                    |
| 3          |            |                 | Denkanikottai | Chudasandiram           | 306                    | 1628                    | 393                    | 1727                    |
| 4          |            |                 | Denkanikottai | Nendimangalam           | 68                     | 363                     | 105                    | 578                     |
| 5          |            |                 | Denkanikottai | Madakkal                | 986                    | 5228                    | 1175                   | 5383                    |
| 6          |            |                 | Denkanikottai | Thaggatti               | 944                    | 4429                    | 1116                   | 5153                    |
| 7          |            |                 | Denkanikottai | Natrapalayam            | 1564                   | 7029                    | 2258                   | 9687                    |
| 8          |            |                 | Denkanikottai | Agalakotta A/b          | NA                     | NA                      | NA                     | NA                      |
| 9          | Karnataka  | Bangalore Urban | Anekal        | Tammanayakanahalli      | 432                    | 2271                    | 549                    | 2527                    |
| 10         |            | Bangalore Rural | Kanakapura    | Linganapura             | 137                    | 662                     | 205                    | 793                     |
| 11         |            |                 | Kanakapura    | Bantanalu               | 4                      | 17                      | 23                     | 85                      |
| 12         |            |                 | Kanakapura    | Bijjahalli              | 276                    | 1124                    | 294                    | 1130                    |
| 13         |            |                 | Kanakapura    | Kengalanatta Gollahalli | 102                    | 449                     | 112                    | 471                     |
| 14         |            |                 | Kanakapura    | Kattarinatta            | 36                     | 182                     | 43                     | 138                     |
| 15         |            |                 | Kanakapura    | Elachavadi              | NA                     | NA                      | NA                     | Na                      |
| 16         |            |                 | Kanakapura    | Bhimasandra             | 59                     | 257                     | 104                    | 441                     |
| 17         |            |                 | Kanakapura    | Terubidi                | 335                    | 1518                    | 374                    | 1601                    |
| 18         |            |                 | Kanakapura    | Gatgunda                | 719                    | 3631                    | 692                    | 2816                    |
| 19         |            |                 | Kanakapura    | Kolagaudahalli          | 706                    | 3502                    | 712                    | 3257                    |
| 20         |            |                 | Kanakapura    | Manjilnatha             | NA                     | NA                      | NA                     | NA                      |
| 21         |            | Chamaraja Nagar | Kollegal      | NA                      | NA                     | NA                      | 82                     | 335                     |

**Table 3.7:**

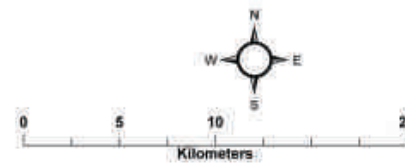
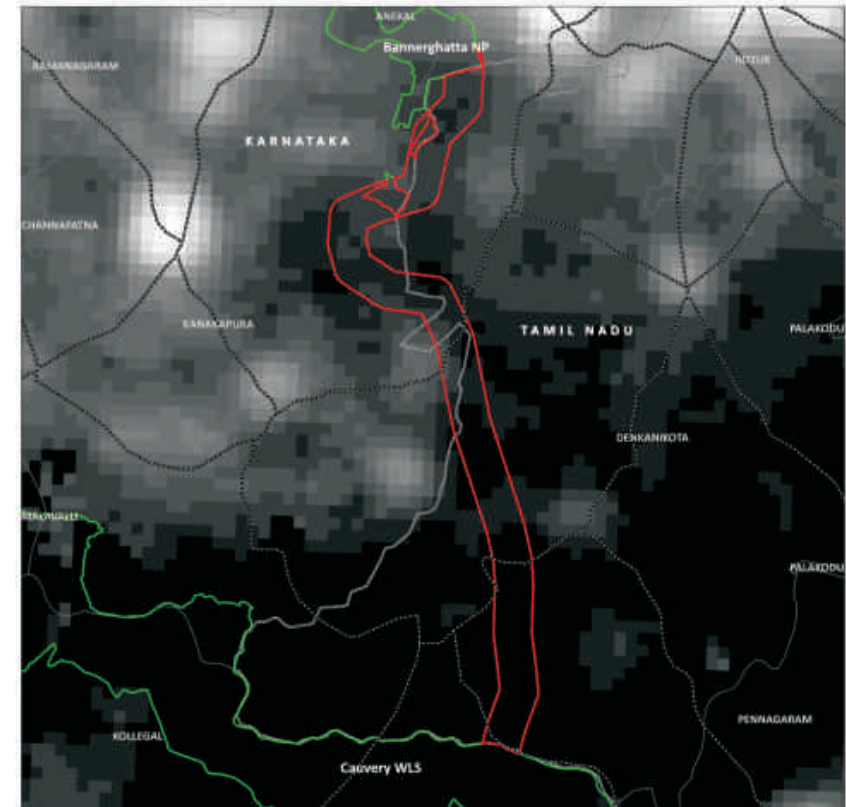
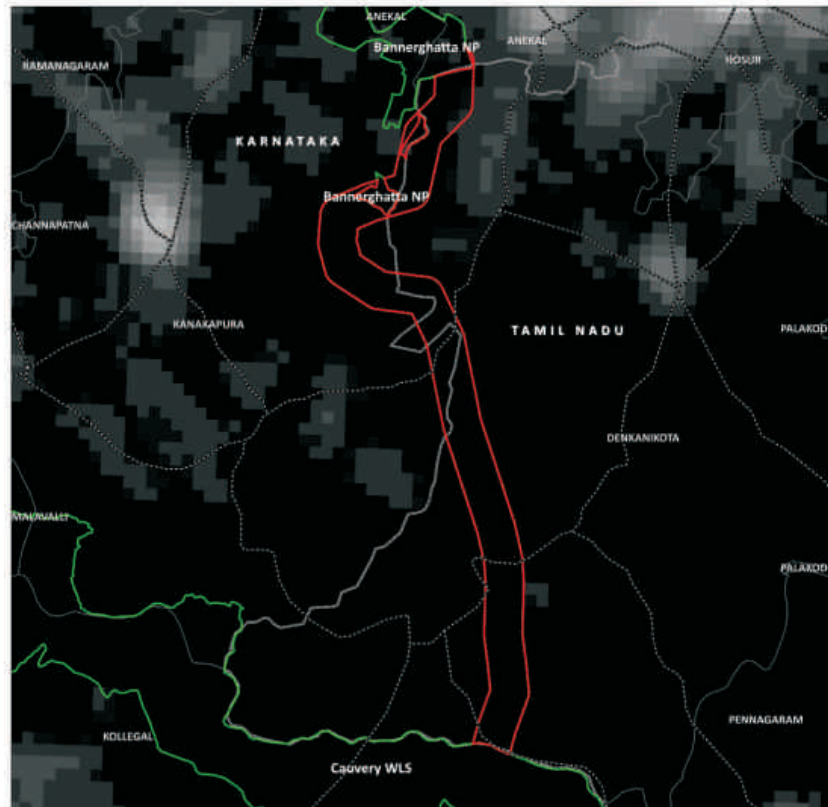
*Villages within the Least Cost Pathway Corridor between Cauveri-Bannerghata WLS as shown in Fig. 3.33*



**Figure 3.34:**

*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Cauveri-Bannerghata*





**Figure 3.35:**  
 Human habitation as depicted by nightlights within the Cauveri-Bannerghata landscape in the year 1992 and 2012

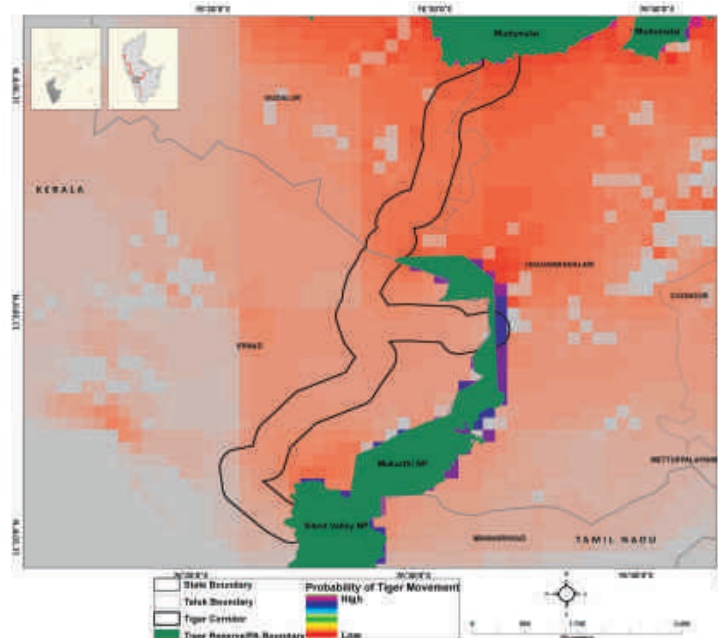
## NAGARAHOLE-MUDUMALAI-WAYANAD

The Mudumalai landscape is connected through the forested slopes of the Nilgiris to the Mukurthi National Park in the south which is further connected to Silent Valley. Due to the rugged and steep nature of this connectivity, elephants are unlikely to use it, but it would serve as a viable corridor for tigers and other fauna. Towards the east, Sathyamangalam Wildlife Sanctuary connects with the corridor formed by the Moyar River valley connecting the Bandipur-Mudumalai complex with BRT Wildlife Sanctuary and on to Cauvery Wildlife Sanctuary.

Within the southern buffer of Mudumalai and its surroundings, the habitat is fragmented by large and small settlements like Masinagudi and Moyar colony. Many of these private lands are being developed into tourist resorts with elephant proof power fencing. Linear infrastructure like the power channel from Masinagudi to Moyar and the water pipeline from Glenmorgan to Singara further prevent free movement of species like elephants across these forests. Restrictions on unfriendly developments and mitigation of existing linear infrastructure are needed for full utilization of this landscape by wildlife. Addressing the above issues and legitimizing the two corridors defined by the Least Cost Pathways would enhance the conservation potential of this important reserve complex further.

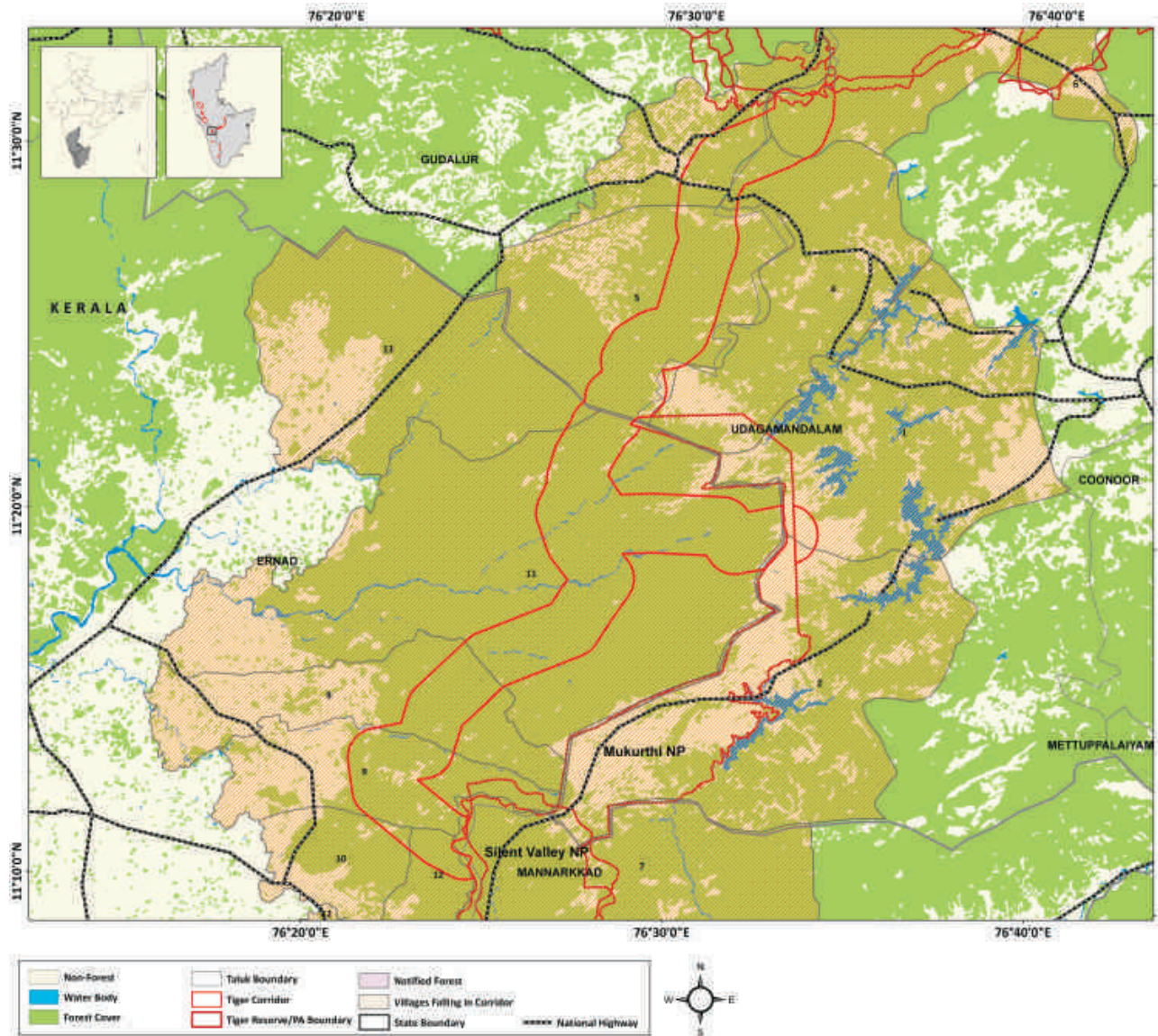
**Figure 3.36:**

Potential habitat connectivity for tiger movement between Mudumalai-Mukurthi-Silent Valley Corridor as depicted by CIRCUITSCAPE model



### Mudumalai-Mukurthi-Silent Valley Corridor

|                          |   |
|--------------------------|---|
| <b>Habitat size</b>      | 40589 Km <sup>2</sup>   |
| <b>Source Population</b> | Bandipur-Nagarahole-Mudumalai-Wayanad   |
| <b>Size of Source</b>    | 382 (354-411) tigers in 11100 Km <sup>2</sup>   |
| <b>Protected Areas</b>   | Mudumalai NP<br>Mukurthi NP<br>Silent Valley NP   |
| <b>Corridors</b>         | Mudumalai NP-Mukurthi NP<br>Mudumalai NP-Silent Valley NP<br>Mukurthi NP-Silent Valley NP |

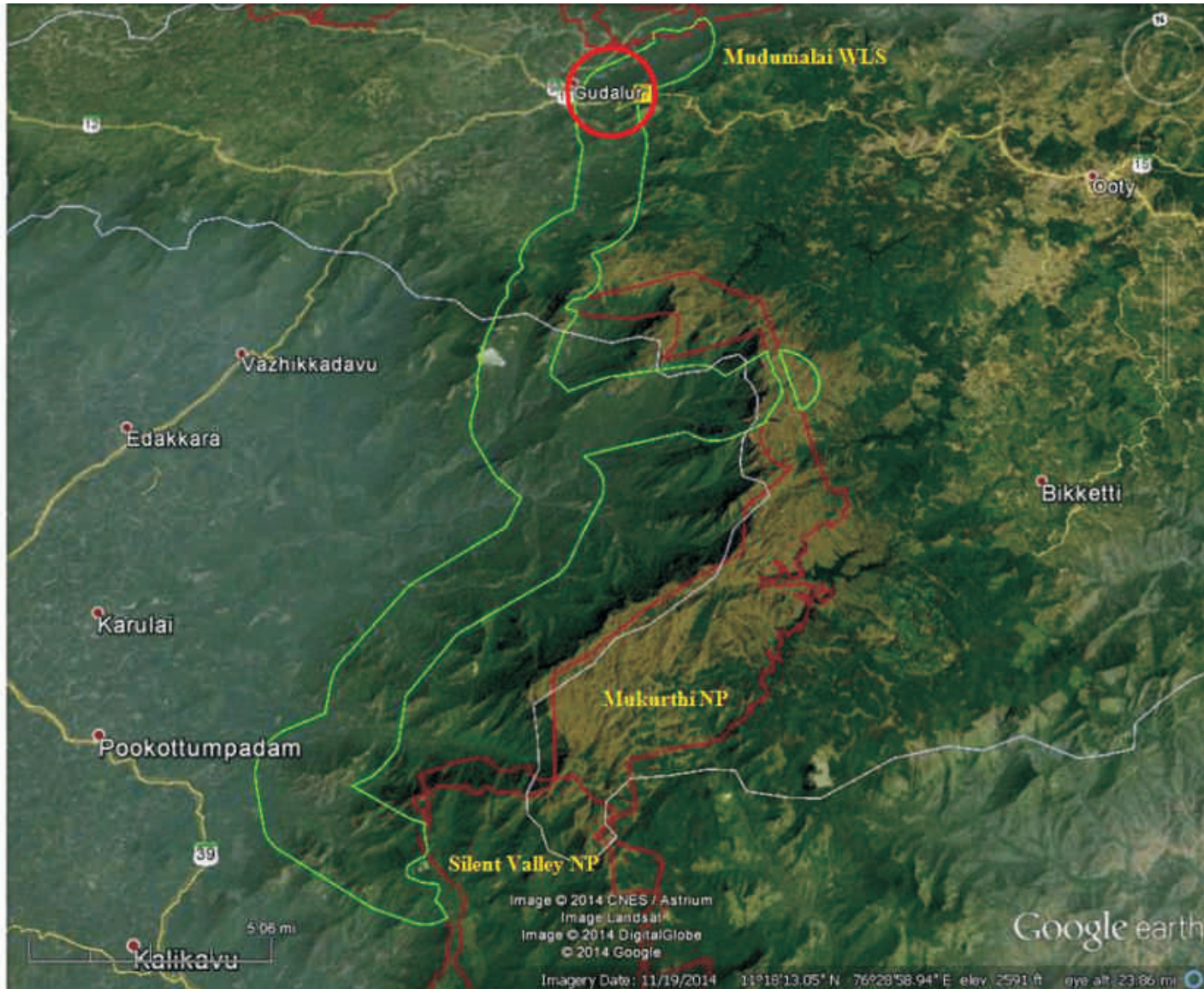


**Figure 3.37:** Least Cost Pathway corridor for tiger movement between Mudumalai-Mukurthi-Silent Valley overlaid with village map (the village numbers are referenced in Table 3.8)

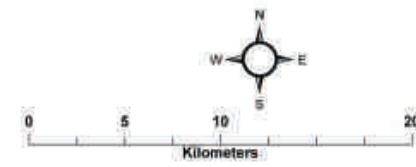
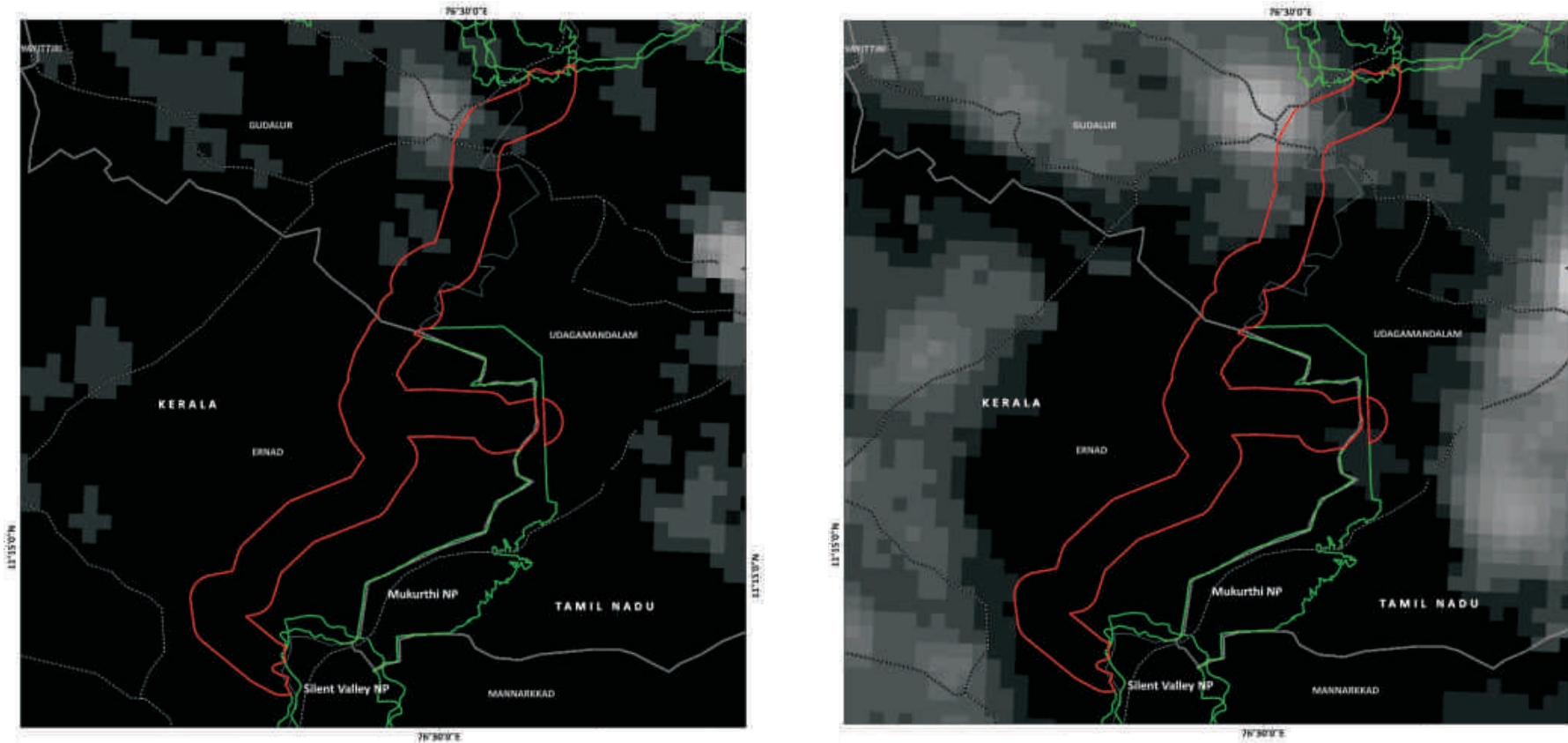
| Village_ID | State      | District     | Tehsil         | Village        | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|------------|--------------|----------------|----------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Tamil Nadu | The Nilgiris | Udhagamandalam | Nanjanad       | 3553                   | 14310                   | 3621                   | 13007                   |
| 2          |            |              | Kundah         | Mulligoor      | 1491                   | 5393                    | 1363                   | 4647                    |
| 3          |            |              | Gudalur        | Gudalur (tn-1) | 9508                   | 43096                   | 12101                  | 49535                   |
| 4          |            |              | Udhagamandalam | Naduvattam     | 2572                   | 11370                   | 2340                   | 8505                    |
| 5          |            |              | Gudalur        | Ovalley        | 5465                   | 24793                   | 5307                   | 21943                   |
| 6          |            |              | Udhagamandalam | Masinigudi     | NA                     | NA                      | NA                     | NA                      |
| 7          | Kerala     | Palghat      | Mannarkkad     | Padavayal      | 1686                   | 6764                    | 1719                   | 6144                    |
| 8          |            | Malappuram   | Ernad          | Amarambalam    | 6284                   | 31928                   | 7841                   | 35975                   |
| 9          |            |              | Ernad          | Chekkode       | 3042                   | 16850                   | 3841                   | 19510                   |
| 10         |            |              | Ernad          | Kalikavu       | 4504                   | 25861                   | 4435                   | 22018                   |
| 11         |            |              | Ernad          | Karulai        | 4685                   | 24336                   | 5537                   | 25758                   |
| 12         |            |              | Ernad          | Kerala Estate  | 1818                   | 10299                   | 2893                   | 14871                   |
| 13         |            |              | Ernad          | Vazhikkadavu   | 8308                   | 44083                   | 9972                   | 47322                   |

**Table 3.8:**

*Villages within the Least Cost Pathway Corridor between Mudumalai-Mukurthi-Silent Valley WLS as shown in Fig. 3.37*

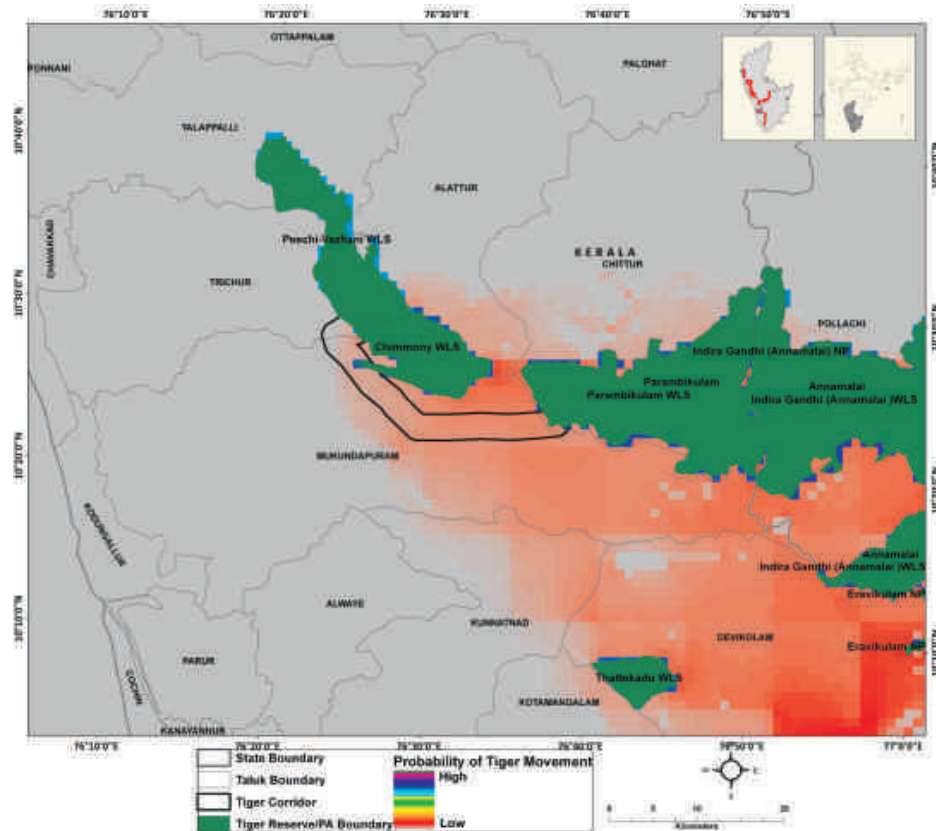


**Figure 3.38:**  
*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Mudumalai-Mukurthi-Silent Valley WLS*



**Figure 3.39:**  
 Human habitation as depicted by nightlights within the Mudumalai-Mukurthi-Silent Valley WLS landscape in the year 1992 and 2012

# PARAMBIKULAM-ERAVIKULAM-INDIRA GANDHI



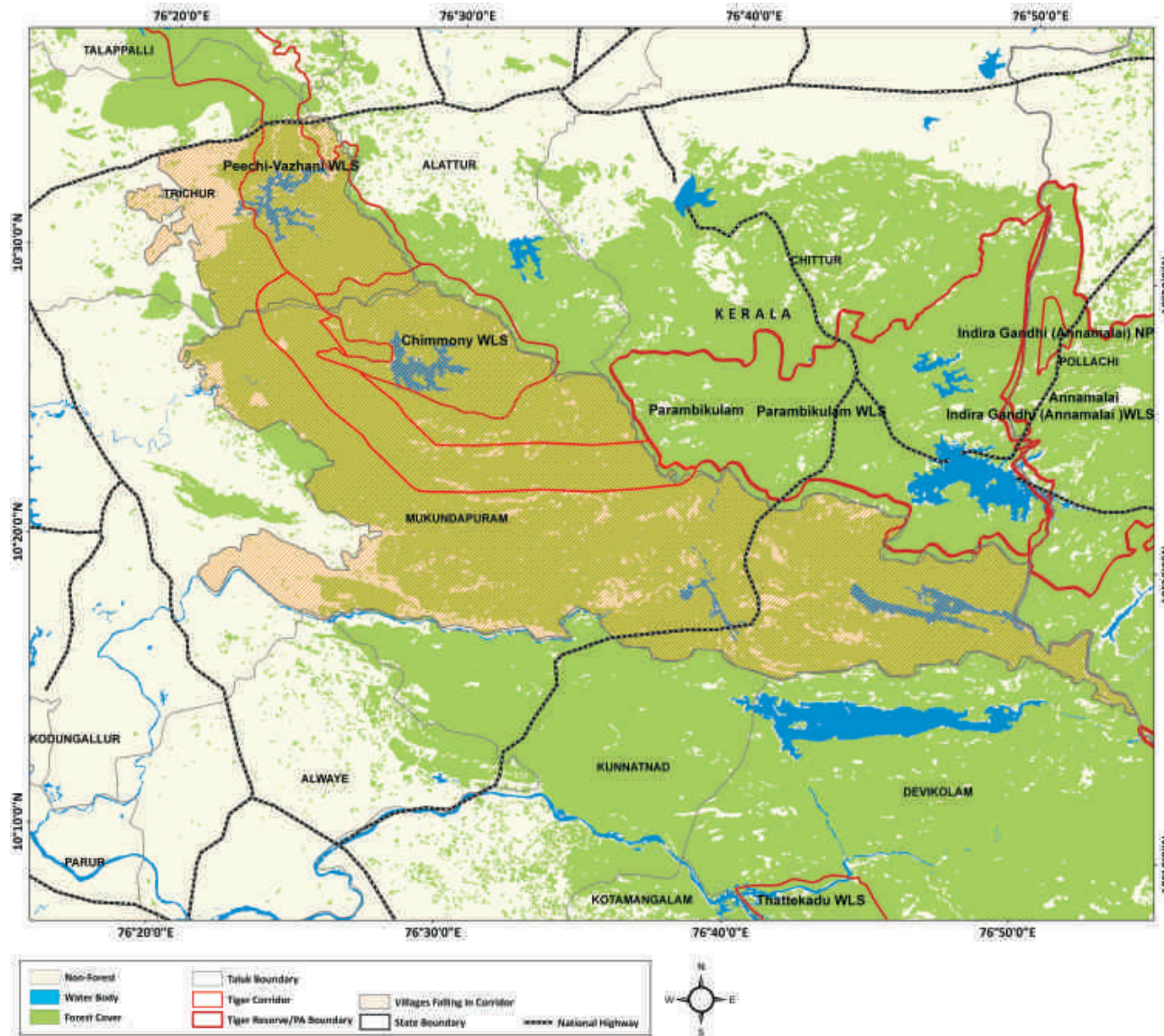
This is the first major tiger population south of the Palghat Gap, which is a major barrier to geneflow from the northern Western Ghats to the southern Western Ghats for most wildlife species including tigers, due to its high human density. This tiger population is spread over Parambikulam Tiger Reserve, Eravikulam National Park and Chinnar Wildlife Sanctuary in Kerala; and Indira Gandhi (Annamalai) Tiger Reserve in Tamil Nadu. The landscape has shown good recovery due to good management of the several reserves constituting the complex, lower human pressures due to the difficult terrain and contiguous nature of the tiger habitat. Within Kerala, this zone comprises of several Protected Areas which include Peechi-Vazhani Wildlife Sanctuary, Chimmony Wildlife Sanctuary, Eravikulam National Park, Chinnar Wildlife Sanctuary and Parambikulam Tiger Reserve. The tiger habitat in this zone is contiguous with the Indira Gandhi (Annamalai) Tiger Reserves in Tamil Nadu and with, Anaimudi and Pambadum Shola National Park which are located within Devikulam taluka of Idukki district in Kerala. All of these Protected Areas are connected through forested habitats interspersed with plantations, agriculture, and settlements, consisting of a habitat matrix that is permeable for movement of wildlife. However, two formal corridor systems are required: one connecting Peechi-Chimmony to Parambikulam and second, connecting Anaimudi Shola National Parks to Pambadum Shola which further extends into Mathikettan Shola National Park. This connectivity extends further south

**Figure 3.40:**  
*Potential habitat connectivity for tiger movement between Chimmony-Parambikulam Corridor as depicted by CIRCUITSCAPE model*



**Figure 3.41:**

Least Cost Pathway corridor for tiger movement between Chimmony-Parambikulam WLS overlaid with village map (the village numbers are referenced in Table 3.9)



along the border of Kerala and Tamil Nadu as narrow ridge top forests of the Ghats, through plantations and agriculture west of the Ghat ridge, connecting the population of this landscape with that of Periyar-Kalakad-Mundanthurai. This connectivity is very precarious and needs ground verification as the least cost pathways traverse lot of privately owned lands and distinguishing between plantations and forests through remotely sensed data was difficult. Ground verification is required urgently and conservation action is needed to secure this connectivity. Tiger occupancy on the Kerala side of this landscape was 1,483 km<sup>2</sup> with an estimated population of 32 to 36 tigers. This area showed a significant increase in both, the area occupied by tigers since 2006 and their abundance.

| Village_ID | State  | District | Tehsil       | Village   | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|--------|----------|--------------|-----------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | KERALA | THRISSUR | Mukundapuram | Pariyaram | 7560                   | 31615                   | 8122                   | 31195                   |
| 2          |        |          | Thrissur     | Peechi    | 5083                   | 22409                   | 6706                   | 26946                   |

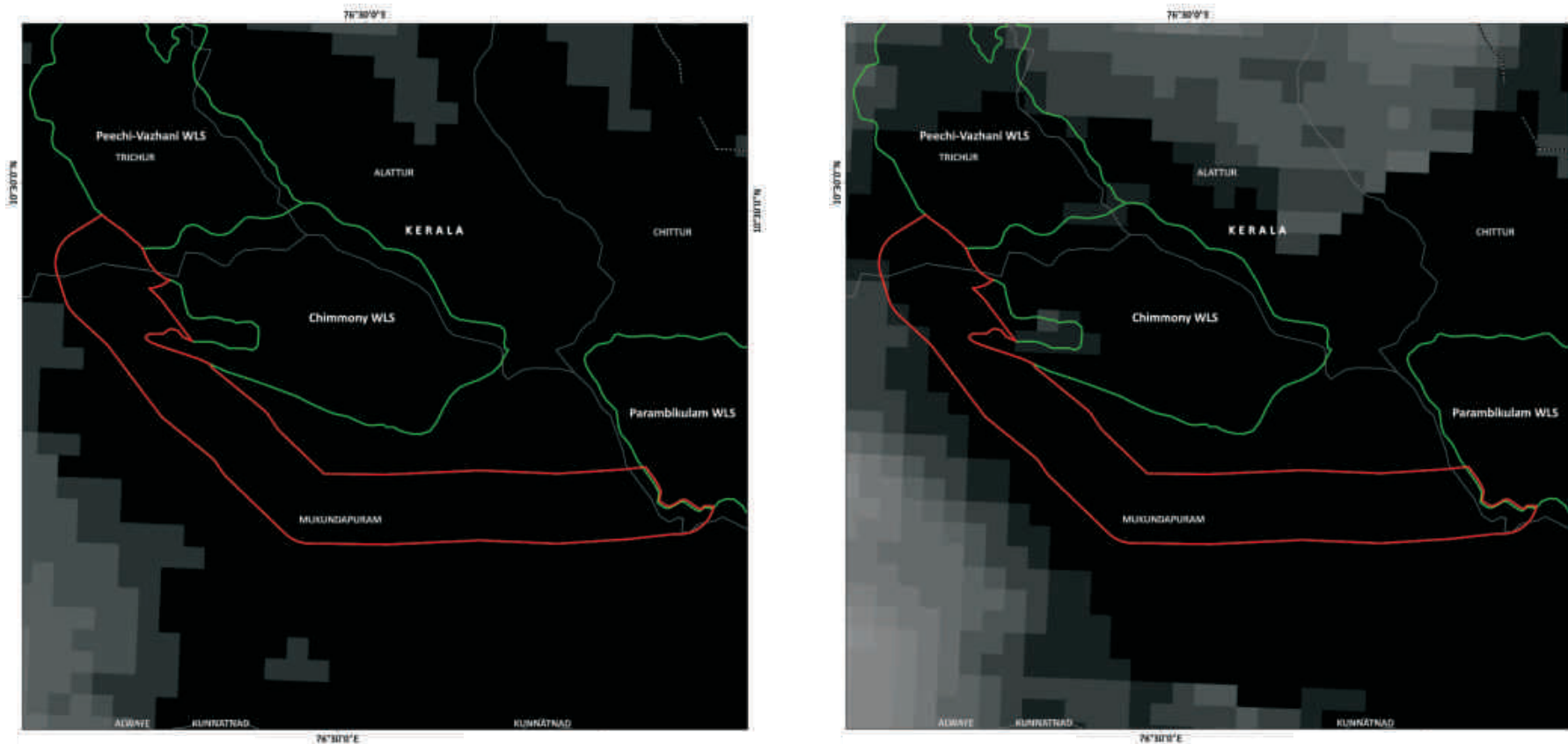


**Table 3.9.**  
*Villages within the Least Cost Pathway Corridor between Chimmony-Parambikulam WLS as shown in Fig. 3.41*

**Figure 3.42:**  
*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Chimmony-Parambikulam WLS*

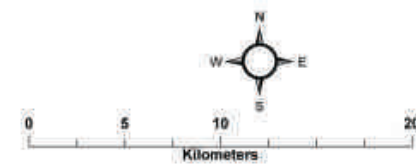
**Chimmony-Parambikulam Corridor**

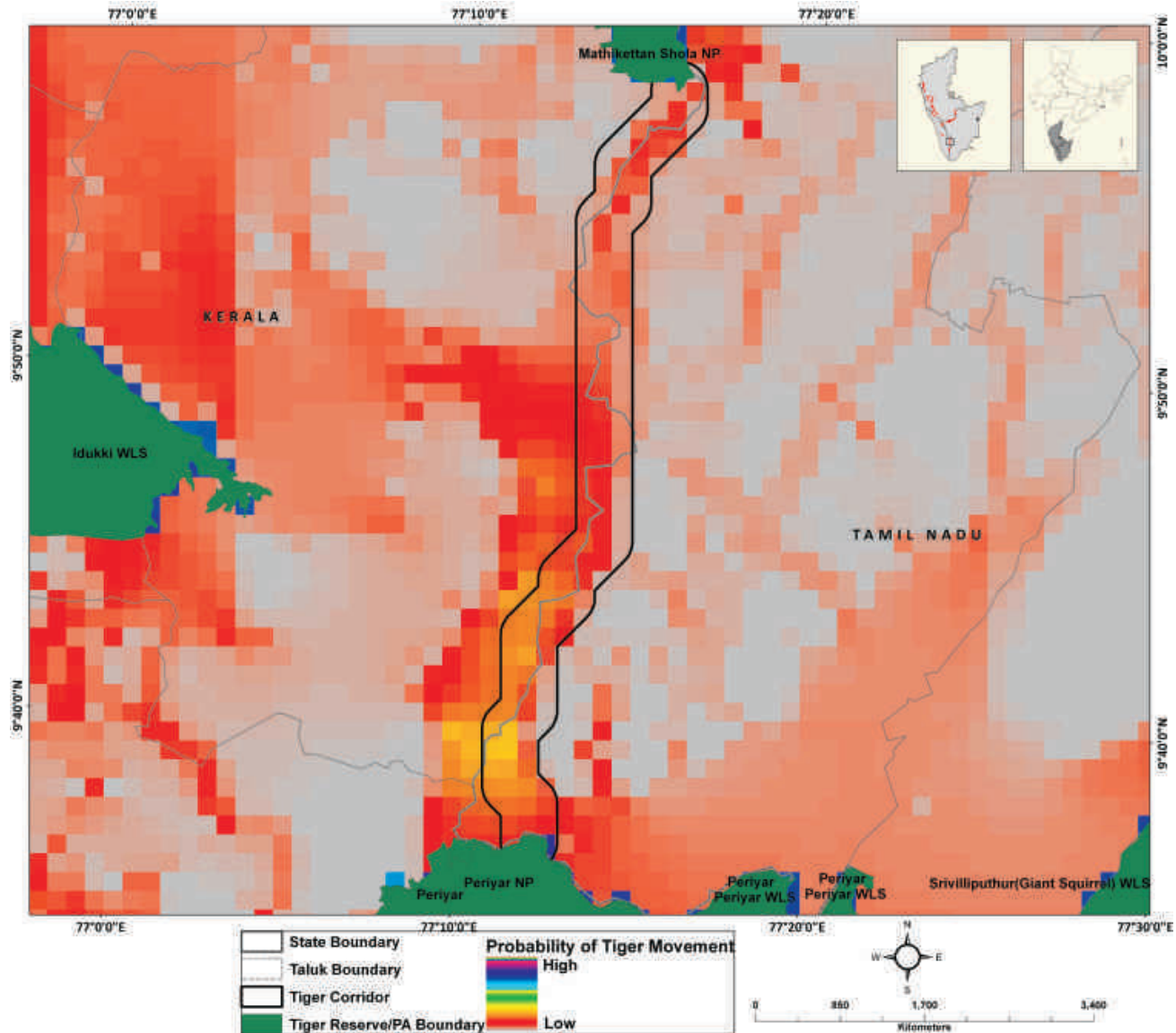
|                          |  |
|--------------------------|--|
| <b>Habitat size</b>      | 13233 Km <sup>2</sup>                      |
| <b>Source Population</b> | Parambikulam-Indira Gandhi                 |
| <b>Size of Source</b>    | 3a4 (32-36) tigers in 3253 Km <sup>2</sup> |
| <b>Protected Areas</b>   | Chimmony WLS<br>Parambikulam WLS           |
| <b>Corridors</b>         | Parambikulam WLS-Chimmony WLS Corridor     |



**Figure 3.43:**

*Human habitation as depicted by nightlights within the Chimmony-Parambikulam WLS landscape in the year 1992 and 2012*

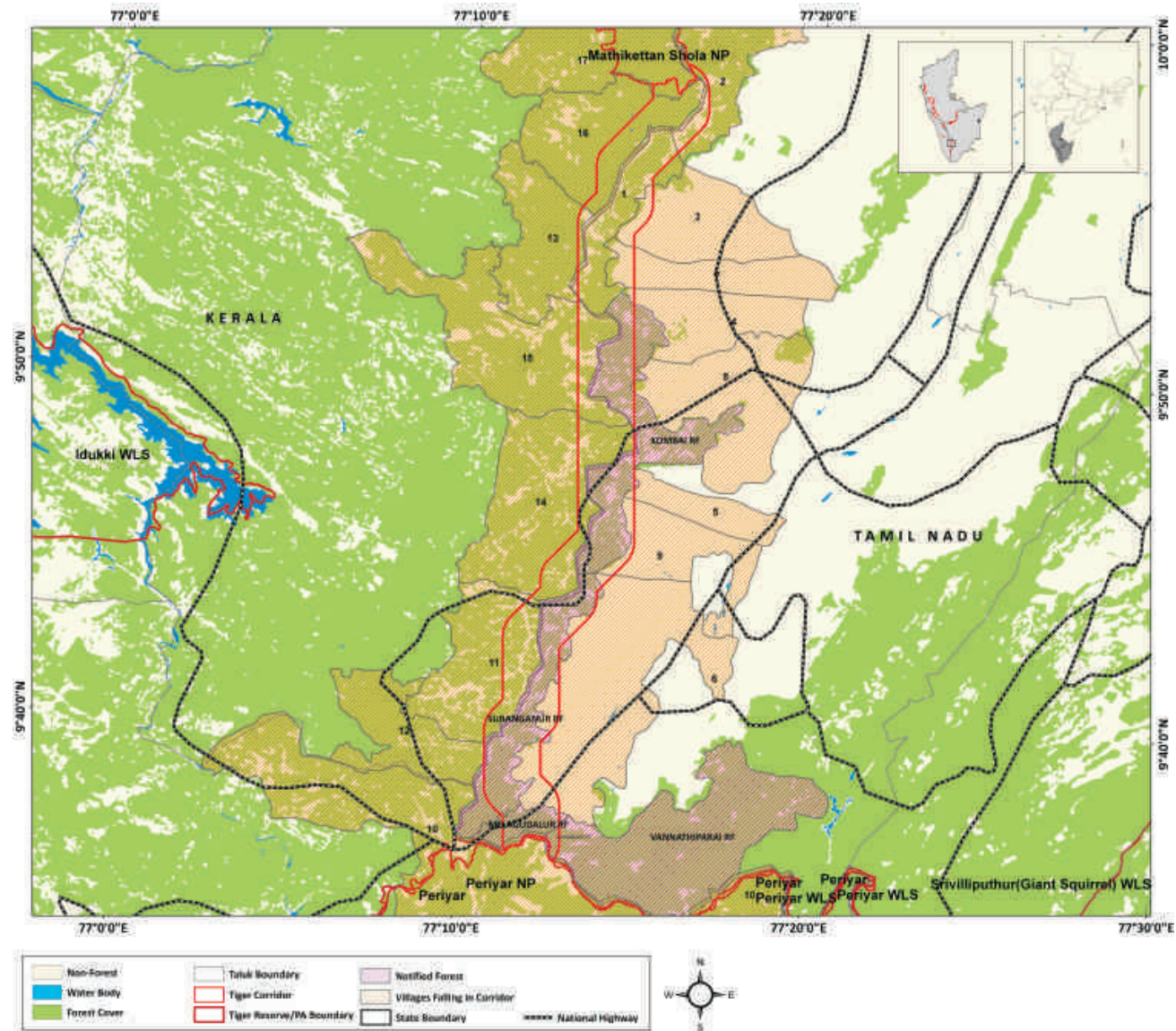




**Figure 3.44:**  
*Potential habitat connectivity for tiger movement between Mathikettan-Periyar Corridor as depicted by CIRCUITSCAPE model*

**Figure 3.45:**

Least Cost Pathway corridor for tiger movement between Mathikettan-Periyar overlaid with village map (the village numbers are referenced in Table 3.10)



| Village_ID | State      | District | Tehsil        | Village               | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|------------|----------|---------------|-----------------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Tamil Nadu | Theni    | Uthamapalayam | Thevaram Hills        | NA                     | NA                      | NA                     | NA                      |
| 2          |            |          | Bodinayakanur | Bodi Hill West        | NA                     | NA                      | NA                     | NA                      |
| 0          |            |          | Uthamapalayam | Vannathiparai Rf      | 165                    | 477                     | NA                     | NA                      |
| 3          |            |          | Uthamapalayam | Thevaram A/d          | 3549                   | 14637                   | 4225                   | 16079                   |
| 4          |            |          | Uthamapalayam | Pannaipuram A/c       | 1924                   | 8347                    | 2311                   | 9323                    |
| 5          |            |          | Uthamapalayam | Pudupatti             | 2537                   | 10015                   | 191                    | 730                     |
| 6          |            |          | Uthamapalayam | Gudalur (TN-2)        | 9308                   | 35531                   | 12001                  | 41915                   |
| 0          |            |          | Uthamapalayam | Kombai Rf             | NA                     | NA                      | NA                     | NA                      |
| 0          |            |          | Uthamapalayam | Suranganur Rf         | NA                     | NA                      | NA                     | NA                      |
| 0          |            |          | Uthamapalayam | Melagudalur Rf        | NA                     | NA                      | NA                     | NA                      |
| 7          |            |          | Uthamapalayam | T. Meenakshipuram A/b | NA                     | NA                      | NA                     | NA                      |
| 8          |            |          | Uthamapalayam | Kobai East And West   | NA                     | NA                      | NA                     | NA                      |
| 9          |            |          | Uthamapalayam | Uthamapuram A/c       | NA                     | NA                      | NA                     | NA                      |
| 10         | Kerala     | Idukki   | Udumbanchola  | Kumily                | 6666                   | 28652                   | 7404                   | 30276                   |
| 11         |            |          | Udumbanchola  | Anakkara              | 5523                   | 23934                   | 5214                   | 24699                   |
| 12         |            |          | Udumbanchola  | Chakkupallam          | 3039                   | 12242                   | 3429                   | 12609                   |
| 13         |            |          | Udumbanchola  | Chathurangapara       | 1481                   | 5325                    | 1306                   | 4177                    |
| 14         |            |          | Udumbanchola  | Karunapuram           | 7426                   | 31981                   | 7571                   | 30473                   |
| 15         |            |          | Udumbanchola  | Parathodu             | 5316                   | 21525                   | 5444                   | 20417                   |
| 16         |            |          | Udumbanchola  | Santhanpara           | 2211                   | 8425                    | 1985                   | 6782                    |
| 17         |            |          | Udumbanchola  | Poopara               | NA                     | NA                      | NA                     | NA                      |

**Table 3.10:**

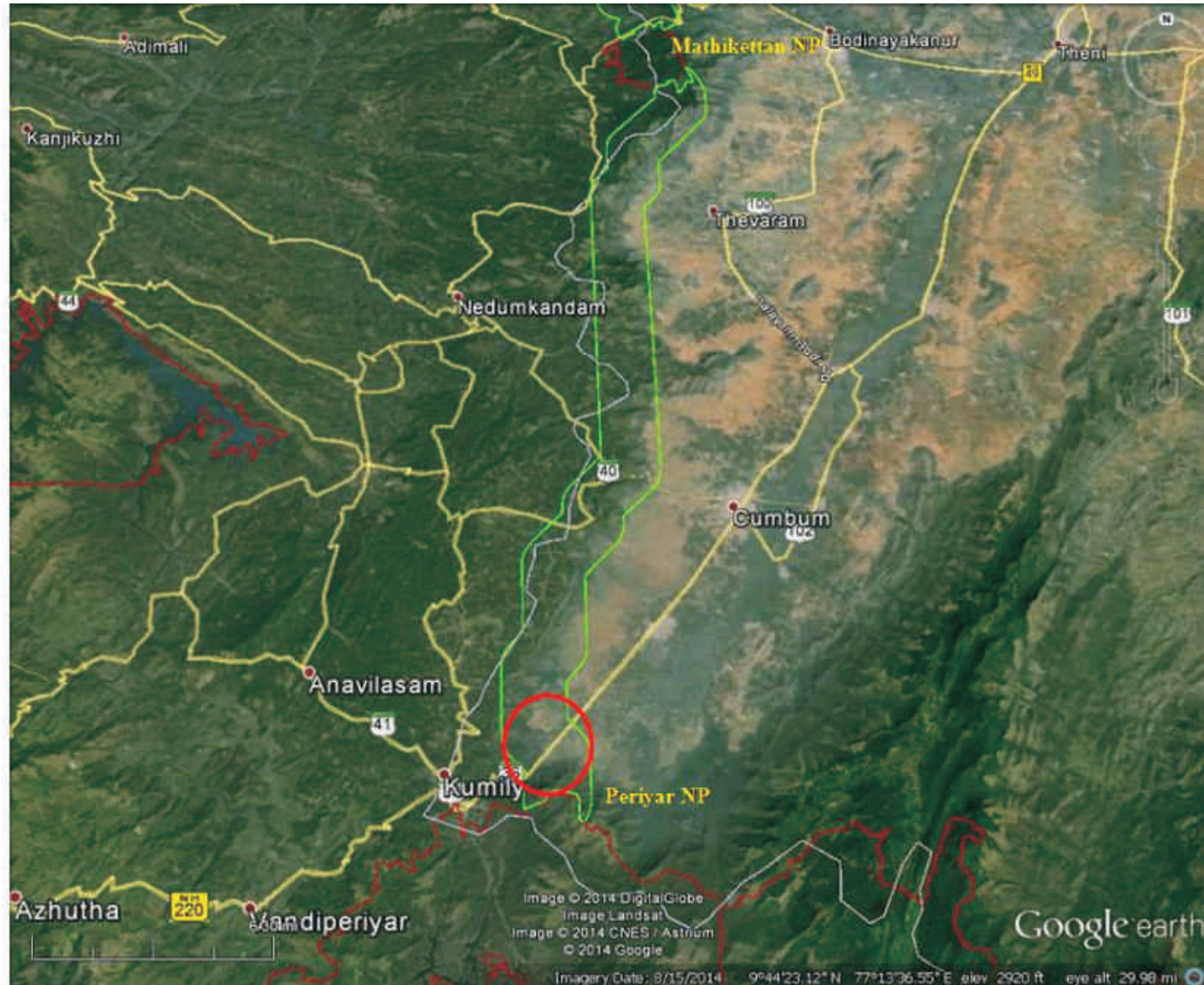
Villages within the Least Cost Pathway Corridor between Mathikettan-Periyar as shown in Fig. 3.45

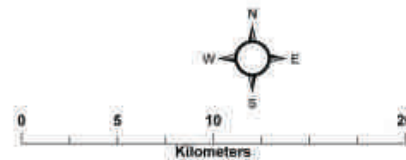
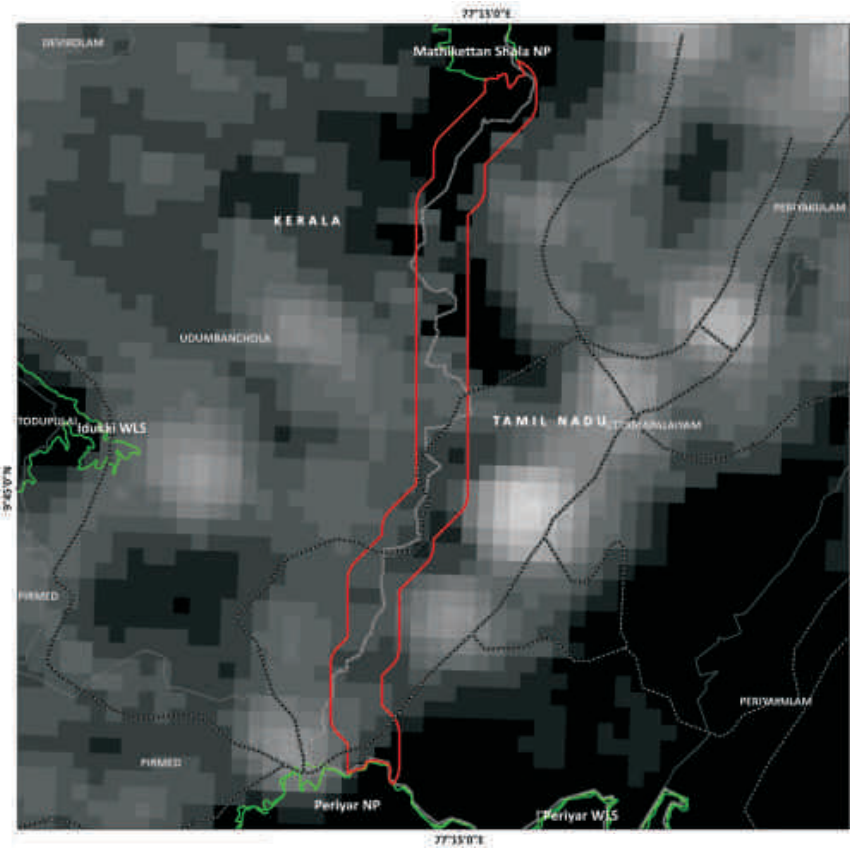
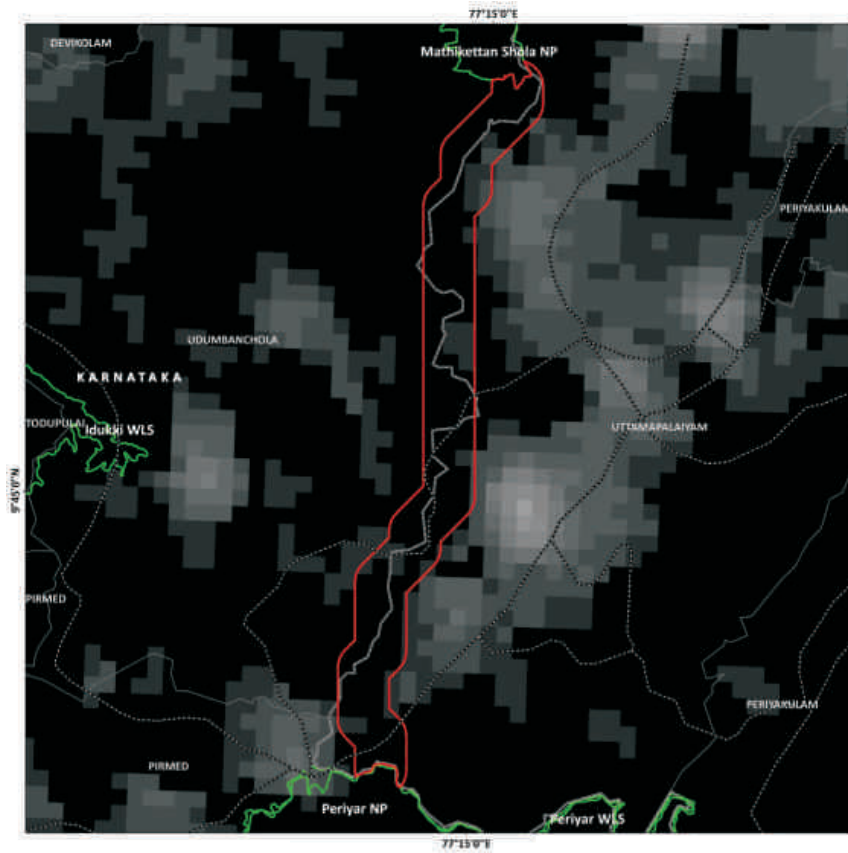
**Mathikettan-Periyar Corridor**

|                          |   |
|--------------------------|---|
| <b>Habitat size</b>      | 13233 Km <sup>2</sup>                     |
| <b>Source Population</b> | KMTR-Periyar                              |
| <b>Size of Source</b>    | 38 (36-40) tigers in 3812 Km <sup>2</sup> |
| <b>Protected Areas</b>   | Mathikettan Shola NP<br>Periyar WLS       |
| <b>Corridors</b>         | Periyar WLS-Mathikettan Shola NP Corridor |

**Figure 3.46:**

Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Mathikettan-Periyar



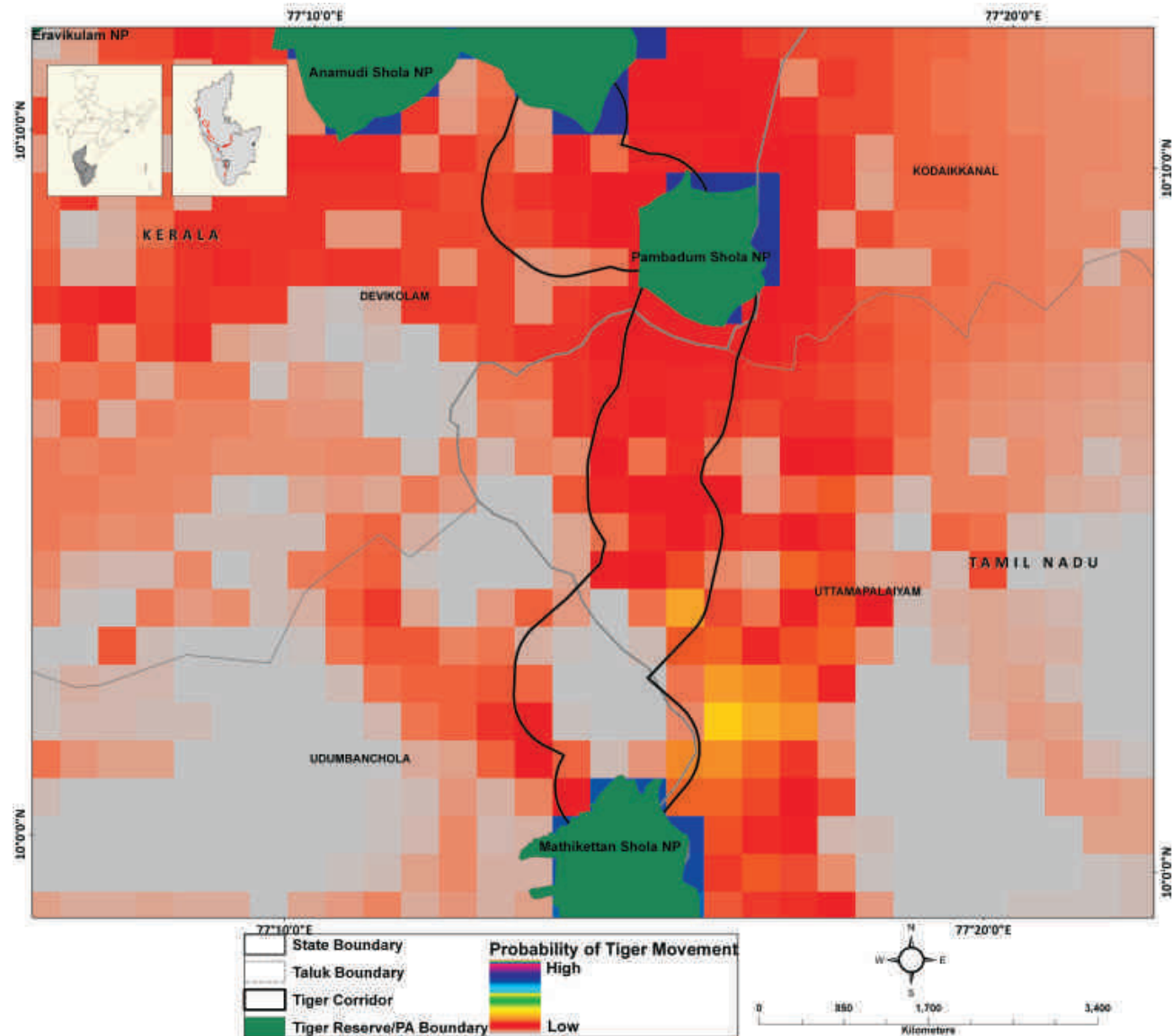


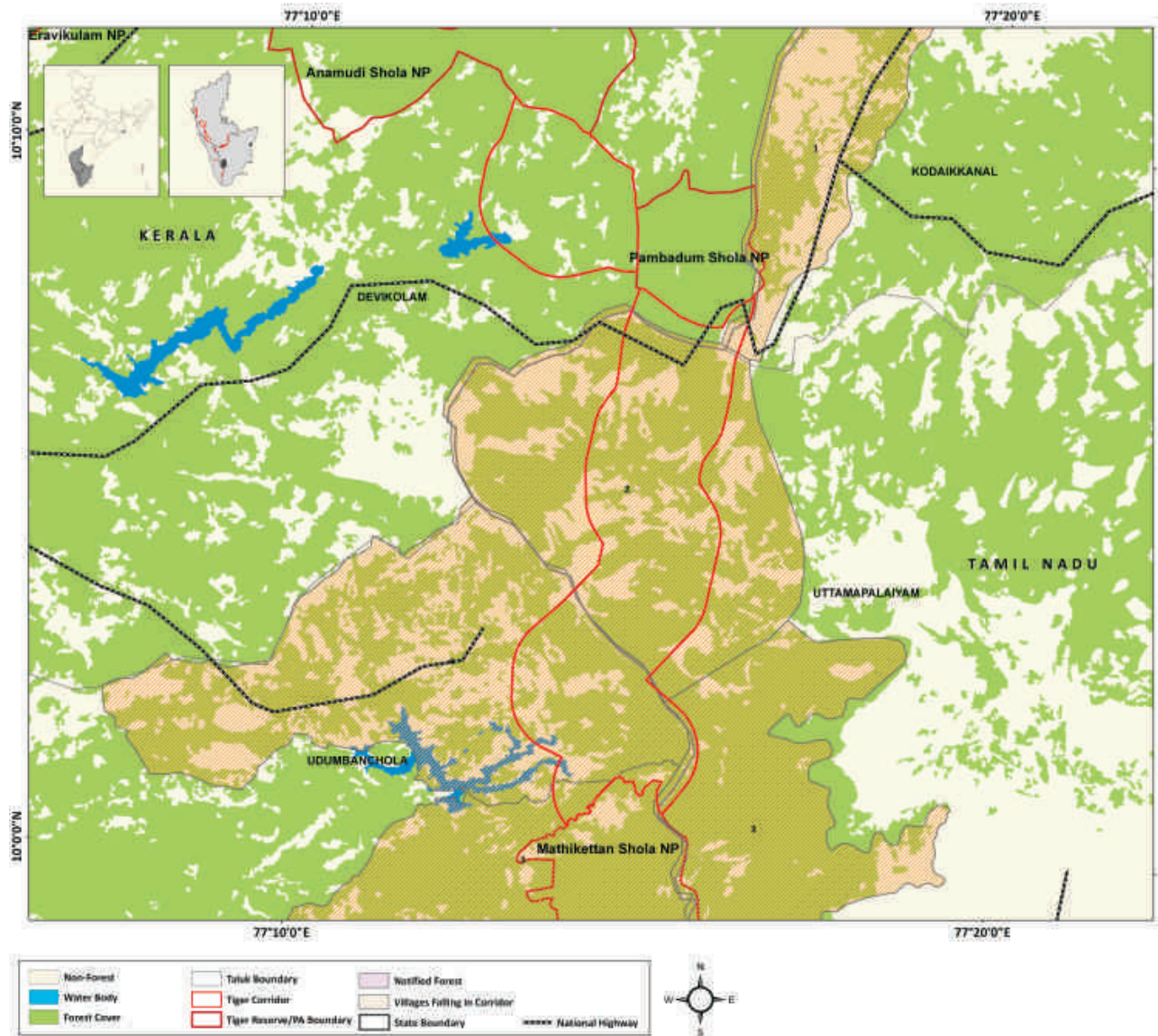
**Figure 3.47:**  
Human habitation as depicted by nightlights within the Mathikettan-Periyar landscape in the year 1992 and 2012



**Figure 3.48:**

Potential habitat connectivity for tiger movement between Mathikettan Shola NP, Pambadum Shola NP, Anamudi Shola NP as depicted by CIRCUITSCAPE model





**Figure 3.49:**

Least Cost Pathway corridor for tiger movement between Mathikettan Shola NP- Pambadum Shola NP- Anamudi Shola NP overlaid with village map (the village numbers are referenced in Table 3.11)

\*Partial village information for Kerala, falling within the corridor was unavailable

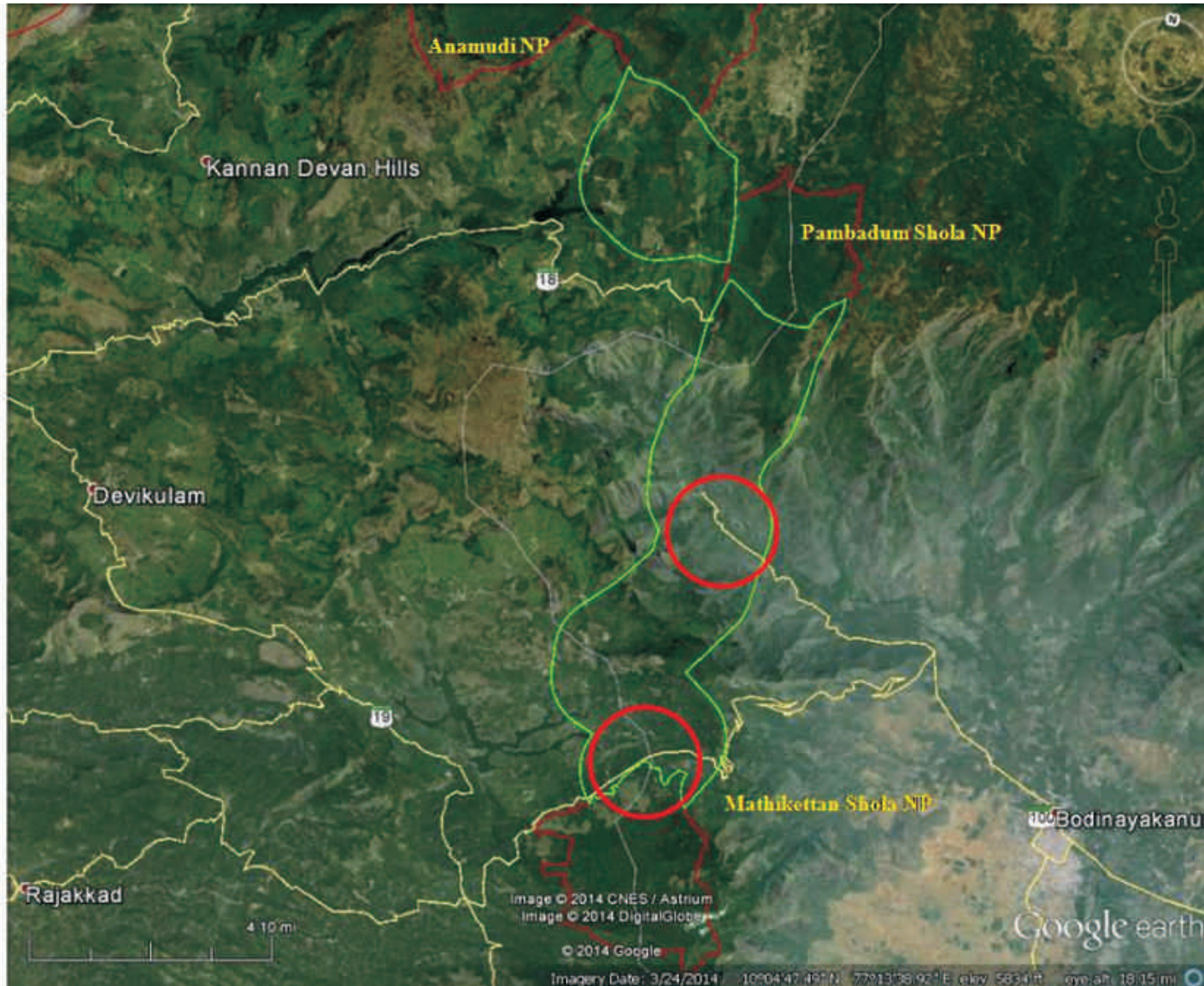
**Table 3.11:**

*Villages within the Least Cost Pathway Corridor between Mathikettan Shola NP-Pambadum Shola NP-Anaimudi Shola NP as shown in Fig. 3.49*

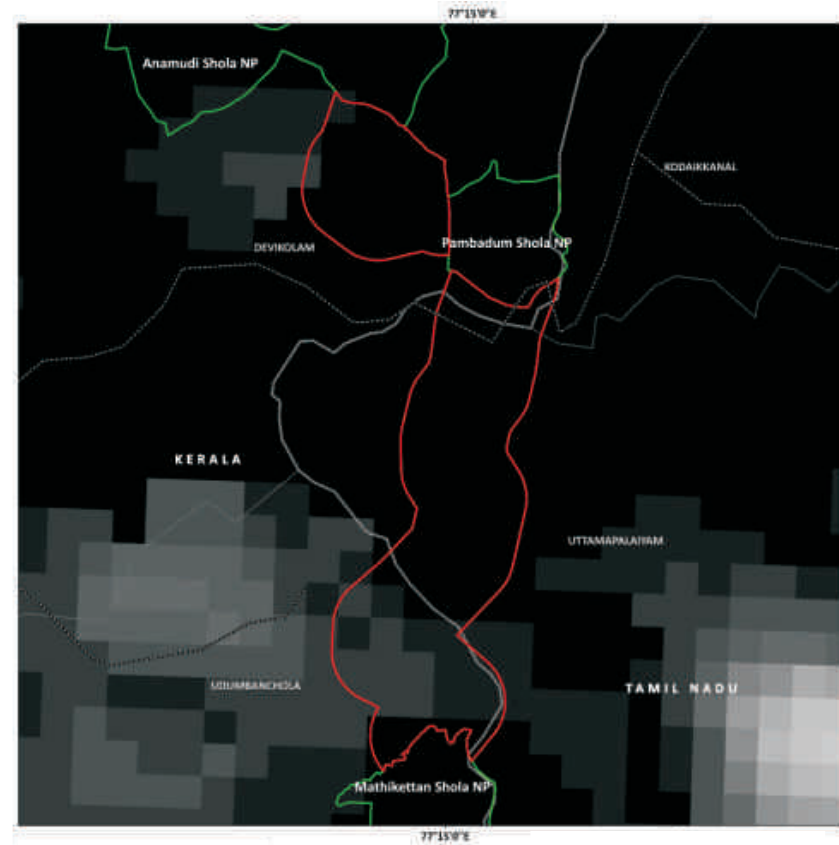
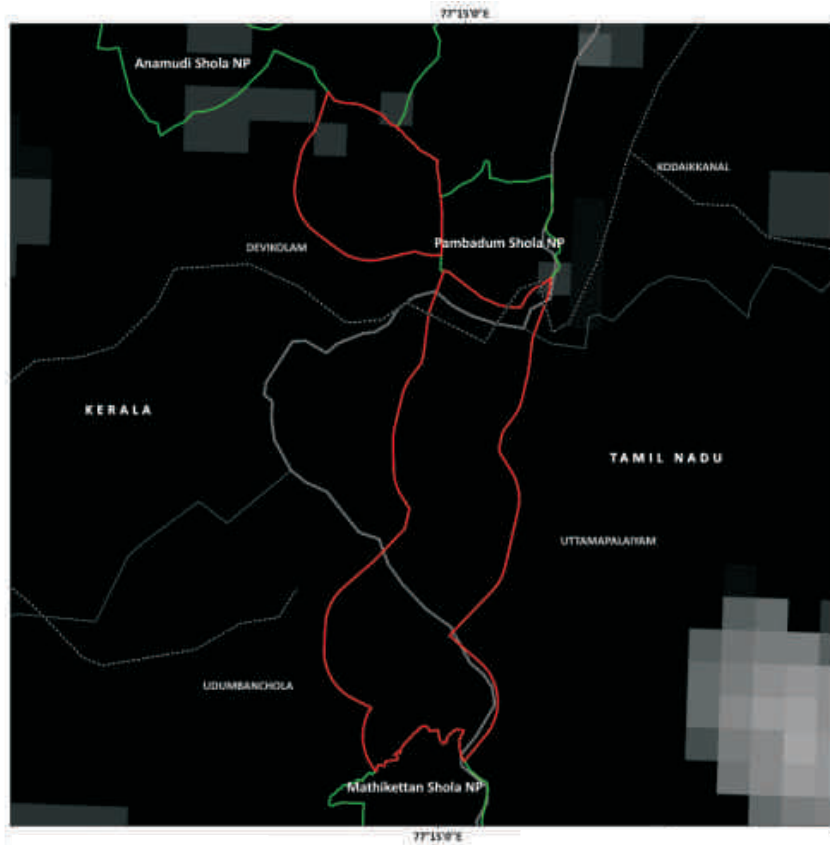
| Village_ID | State      | District | Tehsil        | Village        | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|------------|----------|---------------|----------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Tamil Nadu | Dindigul | Kodaikanal    | Mannavanur     | 1437                   | 5927                    | 2223                   | 8117                    |
| 2          | Tamil Nadu | Theni    | Bodinayakanur | Kottagudi      | 557                    | 1912                    | 910                    | 3272                    |
| 3          | Tamil Nadu | Theni    | Bodinayakanur | Bodi Hill West | NA                     | NA                      | NA                     | NA                      |
| 4          | Kerala     | Idukki   | Udumbanchola  | Chinnakanal    | 3095                   | 12949                   | 3210                   | 12005                   |
| 5          |            |          | Udumbanchola  | Poopara        | NA                     | NA                      | NA                     | NA                      |

**Mathikettan Shola NP-Pambadum Shola NP-Anaimudi Shola NP Corridor**

|                          |   |
|--------------------------|---|
| <b>Habitat size</b>      | 13233 Km <sup>2</sup>   |
| <b>Source Population</b> | KMTR-Periyar  |
| <b>Size of Source</b>    | 38 (36-40) tigers in 3812 Km <sup>2</sup>                                     |
| <b>Protected Areas</b>   | Mathikettan Shola NP<br>Pambadum Shola NP<br>Anaimudi Shola NP                |
| <b>Corridors</b>         | Mathikettan Shola NP-Pambadum Shola NP<br>Pambadum Shola NP-Anaimudi Shola NP |

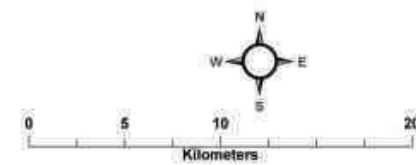


**Figure 3.50:**  
*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Mathikettan Shola NP-Pambadum Shola NP-Anaimudi Shola NP*



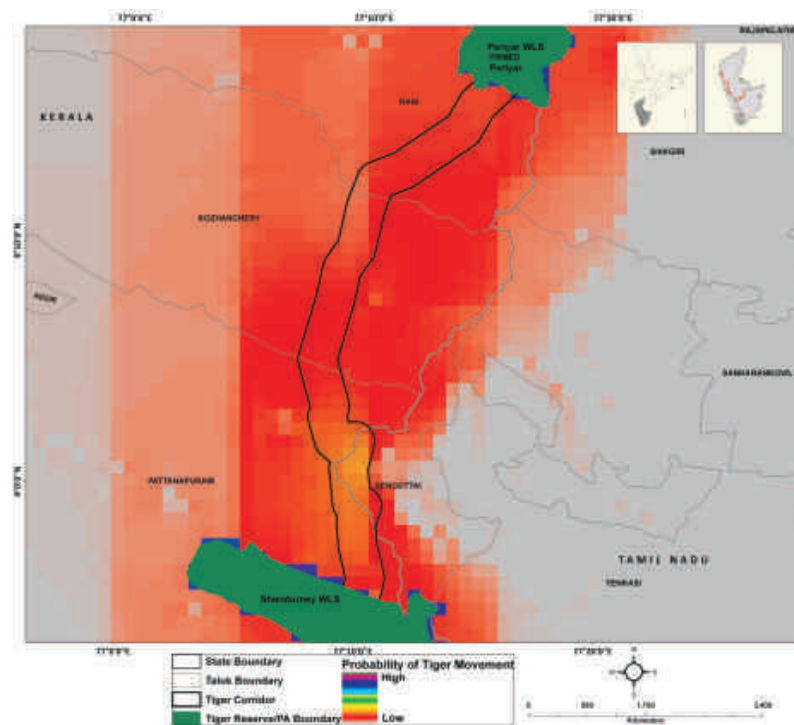
**Figure 3.51:**

*Human habitation as depicted by nightlights within the Mathikettan Shola NP-Pambadum Shola NP-Anaimudi Shola NP landscape in the year 1992 and 2012*



## KALAKAD-MUNDANTHURAI-PERIYAR

This complex extends from Periyar Tiger Reserve in Kerala and is contiguous with Peppara Wildlife Sanctuary in Nedumangad taluka of Trivandrum and Neyyar Wildlife Sanctuary in Neyyattinkara taluka of Trivandrum district. Shendurney Wildlife Sanctuary is located in Pathanapuram district of Kollam. All three of these Protected Areas are contiguous with Kanyakumari Wildlife Sanctuary and Kalakad-Mundanthurai Tiger Reserve in Tamil Nadu. This landscape has tiger occupancy in about 2,121 km<sup>2</sup> with an estimated tiger population between 36 and 40. The connectivity between Periyar complex and the Protected Areas to the south of Periyar are an essential element for long term tiger persistence within this landscape complex. The corridor identified by the Least Cost Pathway traverses hilly forested terrain, interspersed by plantations and habitation. It meets major barriers to wildlife movement near the township of Aryankavu in the form of high human densities, road and rail traffic. Mitigation measures need to be implemented here to maintain the wildlife value of this corridor.



**Figure 3.52:**

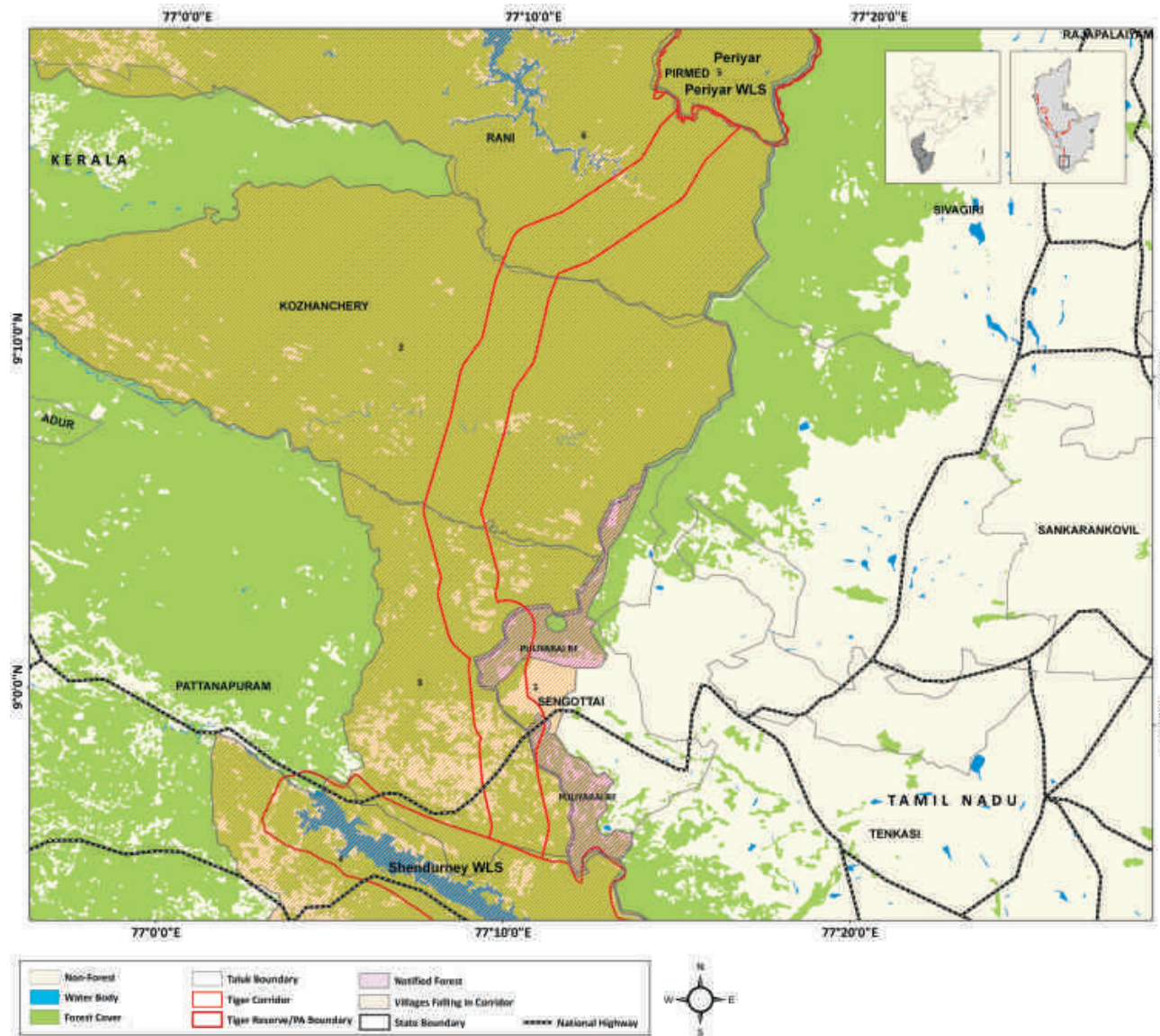
*Potential habitat connectivity for tiger movement between Periyar-Shendurney WLS as depicted by CIRCUITScape model*

### Periyar-Shendurney WLS Corridor

|                          |   |
|--------------------------|---|
| <b>Habitat size</b>      | 13233 Km <sup>2</sup>                     |
| <b>Source Population</b> | KMTR-Periyar                              |
| <b>Size of Source</b>    | 30 (36-40) tigers in 3812 Km <sup>2</sup> |
| <b>Protected Areas</b>   | Periyar WLS<br>Shendurney WLS             |
| <b>Corridors</b>         | Periyar WLS-Shendurney WLS                |

**Figure 3.53:**

Least Cost Pathway corridor for tiger movement between Periyar-Shendurney WLS overlaid with village map (the village numbers are referenced in Table 3.12)



| Village_ID | State      | District      | Tehsil       | Village             | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|------------|---------------|--------------|---------------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Tamil Nadu | Tirunelveli   | Shenkottai   | Puliyarai A/b       | NA                     | NA                      | NA                     | NA                      |
| 2          | Kerala     | Pattanamtitta | Kozhanchery  | Aruvappulam         | 4039                   | 16183                   | 3872                   | 13801                   |
| 3          |            | Quilon        | Pattanapuram | Arienkavu           | 3162                   | 12125                   | 2910                   | 10144                   |
| 4          |            |               | Pattanapuram | Kulathupuzha        | 3519                   | 14749                   | 4145                   | 15931                   |
| 5          |            | Idukki        | Pirmed       | Mlappara            | 307                    | 1125                    | 314                    | 1129                    |
| 6          |            | Pattanamtitta | Rani         | Chittar-Seethathodu | 8405                   | 33977                   | 8722                   | 31969                   |

**Table 3.12:**

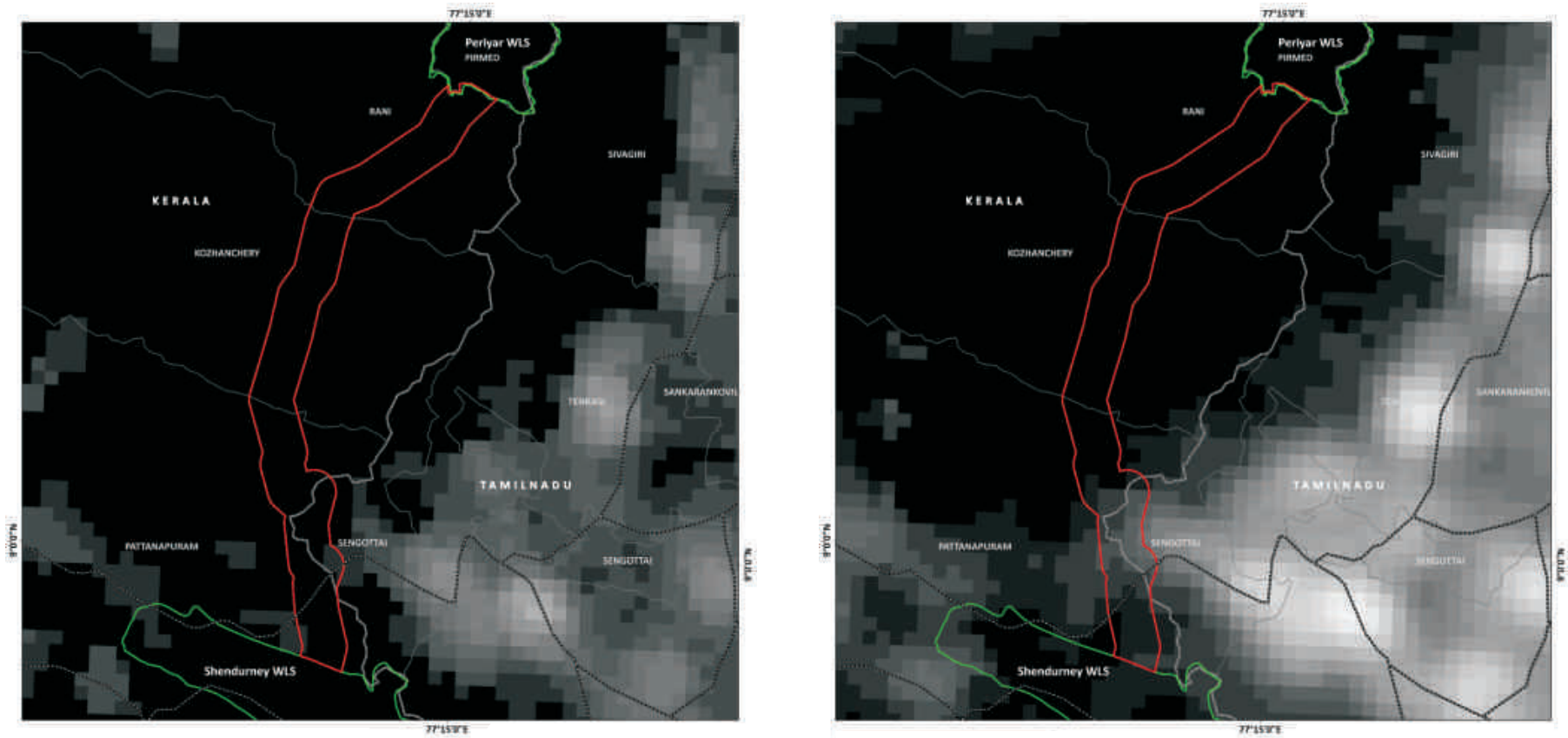
*Villages within the Least Cost Pathway Corridor between Periyar-Shendurney WLS as shown in Fig. 3.53*



**Figure 3.54:**

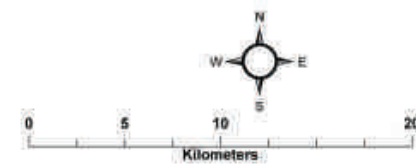
*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Periyar-Shendurney WLS*





**Figure 3.55:**

*Human habitation as depicted by nightlights within the Periyar-Shendurney WLS landscape in the year 1992 and 2012*





**NORTH EAST**



4

## NORTH-EAST LANDSCAPE

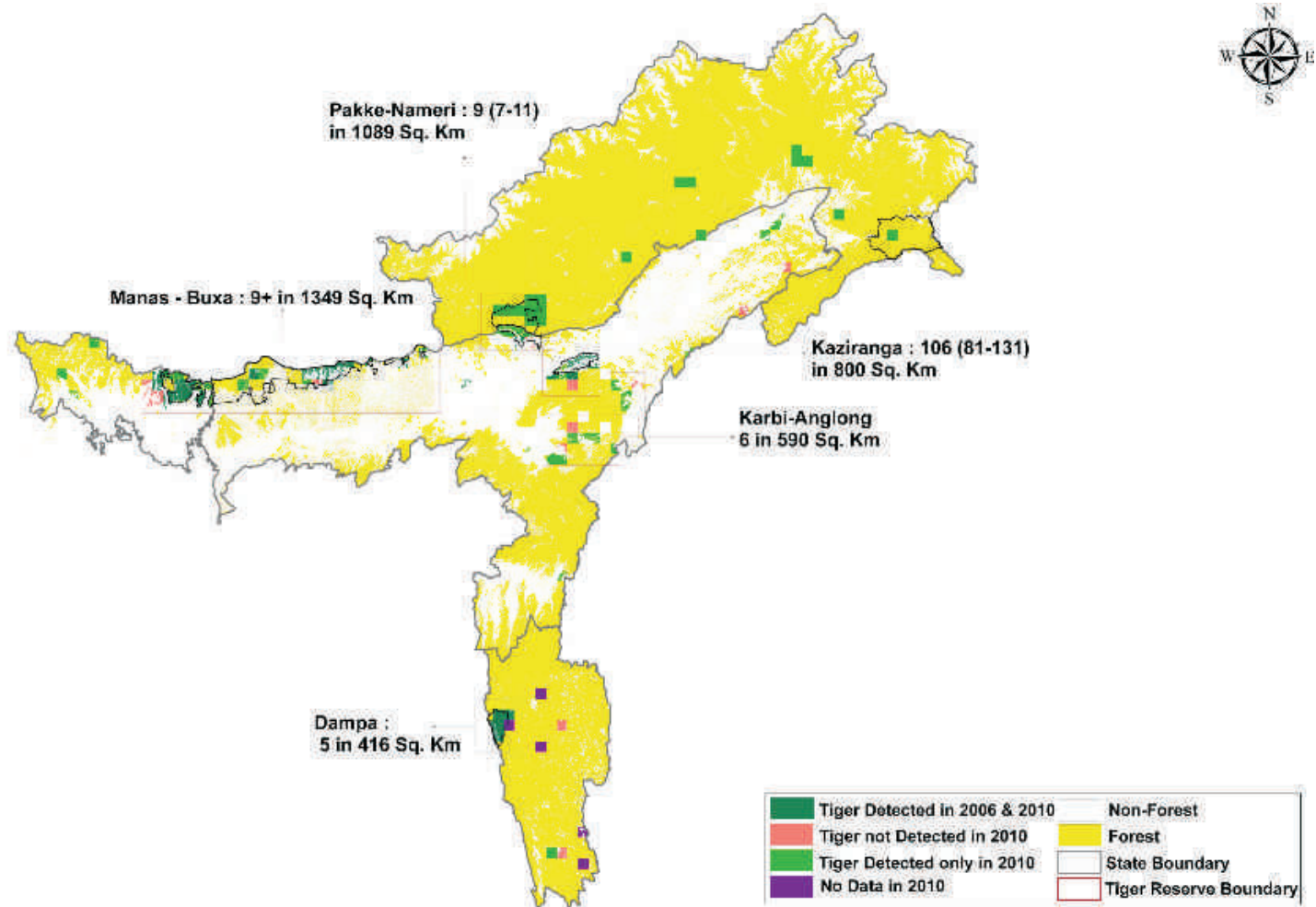
The tiger populations in this landscape have historical evolutionary significance as they share the connecting gene pool with south east Asian tiger populations and represent the entry point of tigers into the Indian sub-continent. This region has two important Tiger Conservation Units (TCUs), one comprising of the Manas Tiger Reserve, stretching across Bhutan to Arunachal Pradesh in the north-east, while the other includes Kaziranga in Assam and stretches upto Meghalaya. While the former is supposed to be the only landscape in south-Asia sustaining the phenomenon of tigers living close to the timber line and predated upon mountain ungulates, the latter encompasses the best preserved grassland habitat in the global tiger range (Wikramanayake et al. 1998). The region includes seven tiger reserves, viz., Buxa in Northern Bengal, Manas, Kaziranga and Nameri in Assam, Pakke and Namdapha in Arunachal Pradesh and Dampa in Mizoram. Several National Parks, Wildlife Sanctuaries, Reserved Forests and sacred groves are scattered across the landscape making it the largest connected forest landscape in India. Currently tiger occupancy was recorded from an area of 4,565 km<sup>2</sup> of forests within the Brahmaputra Valley and the North East Hills landscape, with an estimated population of about 143 (113 to 172) tigers. This area is recognised with high species diversity, high levels of endemism, taxonomic uniqueness of species, serious habitat loss and threatened status of the floral and faunal diversity of the area.

Most of this region today, is under intense tea cultivation with small isolated remnants of forests. The discovery of good tea growing areas in Assam made this region amongst the first to undergo extensive land-use changes with large areas being cleared out for tea cultivation on the banks of the Brahmaputra. Characterised by many islands and alluvial fertile soils, the region is under pressure from intense cultivation with high human densities. Sharing political boundaries with Nepal, Bhutan, China, Myanmar and Bangladesh make conservation a challenging task in this landscape and the need for trans-boundary International cooperation an essential requirement for conservation success. With 6.8% of its total land area under protected area network, this zone incorporates the highest diversity of species known from India, albeit the faunal abundances are low due to a high dependence of the local communities on bush-meat for subsistence and cultural reasons. Much of the prey is depleted in these forests as the hunter-gatherer tribes are efficient hunters and depend a lot on wild game for subsistence (Aiyadurai 2007). In addition, in recent years, most north-eastern states have been sites of intense political unrest resulting in differential development between states and within different regions of individual States.

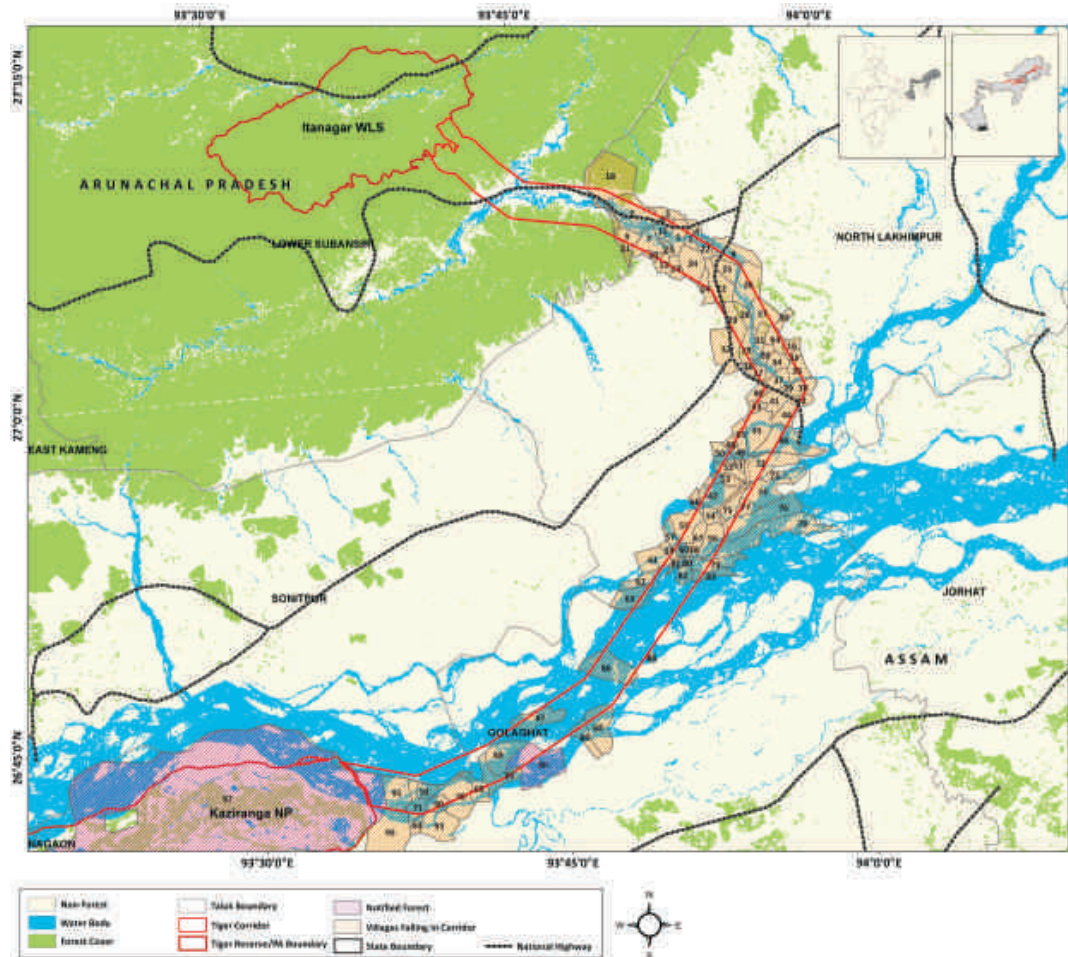


**Figure 4.1:**

*Habitat Connectivity in North-Eastern Hills and Brahmaputra Landscape*



# KAZIRANGA TR WITH OTHER PROTECTED AREAS



This landscape holds the largest tiger population in the North-Eastern region consisting of about 125 tigers. The major source population of tigers in this landscape are in Kaziranga and Pakke in India and dispersing tigers from Bhutan and Myanmar. Kaziranga Tiger Reserve covers an area of 1,033 km<sup>2</sup> and includes the 859 km<sup>2</sup> Kaziranga National Park, 44 km<sup>2</sup> Burachapori and 70 km<sup>2</sup> Laokhowa Wildlife Sanctuaries. The National Park is located in Nagaon, Golaghat and Sonitpur districts, bounded in the north by the Brahmaputra and to the south, by the Karbi-Anglong Hills. It is connected to the southern parts of the North East Landscape via the Karbi-Anglong Hills, for which it acts as a major source. Further, Kaziranga is connected through the Karbi-Anglong Hills, to Intanki in the south. National Highway 37 separates it from the Karbi-Anglong hills where about 150 villages are located along this road, within the zone of influence of the Reserve. This connectivity through Karbi-Anglong is crucial for dispersal of tigers from their source population in Kaziranga. Kaziranga has lost its connectivity to the north (to Pakke) due to intensive agriculture on northern banks of the River Brahmaputra. The Kaziranga tiger population is contiguous with that of Orang Wildlife Sanctuary connected through island systems of the Brahmaputra. This is the single largest population in the North East Landscape consisting of about 125 tigers. The Kaziranga population connects with Nameri through riverine corridors which is an

**Figure 4.2:** Least Cost Pathway corridor for Tiger movement between Kaziranga-Itanagar WLS Corridor overlaid with village map (the village numbers are referenced in Table 4.1)

important connectivity maintaining gene flow between the plains and the hill population of tigers (in Arunachal Pradesh). This region being extremely fertile is in demand for agriculture and the Protected Areas are increasingly becoming isolated islands. In light of this the connectivity with Nameri in the North, Karbi Anglong in the South as well as the riverine islands, "stepping stones" through Laokhowa and Burachapori Wildlife Sanctuaries to Orang form the crucial elements for targeting conservation efforts. Large mammals from Kaziranga are also known to move between Karbi-Anglong hills and the Tiger Reserve, although protection of dispersing and migrating individuals is difficult

due to existence of political unrest in the Karbi region. Intanki National Park is also connected westwards through forests upto Balphakram National Park. This landscape has contiguous forest across the international border with Myanmar. The weak links in this landscape are the forests in the districts of Mon, Mokok Chung, Tuensang, Zuheboto, Wokha, and Pekh in the east. The landscape between Balphakram National Park and Intaki National Park through the districts of Karbi-Anglong, West Khasi Hills, East Khasi Hills and East and West Garo Hills is fragmented.

| Village_ID | State | District  | Tehsil          | Village                   | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|-----------|-----------------|---------------------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Assam | Lakhimpur | Bihpuria        | Merbeel                   | 142                    | 851                     | 174                    | 934                     |
| 2          |       |           | Bihpuria        | Harmutty Gaon             | 314                    | 1760                    | 470                    | 2255                    |
| 3          |       |           | Bihpuria        | Pachoni Bogori            | 21                     | 110                     | 55                     | 266                     |
| 4          |       |           | Bihpuria        | Lakhonabari               | 63                     | 351                     | 77                     | 381                     |
| 5          |       |           | Bihpuria        | Merbeel Dighali           | 46                     | 302                     | 46                     | 258                     |
| 6          |       |           | Bihpuria        | Aunishbari 8/11           | 201                    | 1151                    | 236                    | 1221                    |
| 7          |       |           | Bihpuria        | Parbotipur Gaon           | 41                     | 253                     | 46                     | 243                     |
| 8          |       |           | Bihpuria        | Bangalmora Grazing Ground | 520                    | 2719                    | 971                    | 4857                    |
| 9          |       |           | Bihpuria        | Parbotipur N.C.           | 664                    | 3236                    | 511                    | 2289                    |
| 10         |       |           | Narayanpur      | Pithaguri No.4            | 55                     | 334                     | 57                     | 284                     |
| 11         |       |           | Narayanpur      | Pithaguri No.2            | 100                    | 470                     | 38                     | 179                     |
| 12         |       |           | Bihpuria        | Bango Gaon                | 213                    | 1232                    | 205                    | 1094                    |
| 13         |       |           | Narayanpur      | Pithaguri No.1            | 35                     | 229                     | 53                     | 266                     |
| 14         |       |           | Bihpuria        | Dongibeel                 | 255                    | 1418                    | 385                    | 1966                    |
| 15         |       |           | North Lakhimpur | Merbeel Gt. No. 81/78     | NA                     | NA                      | NA                     | NA                      |
| 16         |       |           | Bihpuria        | Laholial Gaon             | 65                     | 373                     | 78                     | 384                     |
| 17         |       |           | Bihpuria        | Bangaligaon               | 175                    | 1005                    | 272                    | 1405                    |
| 18         |       |           | North Lakhimpur | Harmutty Gt. No.95 F.C.   | NA                     | NA                      | NA                     | NA                      |
| 19         |       |           | Bihpuria        | Chichapathar              | 234                    | 1196                    | 267                    | 1282                    |
| 20         |       |           | Bihpuria        | Kandali Gaon              | 59                     | 321                     | 77                     | 395                     |

**Table 4.1:**  
Villages within the Least Cost Pathway Corridor between Kaziranga-Iltanagar WLS as shown in Fig. 4.2

| Village_ID | State | District | Tehsil          | Village                | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|-----------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| 21         |       |          | North Lakhimpur | Rajgarh                | NA                     | NA                      | 276                    | 1277                    |
| 22         |       |          | North Lakhimpur | Holmari Grant No.65/68 | NA                     | NA                      | NA                     | NA                      |
| 23         |       |          | North Lakhimpur | Pithaguri No.5         | NA                     | NA                      | NA                     | NA                      |
| 24         |       |          | North Lakhimpur | Holmari Grant No.80 Fs | NA                     | NA                      | NA                     | NA                      |
| 25         |       |          | North Lakhimpur | Hoimari No.79/87 Nlr   | NA                     | NA                      | NA                     | NA                      |
| 26         |       |          | North Lakhimpur | Gerelua                | NA                     | NA                      | NA                     | NA.                     |
| 27         |       |          | Bihpuria        | Kalabil Mornoi Nepali  | 271                    | 1356                    | 254                    | 1186                    |
| 28         |       |          | Bihpuria        | Mornoi Gaon            | 371                    | 2067                    | 526                    | 2773                    |
| 29         |       |          | Bihpuria        | Keyamora               | 263                    | 1423                    | 289                    | 1493                    |
| 30         |       |          | Bihpuria        | Chintaoligaon          | 40                     | 227                     | 43                     | 190                     |
| 31         |       |          | Bihpuria        | Santapur Gaon          | 171                    | 907                     | 247                    | 1218                    |
| 32         |       |          | Bihpuria        | Bihpuria               | NA                     | NA                      | NA                     | NA                      |
| 33         |       |          | Bihpuria        | Gondhia Gaon No.2      | 55                     | 323                     | 69                     | 366                     |
| 34         |       |          | Bihpuria        | Gondhia Gaon           | 75                     | 413                     | Na                     | Na                      |
| 35         |       |          | Bihpuria        | Pokadol Grant          | 19                     | 116                     | 17                     | 90                      |
| 36         |       |          | Bihpuria        | Bihpuria Gaon          | 52                     | 253                     | 68                     | 316                     |
| 37         |       |          | Bihpuria        | Bengenati Grant        | 93                     | 506                     | 115                    | 548                     |
| 38         |       |          | Bihpuria        | Modhupur               | 12                     | 71                      | 15                     | 71                      |
| 39         |       |          | Bihpuria        | Pokadol Pathar         | 70                     | 429                     | 97                     | 507                     |
| 40         |       |          | Bihpuria        | Bangaligaon No.2       | 9                      | 42                      | 3                      | 9                       |
| 41         |       |          | Bihpuria        | Nepali Gaon            | 123                    | 628                     | 150                    | 645                     |
| 42         |       |          | Bihpuria        | Arunachal              | 84                     | 501                     | 104                    | 491                     |
| 43         |       |          | Bihpuria        | Japjup                 | 49                     | 266                     | 60                     | 264                     |
| 44         |       |          | Bihpuria        | Badati Jamuguri        | 75                     | 369                     | 101                    | 492                     |
| 45         |       |          | Bihpuria        | Kenduguri              | 143                    | 705                     | 388                    | 1721                    |
| 46         |       |          | Bihpuria        | Badati Miri            | 260                    | 1810                    | 300                    | 1775                    |
| 47         |       |          | Narayanpur      | Mazor Chapori          | 104                    | 755                     | 129                    | 744                     |
| 48         |       |          | Narayanpur      | Sonaribari Block 3     | 41                     | 279                     | 4                      | 19                      |
| 49         |       |          | Narayanpur      | Sonaribari Block 2     | 6                      | 41                      | 50                     | 363                     |
| 50         |       |          | Narayanpur      | Dhanguloi Pathar       | 68                     | 492                     | 10                     | 44                      |







| Village_ID | State | District | Tehsil          | Village               | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|-----------------|-----------------------|------------------------|-------------------------|------------------------|-------------------------|
| 51         |       |          | Narayanpur      | Sonaribari Block 1    | 3                      | 10                      | 18                     | 110                     |
| 52         |       |          | Narayanpur      | Sonaribari            | 3                      | 17                      | Na                     | Na                      |
| 53         |       |          | Narayanpur      | Dikrongmukh           | 11                     | 93                      | 35                     | 222                     |
| 54         |       |          | Narayanpur      | Chayang N.c.          | 44                     | 344                     | 64                     | 401                     |
| 55         |       |          | Narayanpur      | Borbil                | 50                     | 393                     | 98                     | 725                     |
| 56         |       |          | Narayanpur      | Banornlukh N.c.       | 33                     | 268                     | 49                     | 379                     |
| 57         |       |          | Narayanpur      | Borbil Mazgaon        | 60                     | 477                     | 0                      | 0                       |
| 58         |       |          | Narayanpur      | Kongbong N.c.         | 21                     | 174                     | 42                     | 258                     |
| 59         |       |          | Narayanpur      | Bothakhona No.2       | 58                     | 482                     | 84                     | 548                     |
| 60         |       |          | Narayanpur      | Borbeel N.c.          | 30                     | 276                     | 21                     | 183                     |
| 61         |       |          | Narayanpur      | Jamuguri              | 141                    | 898                     | 59                     | 330                     |
| 62         |       |          | Narayanpur      | Borati N.c.           | 66                     | 573                     | 58                     | 394                     |
| 63         |       |          | Narayanpur      | Atua Chapori          | 5                      | 48                      | 7                      | 54                      |
| 64         |       |          | North Lakhimpur | Kandali Pathar        | Na                     | Na                      | Na                     | Na                      |
| 65         |       |          | North Lakhimpur | Kachikata Pathar      | Na                     | Na                      | Na                     | Na                      |
| 66         |       |          | North Lakhimpur | Meromukh N.c.         | Na                     | Na                      | Na                     | Na                      |
| 67         |       |          | North Lakhimpur | Patri N.c.            | Na                     | Na                      | Na                     | Na                      |
| 68         |       | Golaghat | Khumtai         | Alani Chapori         | 214                    | 1143                    | 230                    | 1115                    |
| 69         |       |          | Bokakhat        | Mariahola             | 10                     | 58                      | 28                     | 200                     |
| 70         |       |          | Bokakhat        | Dighali Ati           | 64                     | 353                     | 85                     | 463                     |
| 71         |       |          | Bokakhat        | Bezgaon               | 3                      | 21                      | 66                     | 329                     |
| 72         |       |          | Golaghat        | Gahorighat PG.R.      | NA                     | NA                      | NA                     | NA                      |
| 73         |       |          | Golaghat        | Namghuria Gaon        | NA                     | NA                      | NA                     | NA                      |
| 74         |       |          | Golaghat        | Dadhora Gaon          | NA                     | NA                      | NA                     | NA                      |
| 75         |       |          | Golaghat        | Sakala Satra          | NA                     | NA                      | NA                     | NA                      |
| 76         |       |          | Golaghat        | Dalajjarani           | NA                     | NA                      | NA                     | NA                      |
| 77         |       |          | Golaghat        | Lohkor Pathar Chapori | NA                     | NA                      | NA                     | NA                      |
| 78         |       |          | Golaghat        | Phalengi              | NA                     | NA                      | NA                     | NA                      |
| 79         |       |          | Golaghat        | Gatanga Chapori       | NA                     | NA                      | NA                     | NA                      |
| 80         |       |          | Golaghat        | Barfakua              | NA                     | NA                      | NA                     | NA                      |

| Village_ID | State | District | Tehsil   | Village             | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|----------|---------------------|------------------------|-------------------------|------------------------|-------------------------|
| 81         |       |          | Golaghat | Rangamuri           | NA                     | NA                      | NA                     | NA                      |
| 82         |       |          | Golaghat | Namati              | NA                     | NA                      | 150                    | 786                     |
| 83         |       |          | Golaghat | Hutar Gaon          | NA                     | NA                      | NA                     | NA                      |
| 84         |       |          | Golaghat | Bakuli Chapori No.2 | NA                     | NA                      | NA                     | NA                      |
| 85         |       |          | Golaghat | Majdolapa           | NA                     | NA                      | NA                     | NA                      |
| 86         |       |          | Golaghat | Bakuli Chapori No.1 | NA                     | NA                      | NA                     | NA                      |
| 87         |       |          | Golaghat | Bhalukaguri         | NA                     | NA                      | NA                     | NA                      |
| 88         |       |          | Golaghat | Borbali             | NA                     | NA                      | 230                    | 1105                    |
| 89         |       |          | Golaghat | Chowguri Chapori    | NA                     | NA                      | NA                     | NA                      |
| 90         |       |          | Golaghat | Nowbhangi           | NA                     | NA                      | NA                     | NA                      |
| 91         |       |          | Golaghat | Bamungaon N.C.      | NA                     | NA                      | NA                     | NA                      |
| 92         |       |          | Golaghat | Bilotia Gaon        | NA                     | NA                      | NA                     | NA                      |
| 93         |       |          | Bokakhat | Jogania Ati         | 107                    | 512                     | 137                    | 625                     |
| 94         |       |          | Bokakhat | Palashguri          | 142                    | 805                     | 241                    | 1221                    |
| 95         |       |          | Golaghat | Bohikhowa           | NA                     | NA                      | NA                     | NA                      |

#### Kaziranga-Itanagar WLS Corridor

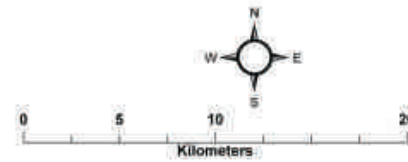
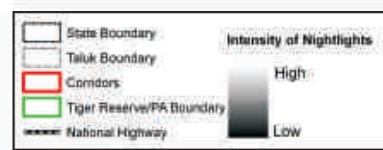
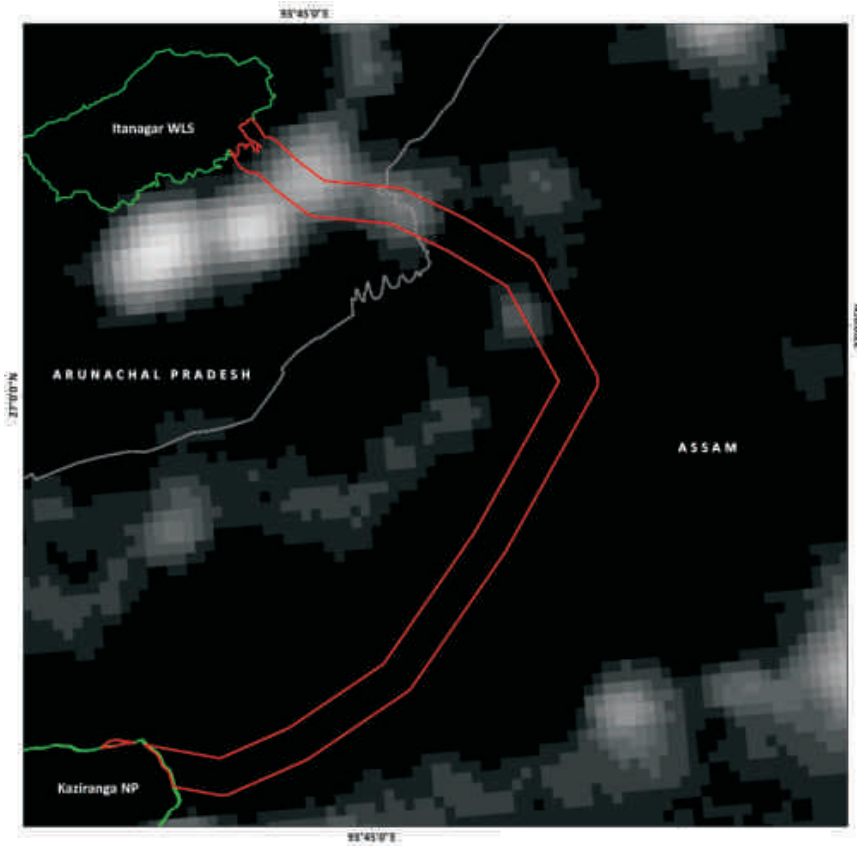
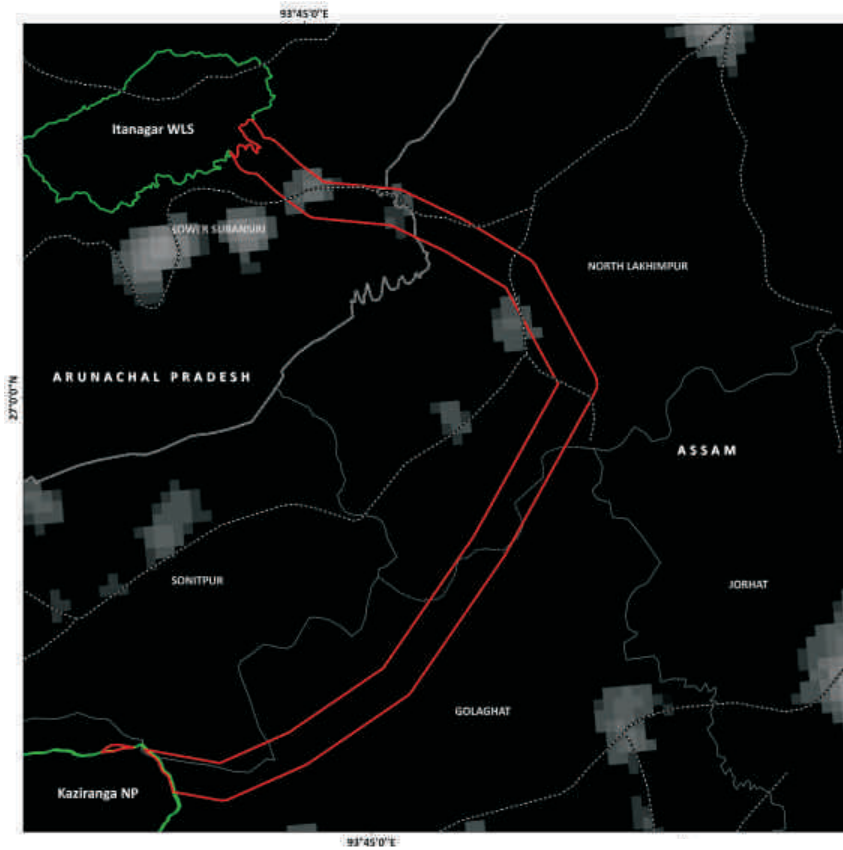
|                          |  |
|--------------------------|--|
| <b>Habitat size</b>      | 155799 Km <sup>2</sup>                     |
| <b>Source Population</b> | Kaziranga                                  |
| <b>Size of Source</b>    | 106 (81-131) tigers in 800 Km <sup>2</sup> |
| <b>Protected Areas</b>   | Kaziranga TR<br>Itanagar WLS               |
| <b>Corridors</b>         | Kaziranga TR-Itanagar WLS Corridor         |



**Figure 4.3:**

*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Kaziranga-Itanagar WLS*

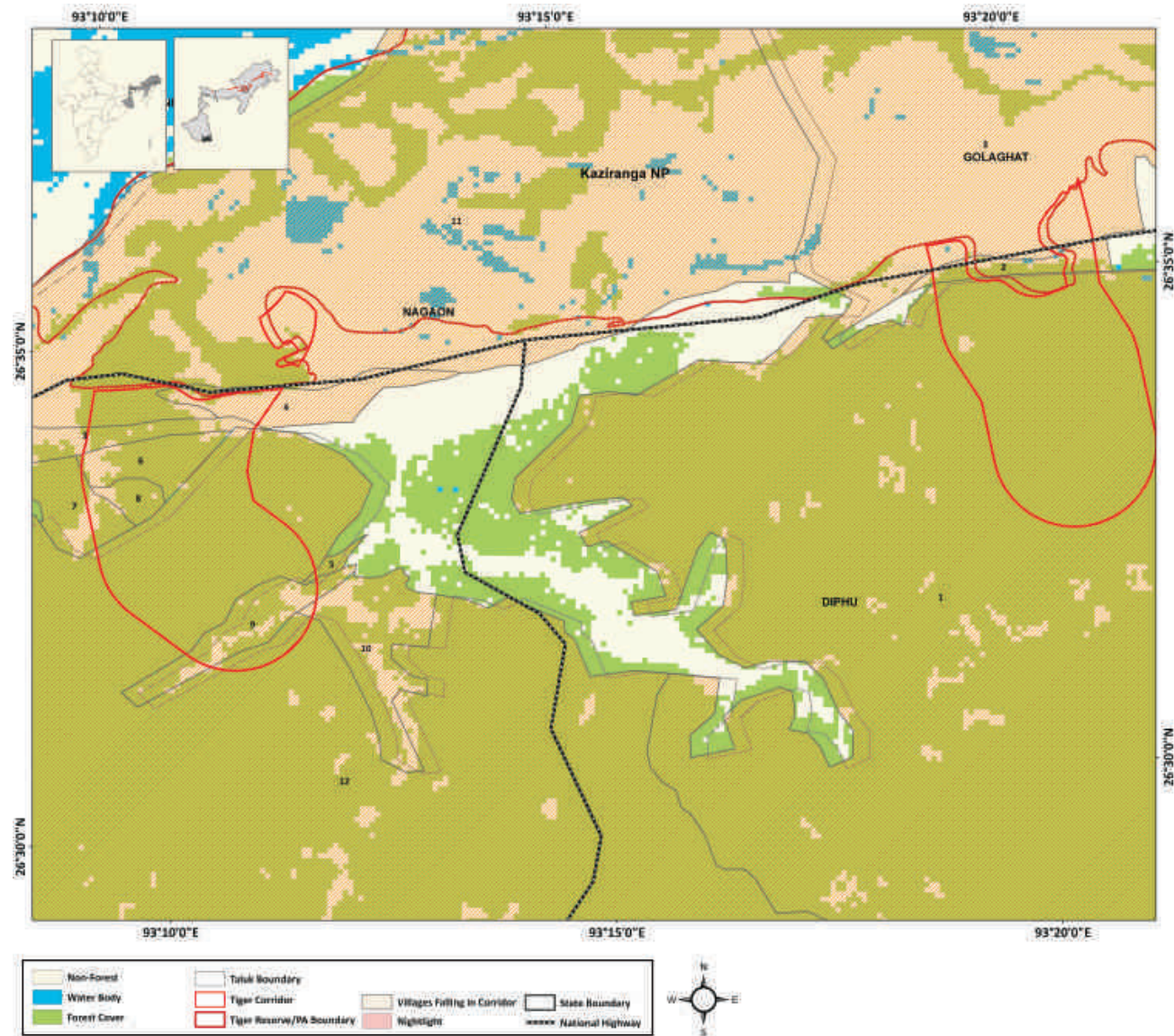




**Figure 4.4:**  
 Human habitation as depicted by nightlights within the Kaziranga-Itanagar WLS landscape in the year 1992 and 2012

**Figure 4.5:**

Least Cost Pathway corridor for Tiger movement between Kaziranga-Karbi-Anlong Corridor overlaid with village map (the village numbers are referenced in Table 4.2)



#### Kaziranga-Karbi-Anglong Corridor

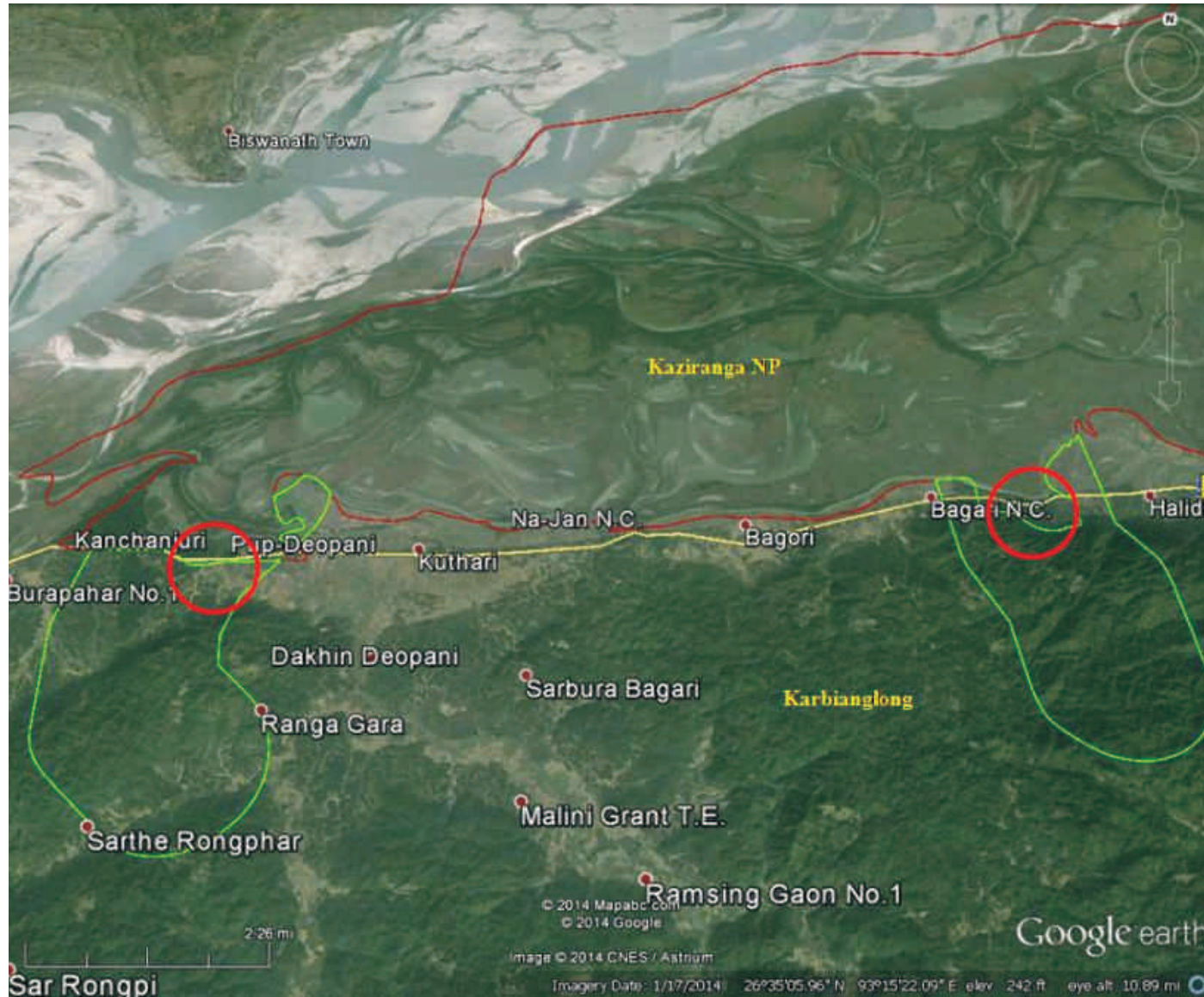
|                          |  |
|--------------------------|--|
| <b>Habitat size</b>      | 155799 Km <sup>2</sup>                               |
| <b>Source Population</b> | Kaziranga  |
| <b>Size of Source</b>    | 106 (81-131) tigers in 800 Km <sup>2</sup>           |
| <b>Protected Areas</b>   | Kaziranga TR<br>Karbi-Anglong WLS                    |
| <b>Corridors</b>         | Kaziranga-Karbi Anglong1<br>Kaziranga-Karbi Anglong2 |

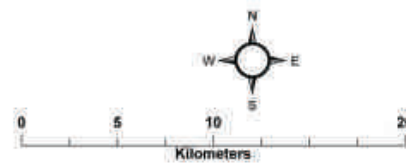
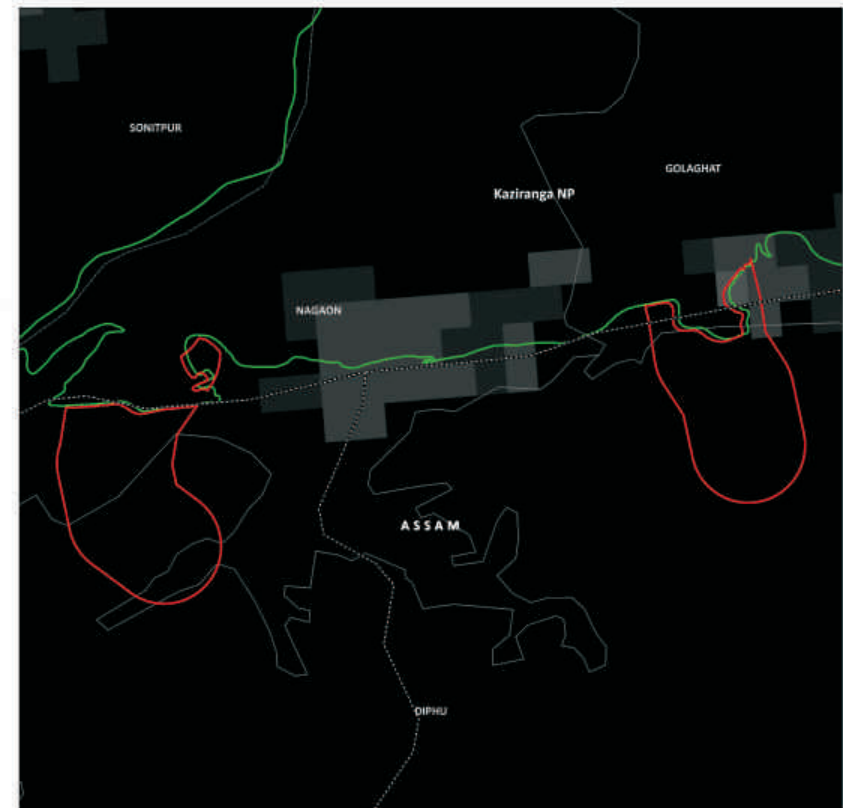
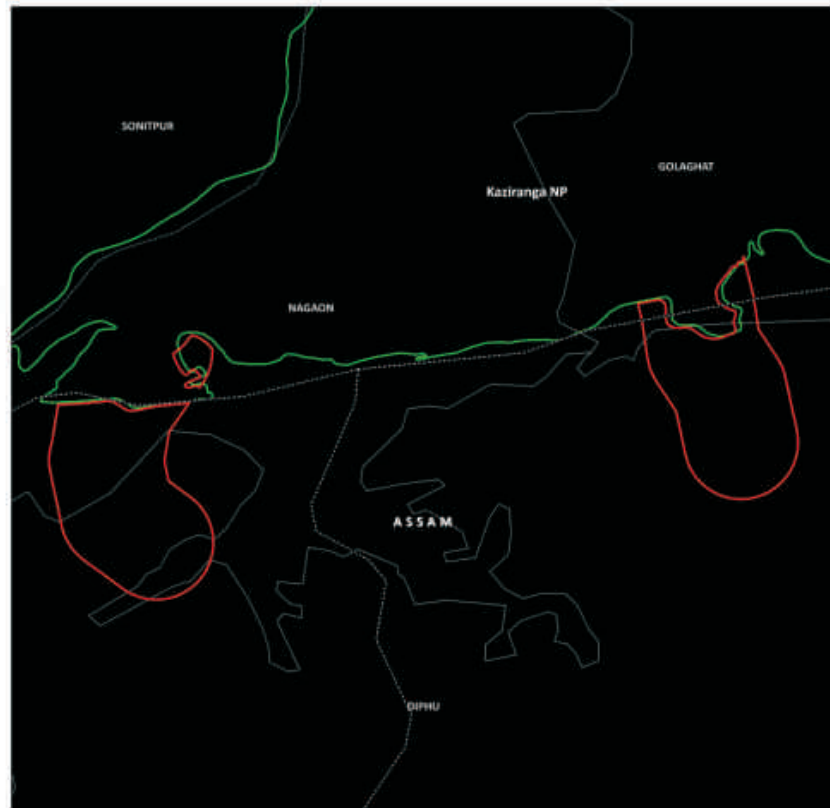
| Village_ID | State | District      | Tehsil   | Village      | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|---------------|----------|--------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Assam | Karbi Anglong |          | Bokajan      | NA                     | NA                      | NA                     | NA                      |
| 2          |       | Golaghat      | Bokakhat | Haladhibari  | 76                     | 389                     | 84                     | 413                     |
| 3          |       | Nagaon        | Kaliabor | Deopani      | 80                     | 480                     | 155                    | 832                     |
| 4          |       | Nagaon        | Kaliabor | Bandardubi   | 149                    | 1009                    | 224                    | 1286                    |
| 5          |       | Nagaon        | Kaliabor | Kalapanimukh | 7                      | 35                      | 8                      | 46                      |
| 6          |       | Nagaon        | Kaliabor | Kanchanjuri  | 82                     | 425                     | 59                     | 248                     |
| 7          |       | Nagaon        | Kaliabor | Silimkhowa   | 75                     | 378                     | 117                    | 619                     |
| 8          |       | Nagaon        | Kaliabor | Injaygaon    | 17                     | 105                     | 25                     | 128                     |
| 9          |       | Nagaon        | Kaliabor | Rangagara    | 2                      | 14                      | 189                    | 975                     |
| 10         |       | Nagaon        | Kaliabor | Krogaon      | 45                     | 236                     | NA                     | NA                      |
| 11         |       | Nagaon        | Kaliabor | Bhokuamari   | 261                    | 1621                    | 391                    | 2169                    |
| 12         |       | Karbi Anglong | Diphu    | Hora Ghat    | NA                     | NA                      | NA                     | NA                      |

**Table 4.2:** Villages within the Least Cost Pathway Corridor between Kaziranga-Karbianglong as shown in Fig. 4.5

**Figure 4.6:**

Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Kaziranga-Karbi-Anglong



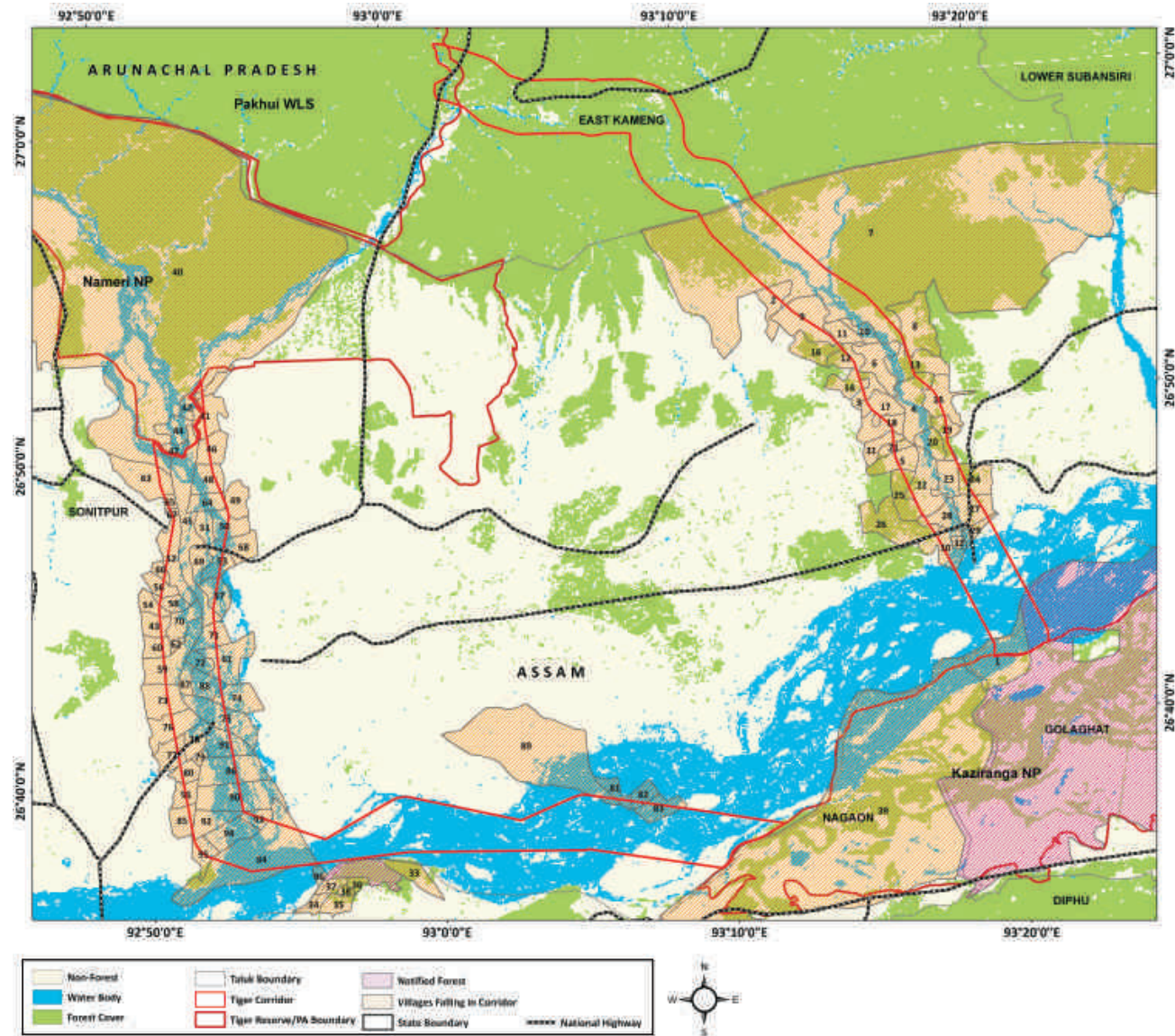


**Figure 4.7:**  
*Human habitation as depicted by nightlights within the Kaziranga-Karbi-Anglong landscape in the year 1992 and 2012*



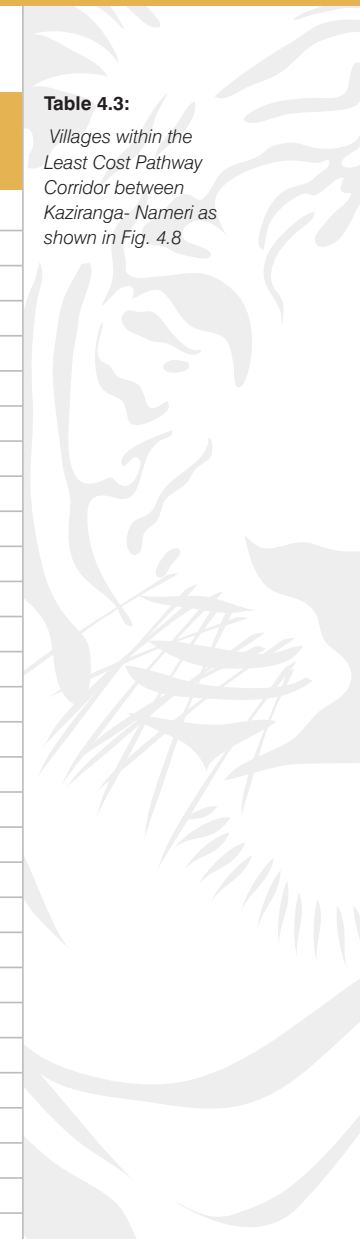
**Figure 4.8.:**

Least Cost Pathway corridor for Tiger movement between Kaziranga- Nameri Corridor overlaid with village map (the village numbers are referenced in Table 4.3)



| Village_ID | State | District | Tehsil    | Village                | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|-----------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| 33         | Assam | Nagaon   | Kaliabor  | Hatimura No.2          | 39                     | 167                     | 53                     | 227                     |
| 34         |       |          | Kaliabor  | Joysagar No.2          | 42                     | 211                     | 37                     | 177                     |
| 35         |       |          | Kaliabor  | Kamakhyagaon           | 264                    | 1153                    | 321                    | 1379                    |
| 36         |       |          | Nagaon    | Kurchimari             | NA                     | NA                      | NA                     | NA                      |
| 37         |       |          | Nagaon    | Bihdubi No.2           | NA                     | NA                      | NA                     | NA                      |
| 38         |       |          | Nagaon    | Silikhaguri            | NA                     | NA                      | NA                     | NA                      |
| 39         |       |          | Kaliabor  | Bhokumari              | 261                    | 1621                    | 391                    | 2169                    |
| 40         |       | Sonitpur | Chariduar | Charduar               | 315                    | 1516                    | 620                    | 4150                    |
| 41         |       |          | Na-Duar   | Bardikarai No.2        | 359                    | 2048                    | 403                    | 2083                    |
| 42         |       |          | Sonitpur  | Bardikarai Balichapari | NA                     | NA                      | NA                     | NA                      |
| 43         |       |          | Chariduar | Berajon                | 119                    | 627                     | 255                    | 1299                    |
| 44         |       |          | Na-Duar   | Purani Bardikarai      | 41                     | 260                     | 91                     | 462                     |
| 45         |       |          | Na-Duar   | Bardikarai Miri Gaon   | 175                    | 1111                    | 212                    | 1116                    |
| 46         |       |          | Na-Duar   | Gorbil                 | 130                    | 810                     | 150                    | 752                     |
| 47         |       |          | Na-Duar   | Patgaon N.C.           | 44                     | 273                     | 63                     | 319                     |
| 48         |       |          | Na-Duar   | Bamun Gaon             | 116                    | 663                     | Na                     | Na                      |
| 49         |       |          | Na-Duar   | Nabil                  | 320                    | 1669                    | 421                    | 1891                    |
| 50         |       |          | Na-Duar   | Bagabil                | 217                    | 1106                    | 245                    | 1110                    |
| 51         |       |          | Na-Duar   | Tarajan                | 17                     | 95                      | Na                     | Na                      |
| 52         |       |          | Chariduar | Goraligaon             | 65                     | 365                     | 107                    | 550                     |
| 53         |       |          | Na-Duar   | Chamdharma             | 106                    | 540                     | 108                    | 512                     |
| 54         |       |          | Chariduar | Tinigharia Miri        | 127                    | 731                     | 156                    | 781                     |
| 55         |       |          | Tezpur    | Tengabasti             | 214                    | 1166                    | 324                    | 1647                    |
| 56         |       |          | Chariduar | Kekokali Bangali       | 38                     | 211                     | 53                     | 277                     |
| 57         |       |          | Na-Duar   | Karaiani Chapari       | 523                    | 3161                    | 752                    | 4098                    |
| 58         |       |          | Chariduar | Kekokali Miri          | 45                     | 243                     | 62                     | 281                     |
| 59         |       |          | Chariduar | Singatali              | 570                    | 2997                    | 498                    | 2473                    |
| 60         |       |          | Chariduar | Rajgarh                | 233                    | 1213                    | 276                    | 1277                    |
| 61         |       |          | Na-Duar   | Ghahi Bezgaon          | 40                     | 207                     | 79                     | 341                     |
| 62         |       |          | Chariduar | Karaibari              | 52                     | 313                     | 42                     | 195                     |

**Table 4.3:**  
Villages within the  
Least Cost Pathway  
Corridor between  
Kaziranga- Nameri as  
shown in Fig. 4.8



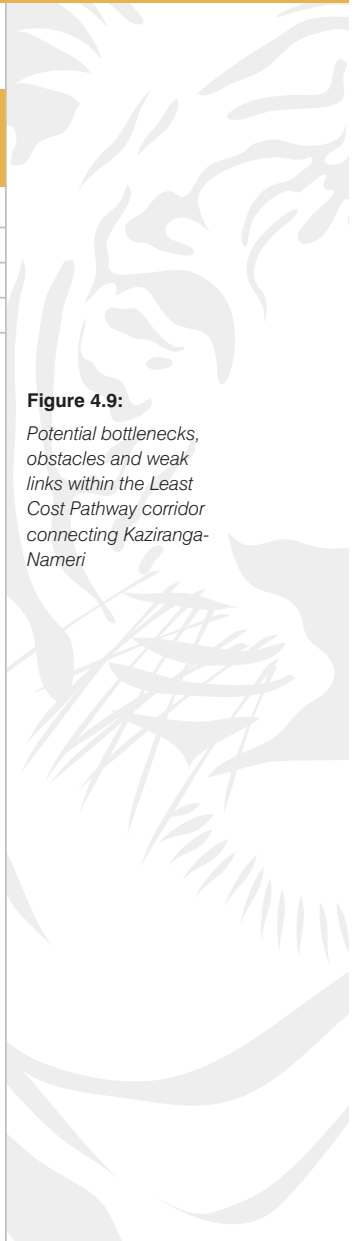
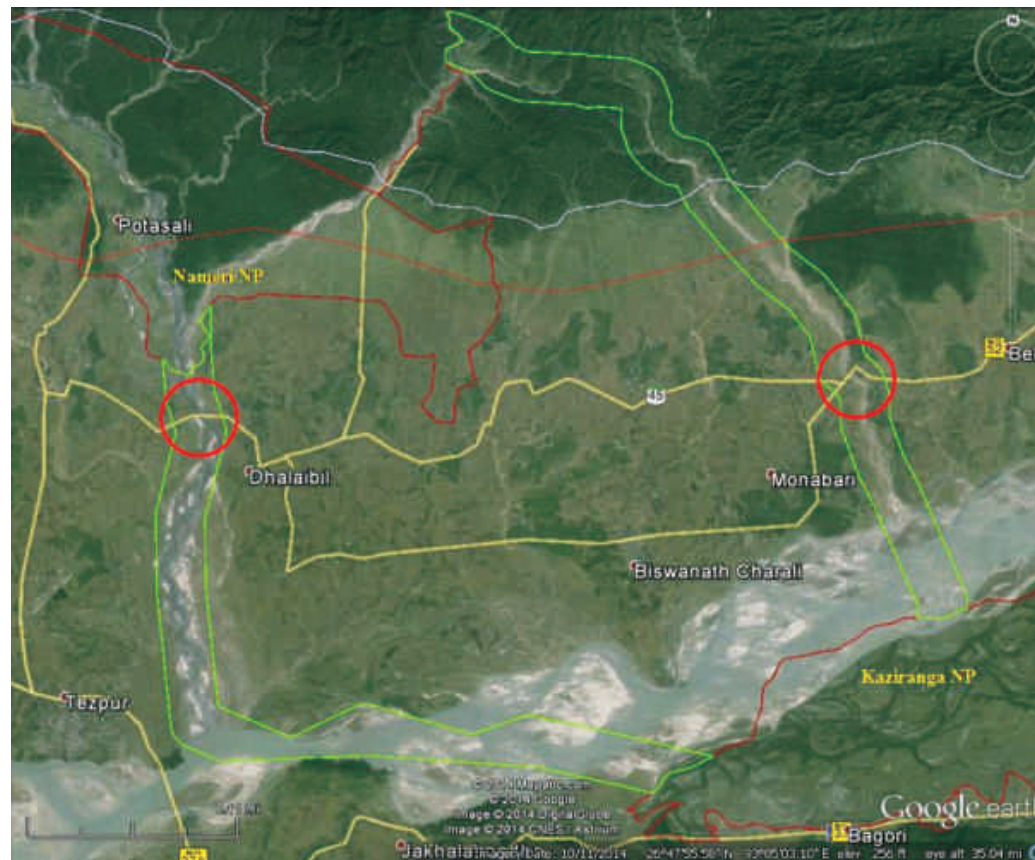


| Village_ID | State | District | Tehsil    | Village               | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|-----------|-----------------------|------------------------|-------------------------|------------------------|-------------------------|
| 63         |       |          | Sonitpur  | Kalabari Gaon         | NA                     | NA                      | NA                     | NA                      |
| 64         |       |          | Sonitpur  | Tanbhangi Pathar      | NA                     | NA                      | NA                     | NA                      |
| 65         |       |          | Sonitpur  | Baligaon N.C.         | NA                     | NA                      | NA                     | NA                      |
| 66         |       |          | Sonitpur  | Miri Pathar No.2      | NA                     | NA                      | NA                     | NA                      |
| 67         |       |          | Sonitpur  | Bokagaon N.C.         | NA                     | NA                      | NA                     | NA                      |
| 68         |       |          | Sonitpur  | Bormata               | NA                     | NA                      | NA                     | NA                      |
| 69         |       |          | Sonitpur  | Dafalagarh            | NA                     | NA                      | NA                     | NA                      |
| 70         |       |          | Sonitpur  | Mahajan Chapari       | NA                     | NA                      | NA                     | NA                      |
| 71         |       |          | Sonitpur  | Bharali Chapari N.C.  | NA                     | NA                      | NA                     | NA                      |
| 72         |       |          | Na-Duar   | Bharali Chapari       | 76                     | 408                     | 117                    | 613                     |
| 73         |       |          | Chariduar | Borghat Gaon          | 411                    | 2322                    | 657                    | 3960                    |
| 74         |       |          | Na-Duar   | Goalgaon              | 92                     | 490                     | 486                    | 2324                    |
| 75         |       |          | Na-Duar   | Chankighat Block      | 64                     | 329                     | 190                    | 980                     |
| 76         |       |          | Chariduar | Karkani               | 380                    | 2365                    | 405                    | 2113                    |
| 77         |       |          | Chariduar | Chamdara              | 307                    | 1865                    | 108                    | 512                     |
| 78         |       |          | Chariduar | Bhiagaon              | 129                    | 734                     | 149                    | 775                     |
| 79         |       |          | Tezpur    | Gorsinga Bihia        | 292                    | 1773                    | 397                    | 2162                    |
| 80         |       |          | Tezpur    | Alisinga              | 75                     | 400                     | 16                     | 70                      |
| 81         |       |          | Sonitpur  | Singrimari Gaon       | NA                     | NA                      | NA                     | NA                      |
| 82         |       |          | Sonitpur  | Balosutigaon          | NA                     | NA                      | NA                     | NA                      |
| 83         |       |          | Sonitpur  | Jowani                | NA                     | NA                      | NA                     | NA                      |
| 84         |       |          | Tezpur    | Marisuti N.c.         | 28                     | 175                     | 33                     | 210                     |
| 85         |       |          | Tezpur    | Karaiani Nepali       | 347                    | 2207                    | 540                    | 2880                    |
| 86         |       |          | Sonitpur  | Makua N.C.            | NA                     | NA                      | NA                     | NA                      |
| 87         |       |          | Sonitpur  | Gataimara N.C.        | NA                     | NA                      | NA                     | NA                      |
| 88         |       |          | Sonitpur  | Gataimara             | NA                     | NA                      | NA                     | NA                      |
| 89         |       |          | Sonitpur  | Bhojmari              | NA                     | NA                      | NA                     | NA                      |
| 90         |       |          | Sonitpur  | Chiruani Chapari Pgr  | NA                     | NA                      | NA                     | NA                      |
| 91         |       |          | Sonitpur  | Gorsinga Biching N.C. | NA                     | NA                      | NA                     | NA                      |
| 92         |       |          | Sonitpur  | Karaiani Nepali N.C.  | NA                     | NA                      | NA                     | NA                      |

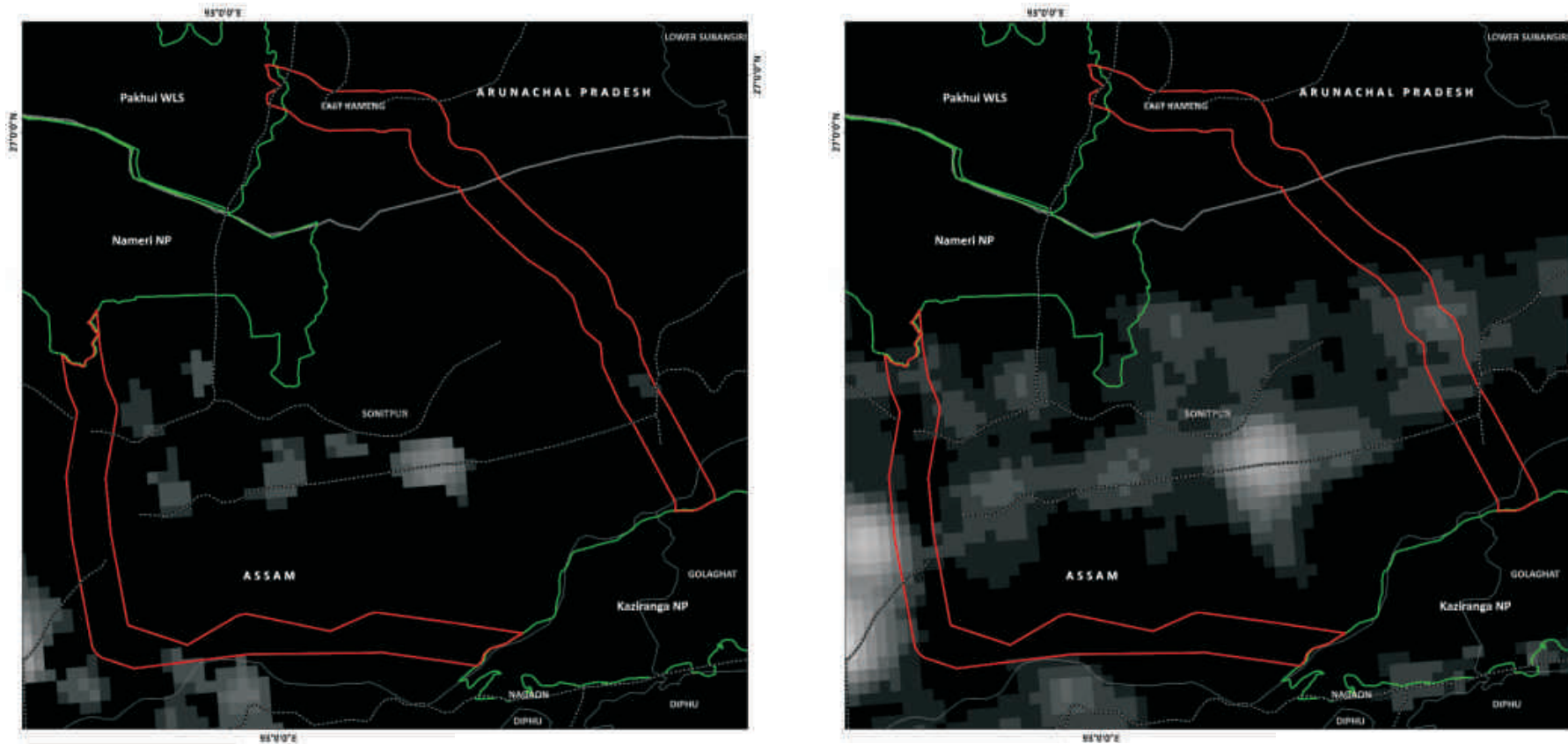
| Village_ID | State | District | Tehsil   | Village       | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|----------|---------------|------------------------|-------------------------|------------------------|-------------------------|
| 93         |       |          | Sonitpur | Tengakhuti    | NA                     | NA                      | NA                     | NA                      |
| 94         |       |          | Sonitpur | Jorgarh N.C.  | NA                     | NA                      | NA                     | NA                      |
| 95         |       |          | Sonitpur | Chiruani N.C. | NA                     | NA                      | NA                     | NA                      |
| 96         |       |          | Sonitpur | Rabarbari     | NA                     | NA                      | NA                     | NA                      |

**Kaziranga-Nameri Corridor**

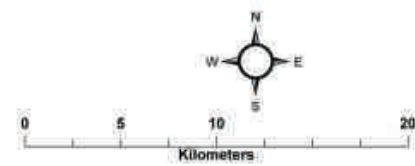
|                          |  |
|--------------------------|--|
| <b>Habitat size</b>      | 155799 Km <sup>2</sup>                     |
| <b>Source Population</b> | Kaziranga                                  |
| <b>Size of Source</b>    | 106 (81-131) tigers in 800 Km <sup>2</sup> |
| <b>Protected Areas</b>   | Kaziranga TR<br>Nameri TR                  |
| <b>Corridors</b>         | Kaziranga-Nameri1<br>Kaziranga-Nameri2     |

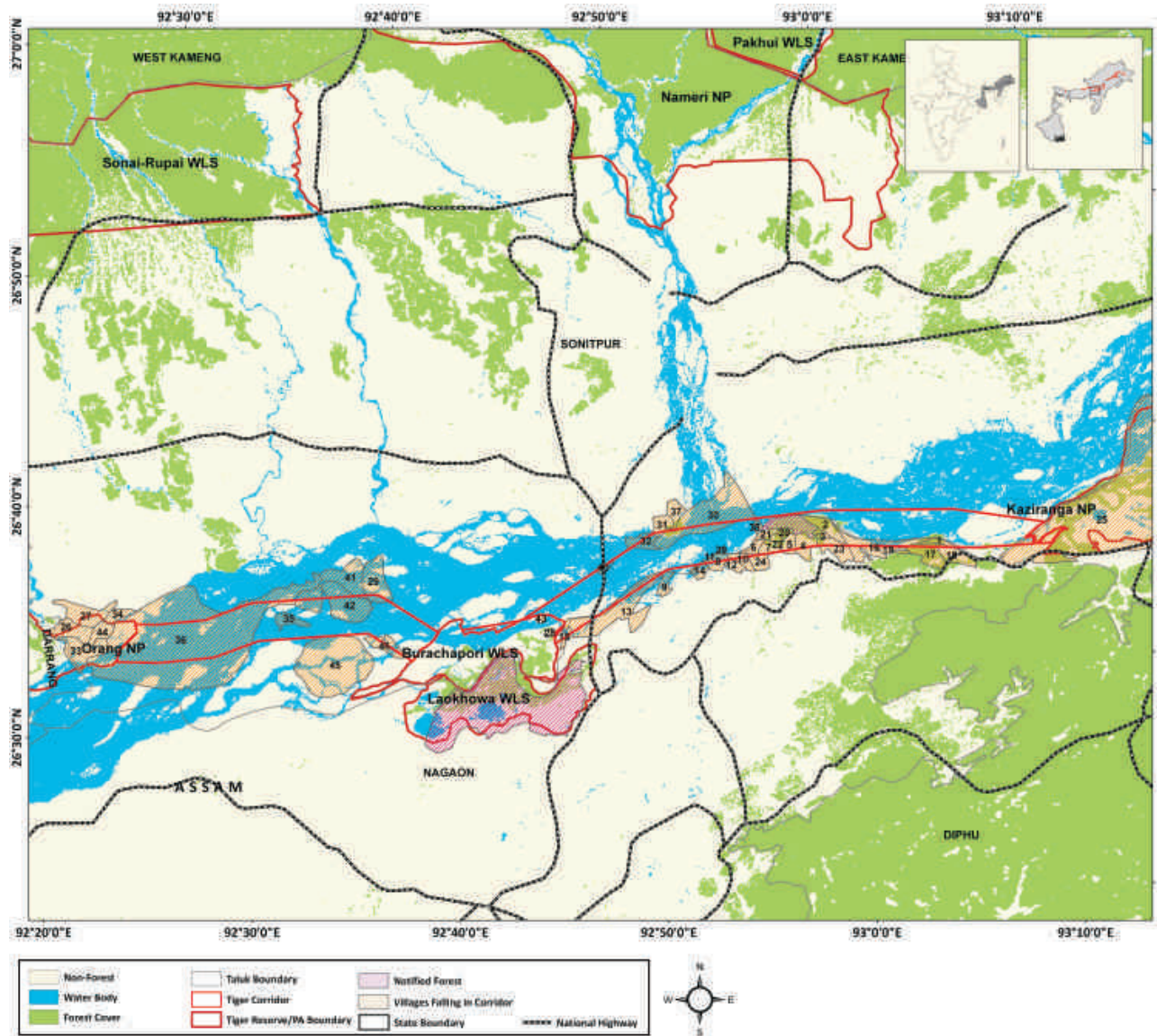


**Figure 4.9:**  
Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Kaziranga-Nameri



**Figure 4.10:**  
Human habitation as depicted by nightlights within the Kaziranga-Nameri landscape in the year 1992 and 2012





**Figure 4.11:**  
Least Cost Pathway corridor for Tiger movement between Kaziranga- Orangi Corridor overlaid with village map (the village numbers are referenced in Table 4.4)

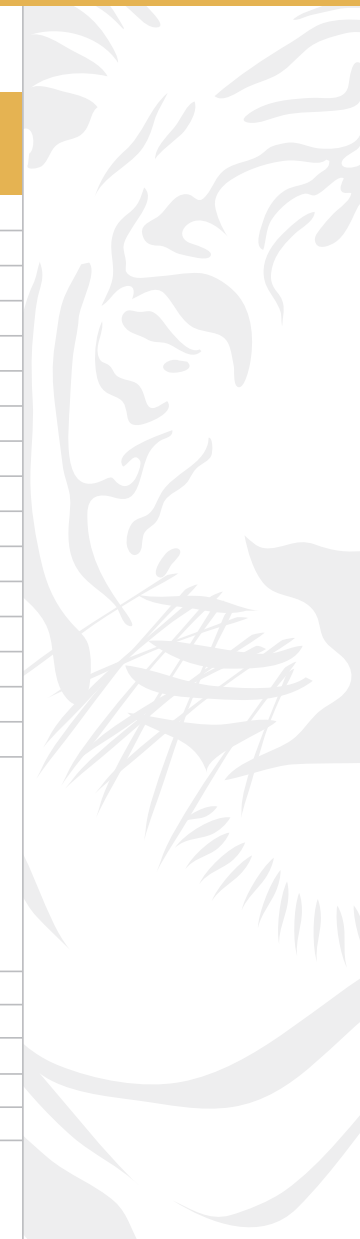
| Village_ID | State | District | Tehsil     | Village             | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|------------|---------------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Assam | Nagaon   | Kaliabor   | Bhokuamari          | 261                    | 1621                    | 391                    | 2169                    |
| 2          |       |          | Kaliabor   | Hatimura No.2       | 39                     | 167                     | 53                     | 227                     |
| 3          |       |          | Kaliabor   | Hatimura No.1       | 61                     | 298                     | 38                     | 185                     |
| 4          |       |          | Kaliabor   | Dakhinpat           | 169                    | 750                     | 208                    | 934                     |
| 5          |       |          | Kaliabor   | Sonarigaon          | 105                    | 511                     | Na                     | Na                      |
| 6          |       |          | Kaliabor   | Joysagar No.2       | 42                     | 211                     | 37                     | 177                     |
| 7          |       |          | Kaliabor   | Kamakhyaogaon       | 264                    | 1153                    | 321                    | 1379                    |
| 8          |       |          | Kaliabor   | Bihdubi No.1        | 129                    | 561                     | 136                    | 552                     |
| 9          |       |          | Kaliabor   | Bhurbandha No.2     | 174                    | 894                     | 283                    | 1409                    |
| 10         |       |          | Kaliabor   | Silghat Gaon        | 186                    | 969                     | 229                    | 1029                    |
| 11         |       |          | Kaliabor   | Bihdubi No.3        | 18                     | 98                      | 68                     | 381                     |
| 12         |       |          | Kaliabor   | Samdhora            | 326                    | 1683                    | 368                    | 1492                    |
| 13         |       |          | Nagaon     | Bhurbondha N.C.     | NA                     | NA                      | NA                     | NA                      |
| 14         |       |          | Kaliabor   | Gakhirakhati No.4   | 146                    | 977                     | 142                    | 725                     |
| 15         |       |          | Rupahi     | Bogamukh No.3       | 4                      | 27                      | 41                     | 233                     |
| 16         |       |          | Nagaon     | Kalangmukh P.G.R.   | NA                     | NA                      | NA                     | NA                      |
| 17         |       |          | Nagaon     | Jamuguri No.1       | NA                     | NA                      | NA                     | NA                      |
| 18         |       |          | Nagaon     | Deochur No.1        | NA                     | NA                      | NA                     | NA                      |
| 19         |       |          | Nagaon     | Barghop No.1        | NA                     | NA                      | NA                     | NA                      |
| 20         |       |          | Nagaon     | Kurchimari          | NA                     | NA                      | NA                     | NA                      |
| 21         |       |          | Nagaon     | Bihdubi No.2        | NA                     | NA                      | NA                     | NA                      |
| 22         |       |          | Nagaon     | Silikhaguri         | NA                     | NA                      | NA                     | NA                      |
| 23         |       |          | Nagaon     | Saguri              | NA                     | NA                      | NA                     | NA                      |
| 24         |       |          | Nagaon     | Joysagar No.1       | NA                     | NA                      | NA                     | NA                      |
| 25         |       |          | Kaliabor   | Bhokuamari          | 261                    | 1621                    | 391                    | 2169                    |
| 26         |       | Sonitpur | Dhekiajuli | Nichalamari Chapari | 168                    | 888                     | 210                    | 1074                    |
| 27         |       |          | Sonitpur   | Borbhagia           | NA                     | NA                      | NA                     | NA                      |
| 28         |       |          | Sonitpur   | Sishuati            | NA                     | NA                      | NA                     | NA                      |
| 29         |       |          | Sonitpur   | Kochumara Chapari   | NA                     | NA                      | NA                     | NA                      |
| 30         |       |          | Tezpur     | Marisuti N.C.       | 28                     | 175                     | 33                     | 210                     |

**Table 4.4:**  
Villages within the Least Cost Pathway Corridor between Kaziranga-Orang as shown in Fig. 4.11

| Village_ID | State | District | Tehsil     | Village              | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|------------|----------------------|------------------------|-------------------------|------------------------|-------------------------|
| 31         |       | Sonitpur | Tezpur     | Rajbhoral            | 287                    | 1719                    | 455                    | 2378                    |
| 32         |       |          | Tezpur     | Bhomoraguri          | 321                    | 1930                    | 226                    | 1150                    |
| 33         |       |          | Dhekiajuli | Belsiri Chapori N.C. | 1                      | 4                       | 8                      | 43                      |
| 34         |       |          | Sonitpur   | Hatibari Gaon        | NA                     | NA                      | NA                     | NA                      |
| 35         |       |          | Sonitpur   | Kaniya Tapu          | NA                     | NA                      | NA                     | NA                      |
| 36         |       |          | Sonitpur   | Borsola Pgr          | NA                     | NA                      | NA                     | NA                      |
| 37         |       |          | Sonitpur   | Chiruani N.C.        | NA                     | NA                      | NA                     | NA                      |
| 38         |       |          | Sonitpur   | Rabarbari            | NA                     | NA                      | NA                     | NA                      |
| 39         |       |          | Sonitpur   | Bihdubi No.2         | NA                     | NA                      | NA                     | NA                      |
| 40         |       |          | Sonitpur   | Sutartapa            | NA                     | NA                      | NA                     | NA                      |
| 41         |       |          | Sonitpur   | Dhaka Tapu           | NA                     | NA                      | NA                     | NA                      |
| 42         |       |          | Sonitpur   | Kosmara Pgr          | NA                     | NA                      | NA                     | NA                      |
| 43         |       |          | Sonitpur   | Dhania               | NA                     | NA                      | NA                     | NA                      |
| 44         |       |          | Sonitpur   | Belsiri Chapori      | NA                     | NA                      | NA                     | NA                      |
| 45         |       |          | Sonitpur   | Arna Chapori         | NA                     | NA                      | NA                     | NA                      |
| 46         |       |          | Sonitpur   | Batulibil            | NA                     | NA                      | NA                     | NA                      |

#### Kaziranga-Orang Corridor

|                          |  |
|--------------------------|--|
| <b>Habitat size</b>      | 155799 Km <sup>2</sup>                     |
| <b>Source Population</b> | Kaziranga                                  |
| <b>Size of Source</b>    | 106 (81-131) tigers in 800 Km <sup>2</sup> |
| <b>Protected Areas</b>   | Kaziranga TR                               |
|                          | Orang NP                                   |
| <b>Corridors</b>         | KazirangaTR-Orang NP Corridor              |

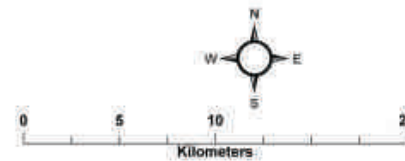
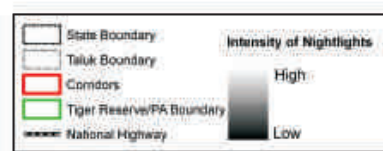
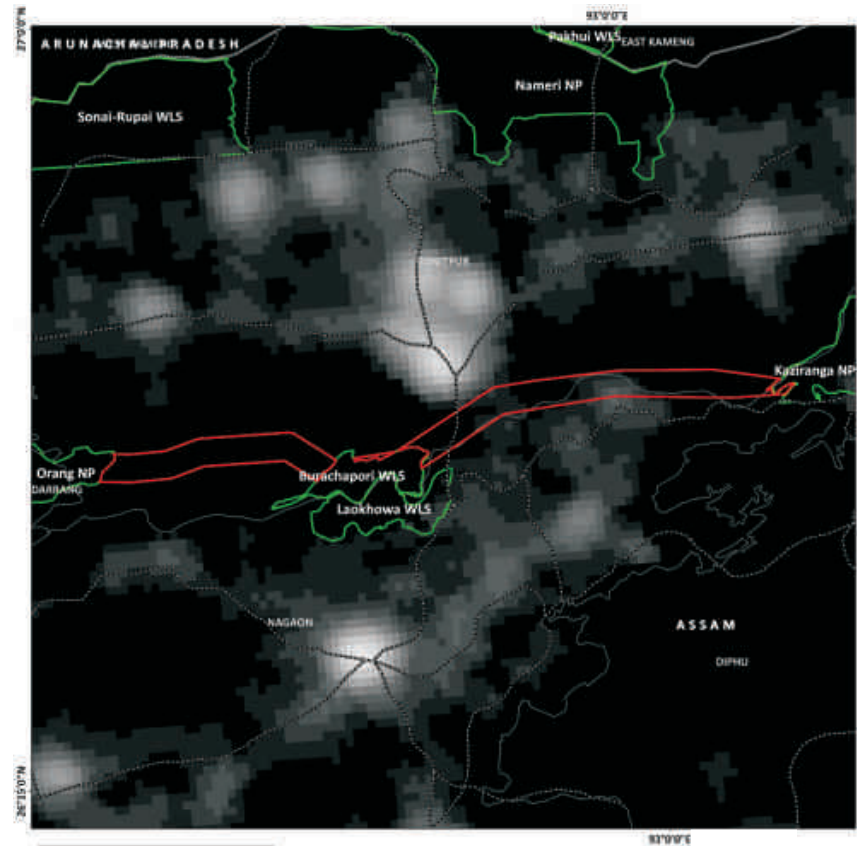
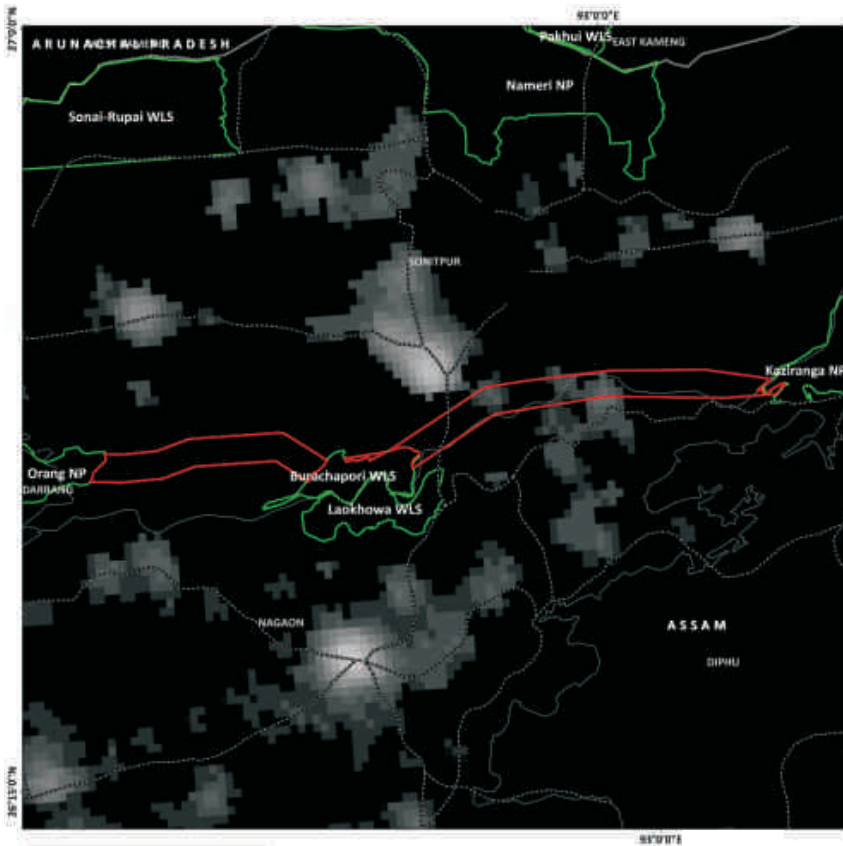




**Figure 4.12:**

*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Kaziranga-Orang*

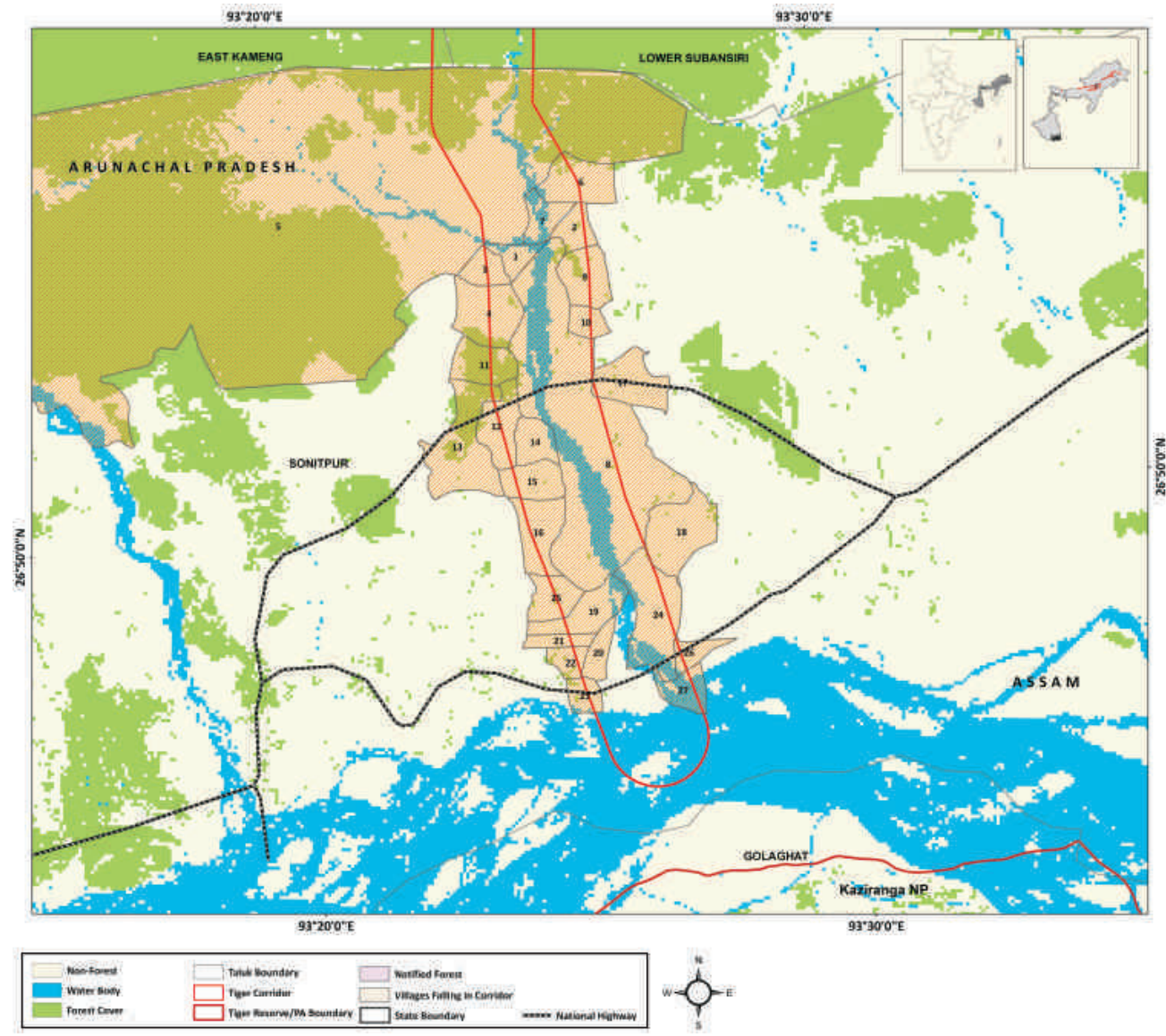




**Figure 4.13:**  
Human habitation as depicted by nightlights within the Kaziranga-Orang landscape in the year 1992 and 2012

**Figure 4.14:**

Least Cost Pathway corridor for Tiger movement between Kaziranga-Papumpare Corridor overlaid with village map (the village numbers are referenced in Table 5)



| Village_ID | State | District | Tehsil    | Village              | No of Household | Total Population | No (in hactares) |
|------------|-------|----------|-----------|----------------------|-----------------|------------------|------------------|
| 1          | Assam | Sonitpur | Biswanath | Bihmari N.C.(Part)   | 129             | 696              | 136.00           |
| 2          |       |          | Sonitpur  | Karibill Bangali     | NA              | NA               | NA               |
| 3          |       |          | Biswanath | Bihmari              | 263             | 1509             | 136.00           |
| 4          |       |          | Biswanath | Lalpukhuri           | 118             | 581              | 241.00           |
| 5          |       |          | Sonitpur  | North Guhati         | NA              | NA               | NA               |
| 6          |       |          | Sonitpur  | Karibill Gaon        | NA              | NA               | NA               |
| 7          |       |          | Sonitpur  | Dullung N.C.         | NA              | NA               | NA               |
| 8          |       |          | Sonitpur  | Takawbari Gaon       | NA              | NA               | NA               |
| 9          |       |          | Sonitpur  | Bholuadanga          | NA              | NA               | NA               |
| 10         |       |          | Sonitpur  | Karibill Chapari     | NA              | NA               | NA               |
| 11         |       |          | Biswanath | Barajuli T.e.        | 200             | 1040             | 233.00           |
| 12         |       |          | Biswanath | Nashbar              | 313             | 1545             | 265.00           |
| 13         |       |          | Biswanath | Bedeti Pathar        | 81              | 434              | 164.00           |
| 14         |       |          | Biswanath | Barajuli Pathar      | 63              | 286              | 141.00           |
| 15         |       |          | Biswanath | Barajuli Gaon (part) | 207             | 1093             | 180.00           |
| 16         |       |          | Biswanath | Barajuli Nepali      | 258             | 1200             | 253.00           |
| 17         |       |          | Sonitpur  | Rangajan             | NA              | NA               | NA               |
| 18         |       |          | Sonitpur  | Leptapara            | NA              | NA               | NA               |
| 19         |       |          | Biswanath | Batiamari N.c.2      | 153             | 815              | 220.00           |
| 20         |       |          | Biswanath | Batiamari Pgr (part) | 98              | 514              | 172.00           |
| 21         |       |          | Biswanath | Batiamari N.c.3      | 155             | 814              | 172.00           |
| 22         |       |          | Biswanath | Batiamari N.c.5      | 85              | 397              | 145.00           |
| 23         |       |          | Biswanath | Roumari Gaon         | 65              | 326              | 87.00            |
| 24         |       |          | Sonitpur  | Burai N.C.           | NA              | NA               | NA               |
| 25         |       |          | Sonitpur  | Batiamari N.C.1      | NA              | NA               | NA               |
| 26         |       |          | Sonitpur  | Barhatiguri          | NA              | NA               | NA               |
| 27         |       |          | Sonitpur  | Buraight Lower       | NA              | NA               | NA               |

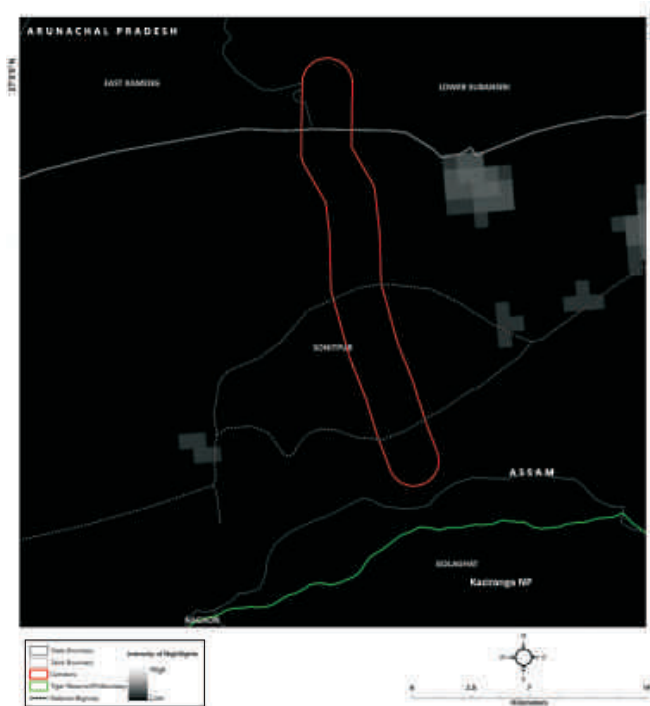


**Table 4.5:**  
Villages within the  
Least Cost Pathway  
Corridor between  
Kaziranga-Papumpare  
as shown in Fig. 4.14

**Figure 4.15:**

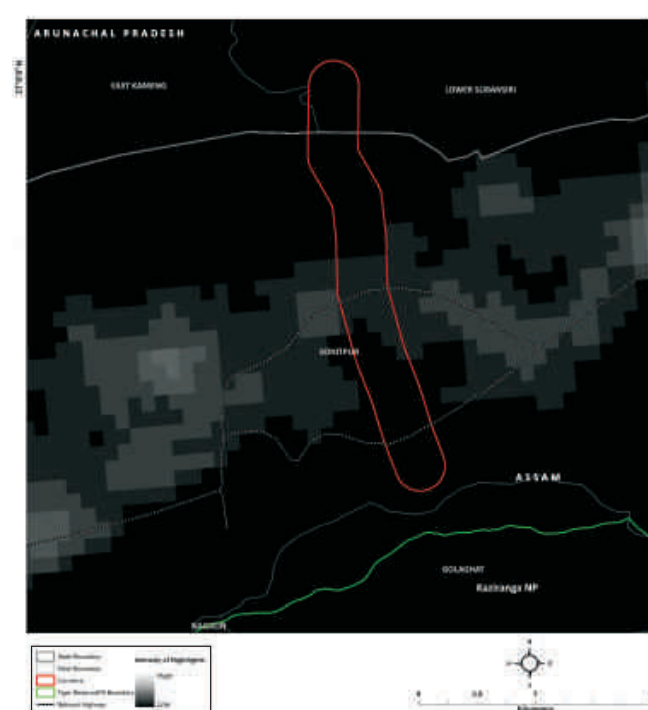
Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Kaziranga-Papumpare





Manas Tiger Reserve spans across the districts of Kokrajhar, Bongaigaon, Barpeta, Nalbari, Kamrup and Darrang in north-west Assam, covering an area of 2,837 km<sup>2</sup> of which 470 km<sup>2</sup> is designated as the core area. To the north, it is separated from the Royal Manas National Park of Bhutan by River Manas and its tributaries- Beki and Hakua; while to the west, it is separated from the Buxa Tiger Reserve of West Bengal by River Sankosh. Around 62 villages are located within two kilometres of the Reserve boundary between rivers Sankosh and Dhansiri. The region is affected by high levels of extremist activities, thus making conservation and scientific monitoring in the area a challenge. The Reserve Ripu Chirang Elephant Reserve within the Bhutan Biological Conservation Complex, in Bhutan is connected with the forests of Buxa in West Bengal, thus making a large transboundary conservation area. The entire area inclusive of the Bor Nadi Sanctuary

in Assam covers an area of 7,200 km<sup>2</sup>. Manas Tiger Reserve was camera trapped and tiger density is estimated to be 1.8 tiger per 100 km<sup>2</sup>. However, the region has higher potential and is on its path to recovery. With control of poaching of prey, tiger densities are likely to increase substantially, especially in the southern parts of Manas.



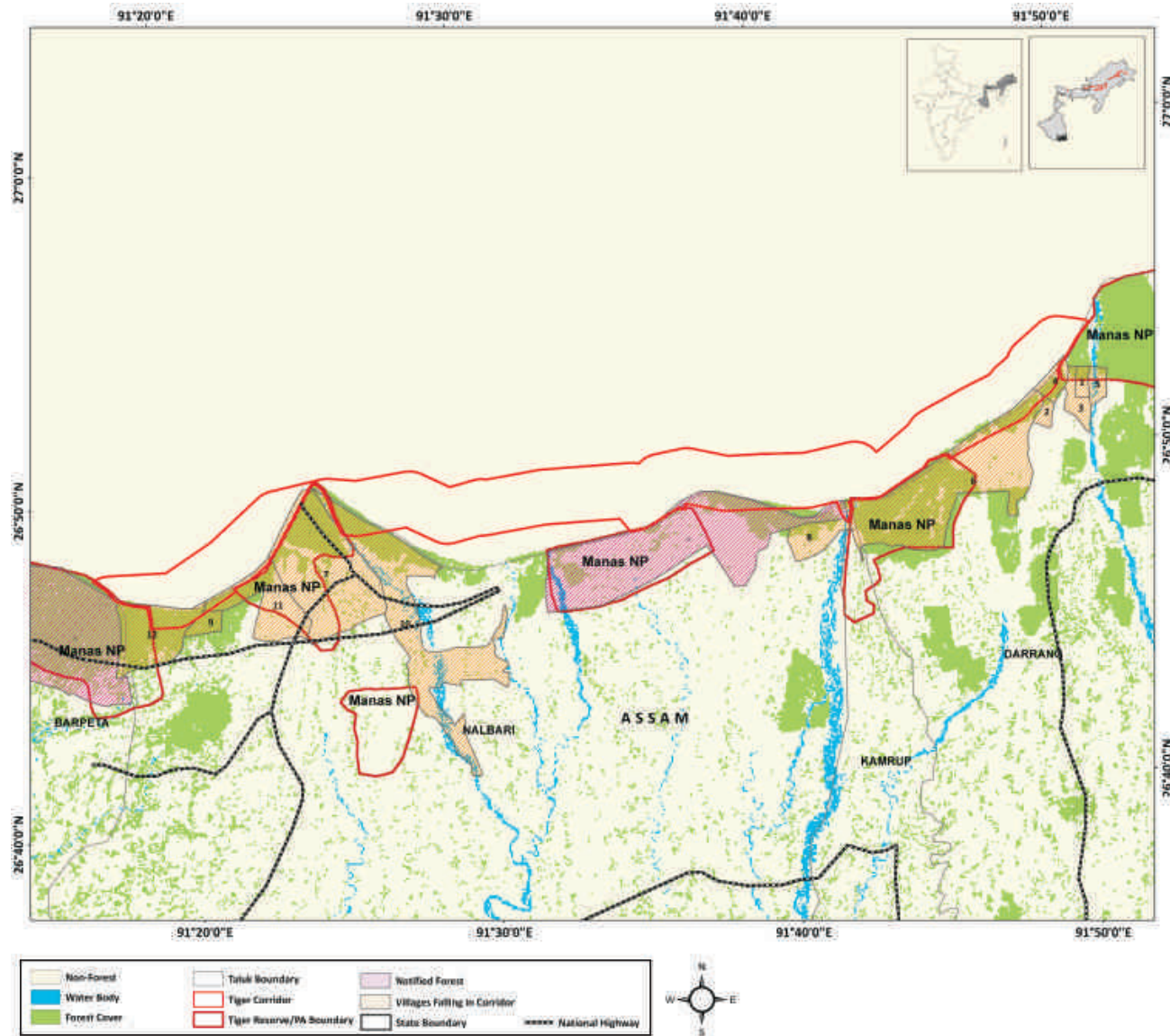
**Figure 4.16:**  
Human habitation as depicted by nightlights within the Kaziranga-Papumpare landscape in the year 1992 and 2012

#### Kaziranga-Papumpare Corridor

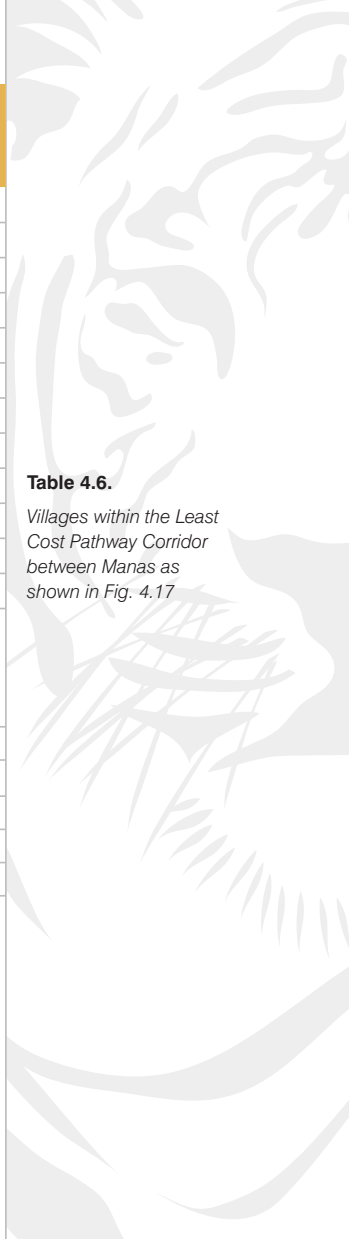
|                          |  |
|--------------------------|--|
| <b>Habitat size</b>      | 155799 Km <sup>2</sup>                     |
| <b>Source Population</b> | Kaziranga                                  |
| <b>Size of Source</b>    | 106 (81-131) tigers in 800 Km <sup>2</sup> |
| <b>Protected Areas</b>   | Kaziranga                                  |
| <b>Corridors</b>         | Kaziranga-Papumpare Corridor               |

**Figure 4.17:**

Least Cost Pathway corridor for Tiger movement between Manas Corridor overlaid with village map (the village numbers are referenced in Table 4.6)



| Village_ID | State | District | Tehsil    | Village                 | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|-----------|-------------------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | Assam | Darrang  | Harisinga | Bhutijhar N.c.          | 37                     | 261                     | 47                     | 268                     |
| 2          |       |          | Harisinga | Newli No.1              | 9                      | 59                      | 8                      | 33                      |
| 3          |       |          | Darrang   | Chamrang N.C.           | NA                     | NA                      | NA                     | NA                      |
| 4          |       |          | Darrang   | Newli Block N.C.        | NA                     | NA                      | NA                     | NA                      |
| 5          |       |          | Darrang   | Sagunbari N.C.          | NA                     | NA                      | NA                     | NA                      |
| 6          |       |          | Darrang   | Suklai Khuti Bagan N.C. | NA                     | NA                      | NA                     | NA                      |
| 7          |       | Nalbari  | Baska     | Dihira                  | 136                    | 794                     | 219                    | 1240                    |
| 8          |       |          | Tamulpur  | Goibari                 | 814                    | 4185                    | 811                    | 4200                    |
| 9          |       |          | Baska     | Madhupur                | 163                    | 874                     | 425                    | 2275                    |
| 10         |       |          | Nalbari   | Angarkata P.G.R.        | NA                     | NA                      | NA                     | NA                      |
| 11         |       |          | Nalbari   | Dugapur                 | NA                     | NA                      | 354                    | 1484                    |
| 12         |       |          | Nalbari   | Balabari (Part)         | NA                     | NA                      | NA                     | NA                      |



**Table 4.6.**

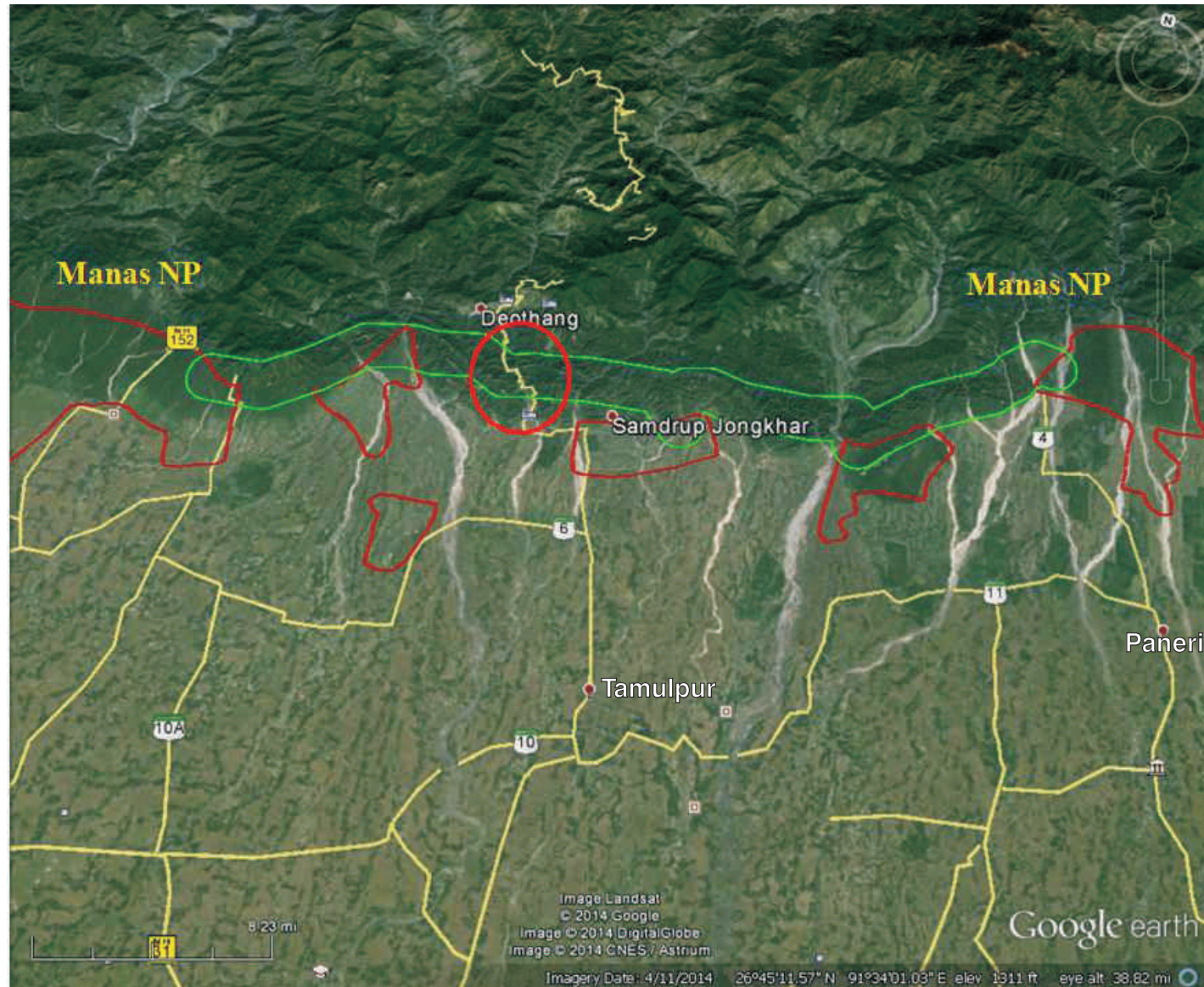
*Villages within the Least Cost Pathway Corridor between Manas as shown in Fig. 4.17*

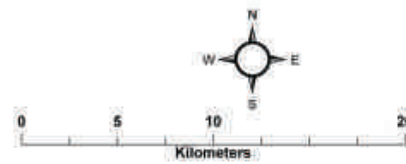
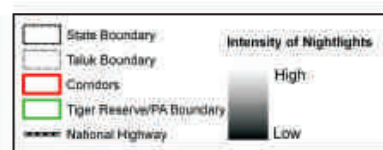
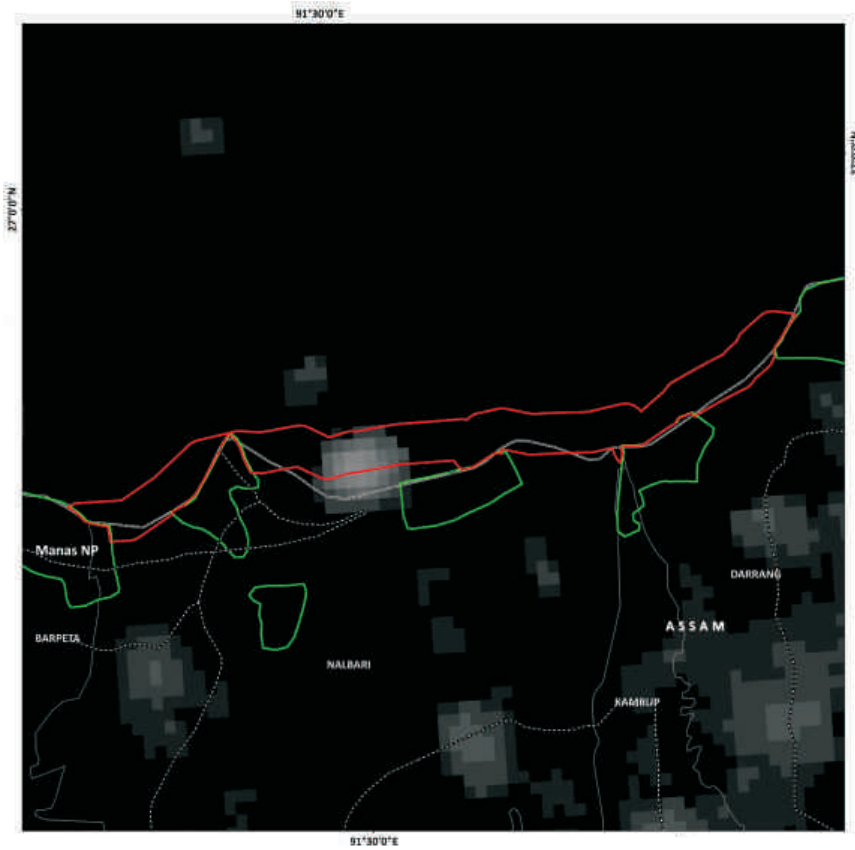
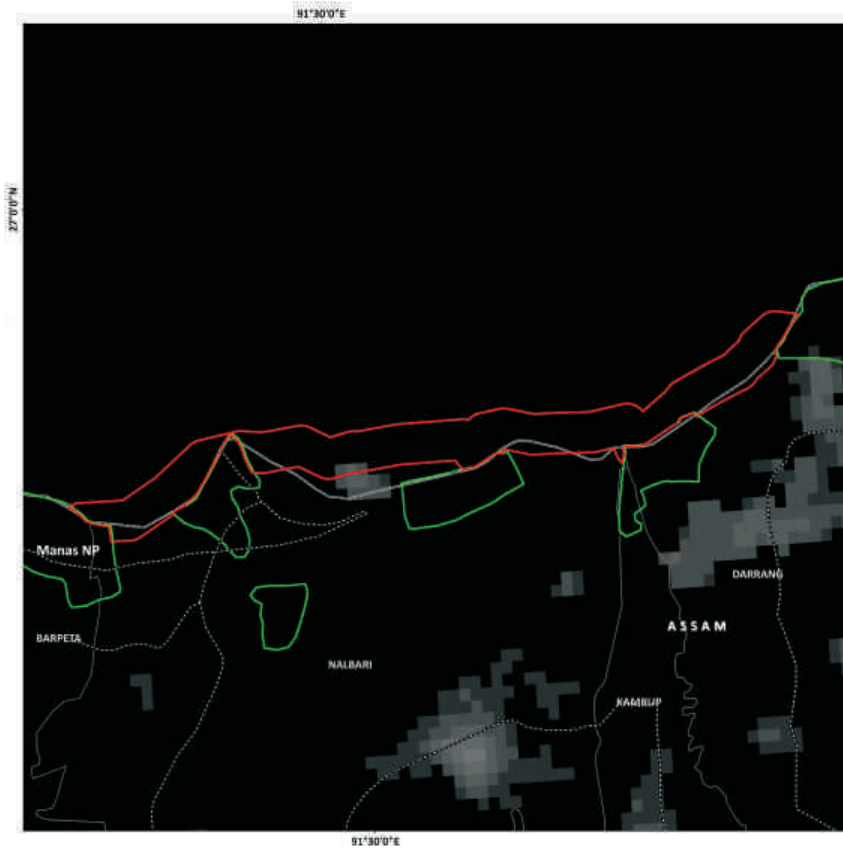
| <b>Manas Corridor</b>    |                            |
|--------------------------|----------------------------|
| <b>Habitat size</b>      | 334 Km <sup>2</sup>        |
| <b>Source Population</b> | Manas-Buxa                 |
| <b>Size of Source</b>    | 9+ in 1349 Km <sup>2</sup> |
| <b>Protected Areas</b>   | Manas TR                   |
|                          | Buxa TR                    |
| <b>Corridors</b>         | Manas-Buxa Corridor        |



**Figure 4.18:**

*Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Manas*

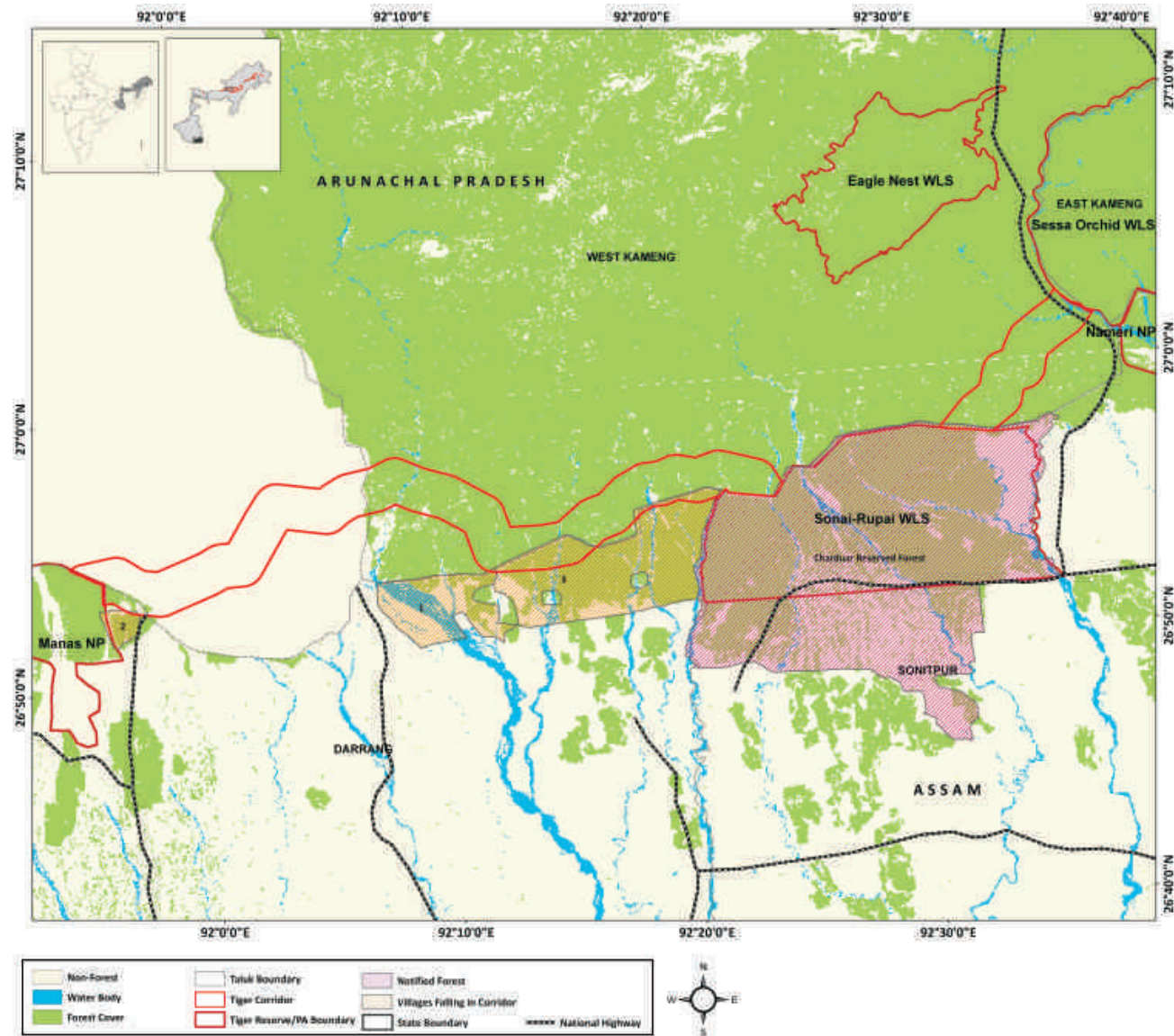




**Figure 19.**  
 Human habitation as depicted by nightlights within the Manas landscape in the year 1992 and 2012

**Figure 4.20:**

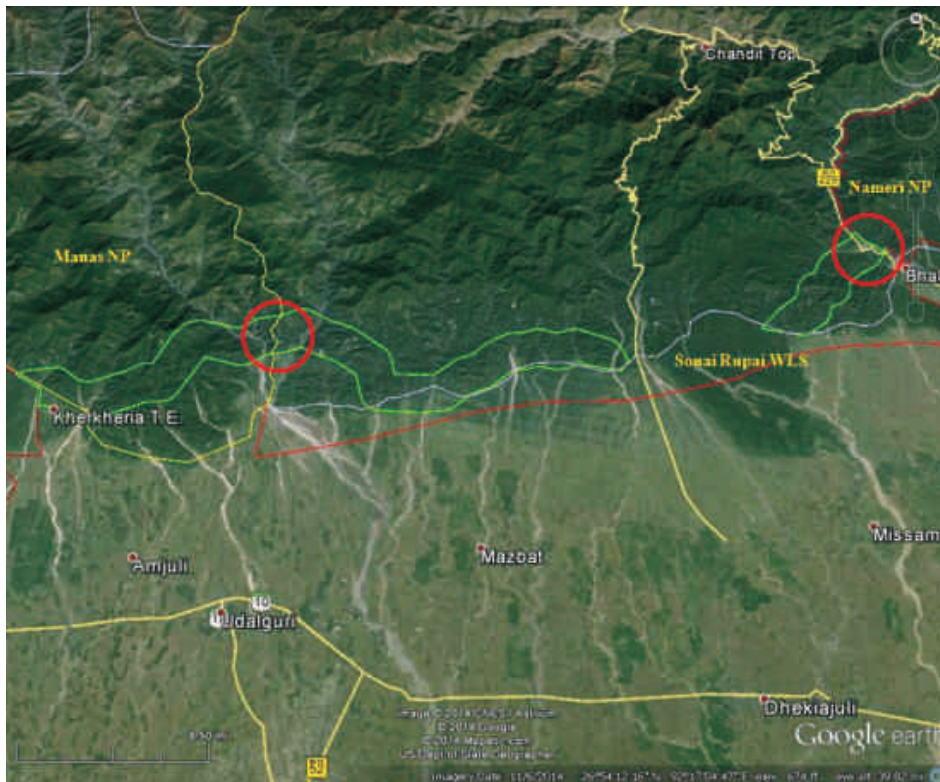
Least Cost Pathway corridor for Tiger movement between Paake-Nameri-Sonai-Rupai-Manas Corridor overlaid with village map (the village numbers are referenced in Table 4.7)



| Village_ID | State | District | Tehsil    | Village            | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------|----------|-----------|--------------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | ASSAM | DARRANG  | UDALGURI  | No.1 Dhansiri T.E. | 512                    | 2622                    | NA                     | NA                      |
| 2          |       | DARRANG  | HARISINGA | Khairabari Grant   | 35                     | 137                     | NA                     | NA                      |
| 3          |       | DARRANG  | NA        | NA                 | NA                     | NA                      | NA                     | NA                      |

**Table 4.7.**

Villages within the Least Cost Pathway Corridor between Paake-Nameri-Sonai-Rupai-Manas as shown in Fig. 4.20



**Paake-Nameri-Sonai-Rupai-Manas Corridor**

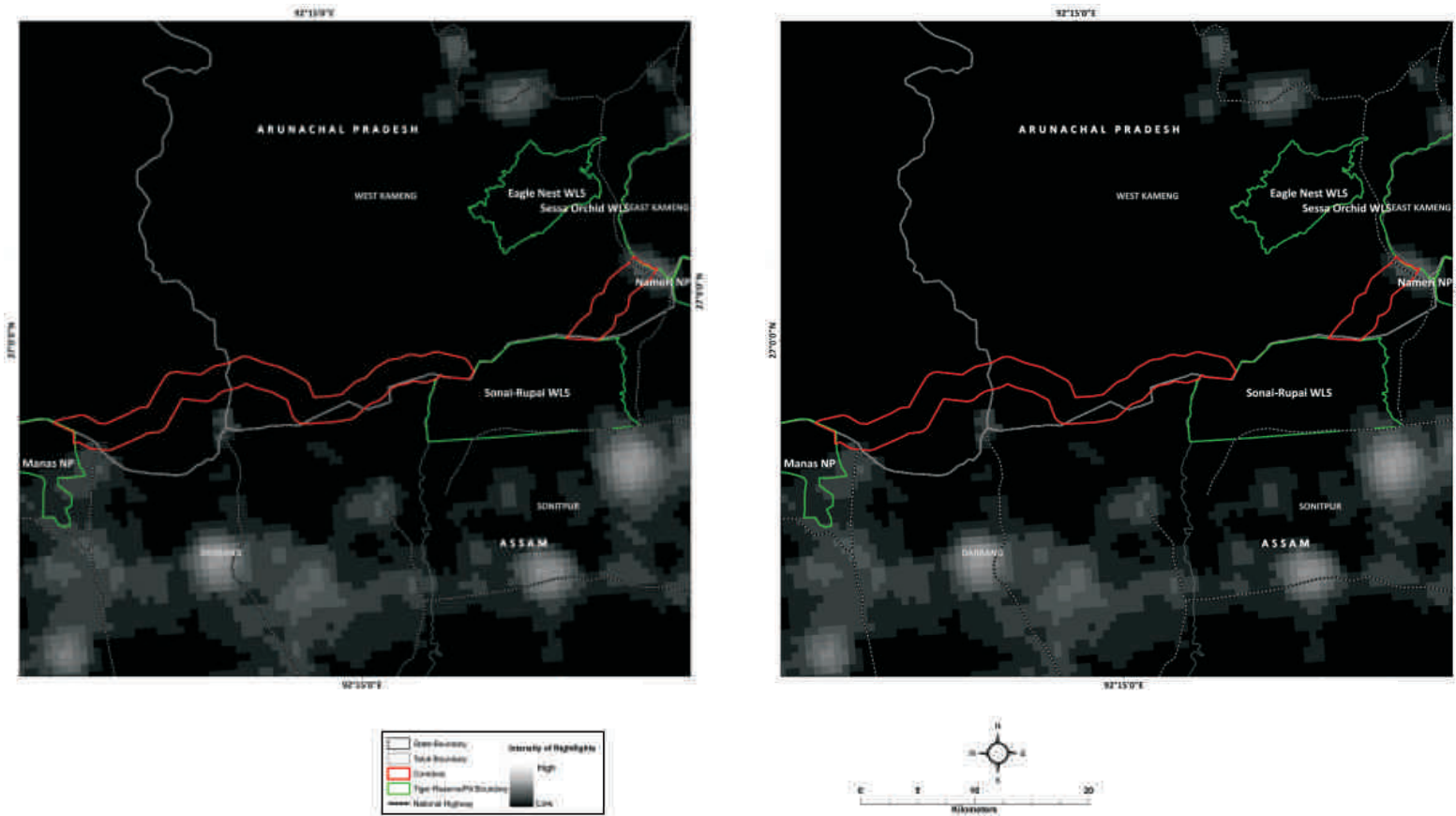
|                          |  |
|--------------------------|--|
| <b>Habitat size</b>      | 155799 Km <sup>2</sup>                 |
| <b>Source Population</b> | Pakke-Nameri                           |
| <b>Size of Source</b>    | 9(7-11) tigers in 1089 Km <sup>2</sup> |
| <b>Protected Areas</b>   | Pakke TR                               |
|                          | Nameri TR                              |
|                          | Sonai-Rupai WLS                        |
|                          | Manas TR                               |
| <b>Corridors</b>         | Nameri TR-Sonai-Rupai WLS              |
|                          | Sonai-Rupai WLS- Manas TR              |

**Figure 4.21:**

Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Paake-Nameri-Sonai-Rupai-Manas

**Figure 4.22:**

*Human habitation as depicted by nightlights within the Paake-Nameri\_Sonai\_Rupai-Manas landscape in the year 1992 and 2012*



Nameri Tiger Reserve is located in Sonitpur and Tezpur districts of north-east Assam. It is contiguous with Pakke Tiger Reserve of Arunachal Pradesh to its north and covers an area of 344 km<sup>2</sup> of which 200 km<sup>2</sup> forms the core demarcated by Rivers Bhoreli and Bordikarai. Thirteen villages are located in the reserve of which eight are forest villages with predominantly tribal population. The population of tigers is small (about 9) and is shared with Pakke. Though the area has potential for higher densities and ability to sustain a larger population

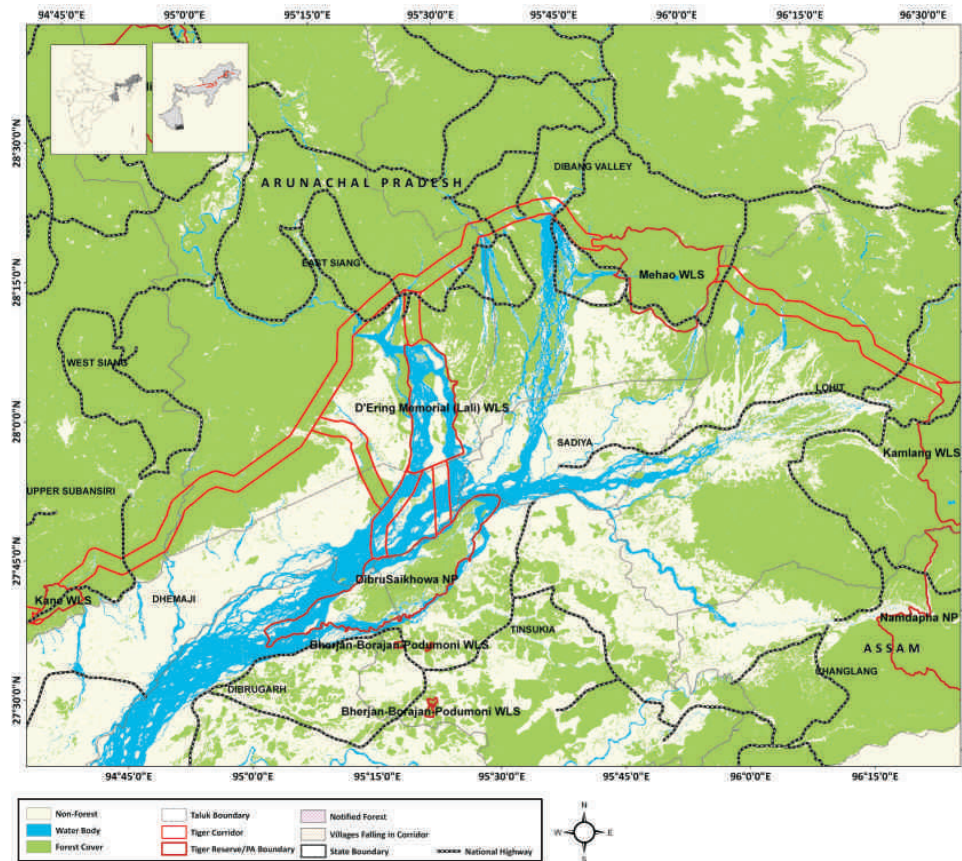
of tigers, the depletion of prey by subsistence poaching as well as other anthropogenic disturbances likely results in depressed tiger populations. Its connectivity with Kaziranga is important and needs policy and managerial inputs for its continued viability. This complex may further be connected to the Sonai Rupai Wildlife Sanctuary in Assam and the greater forest complex of Arunachal Pradesh, that provides connectivity, although with high hunting pressures, to the forests further east into Namdapha, Intanki and maybe even Myanmar.

# DIBRU SAIKHOWA-D'ERING-MEHAO, KAMLANG AND KANE WLS-TALE VALLEY WLS

The largest contiguous forested region in this landscape is over 136,000 km<sup>2</sup>. This landscape unit commences in the north-west from Pakke Tiger Reserve through the forests of Palia, Tale Valley, Mouling and Dr. D'Ering Sanctuaries into Dibang National Park and upto Namdapha Tiger Reserve in the east. The landscape continues south through some degraded areas into Intanki National Park, and further South to Dampa Tiger Reserve and Blue Mountain National Park.

Pakke-Nameri landscape includes parts of the Sessa orchid Wildlife Sanctuary in Kameng district, Eagle Nest Wildlife Sanctuary, Pakke Tiger Reserve, parts of Nameri Tiger Reserve in Assam and continues via the forests of Tale Valley in to lower Subansiri to D'Ering Memorial Wildlife Sanctuary in East Siang upto Namdapha Tiger Reserve. The largest tiger population of Arunachal Pradesh is within pockets of this landscape. Tiger population of Pakke is shared with that of Nameri Tiger Reserve (Assam) and was estimated to be around 9 tigers.

The presence of *Dipterocarp* forests in this region along with the high levels of hunting, result in low abundances of prey which subsequently affect tiger abundances. Thus, despite the availability of vast forested areas in this zone, tiger abundances are low. The low-land forest and hill forest are connected within Arunachal Pradesh and with Assam.



**Figure 4.23:**  
Least Cost Pathway corridor for Tiger movement between Dibru Saikhowa-D'Ering-Mehao-Kamlang Corridor overlaid with village map

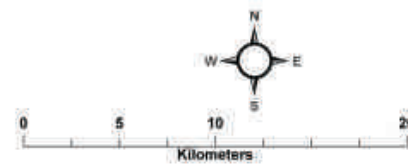
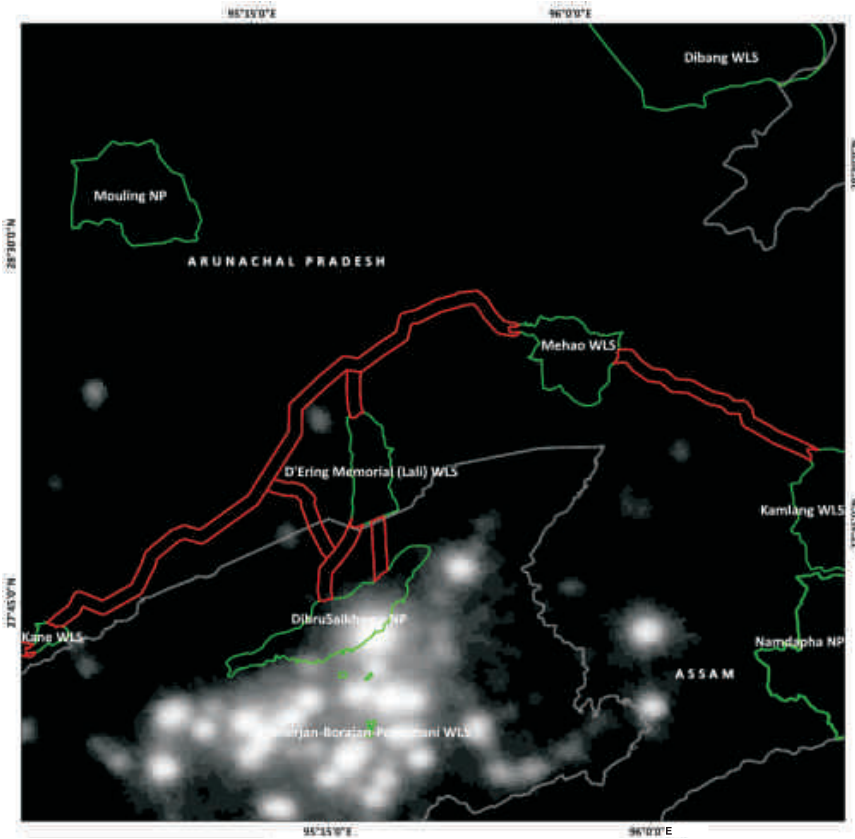
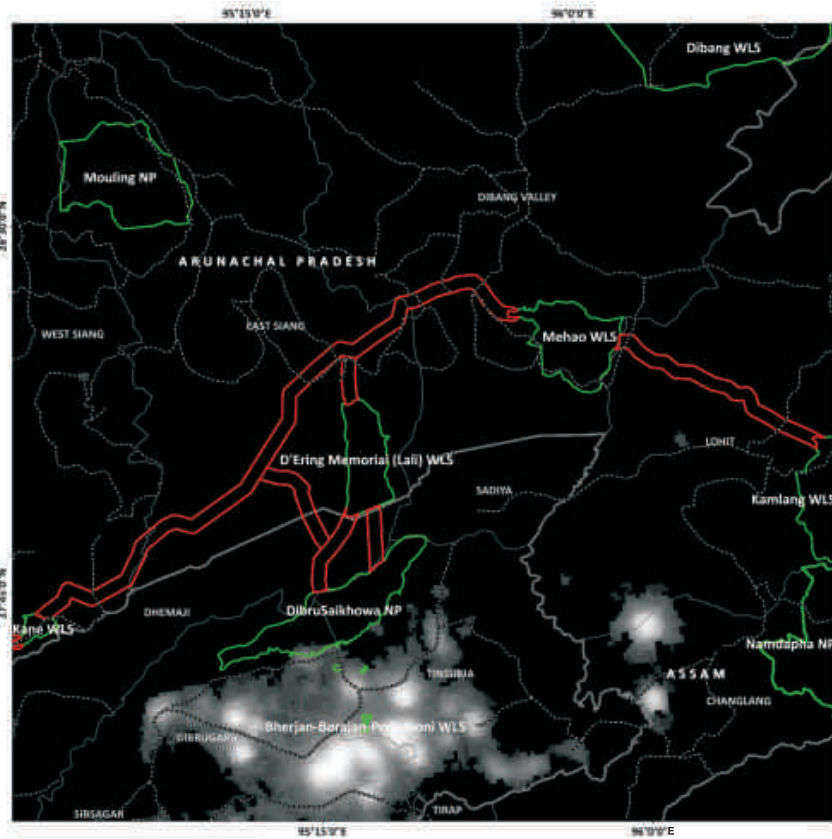
**Figure 4.24:**

Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Dibru Saikhowa-D'Ering-Mehao-Kamlang



**Dibru Saikhowa-Ering-Mehao Corridor**

|                          |  |
|--------------------------|--|
| <b>Habitat size</b>      | 155799 Km <sup>2</sup>   |
| <b>Source Population</b> | Arunachal Pradesh-Bhutan   |
| <b>Size of Source</b>    | NA   |
| <b>Protected Areas</b>   | Dibru-Saikhowa NP<br>D'Ering Memorial WLS<br>Mehao WLS                   |
| <b>Corridors</b>         | Dibru-Saikhowa NP-D'Ering Memorial WLS<br>D'Ering Memorial WLS-Mehao WLS |

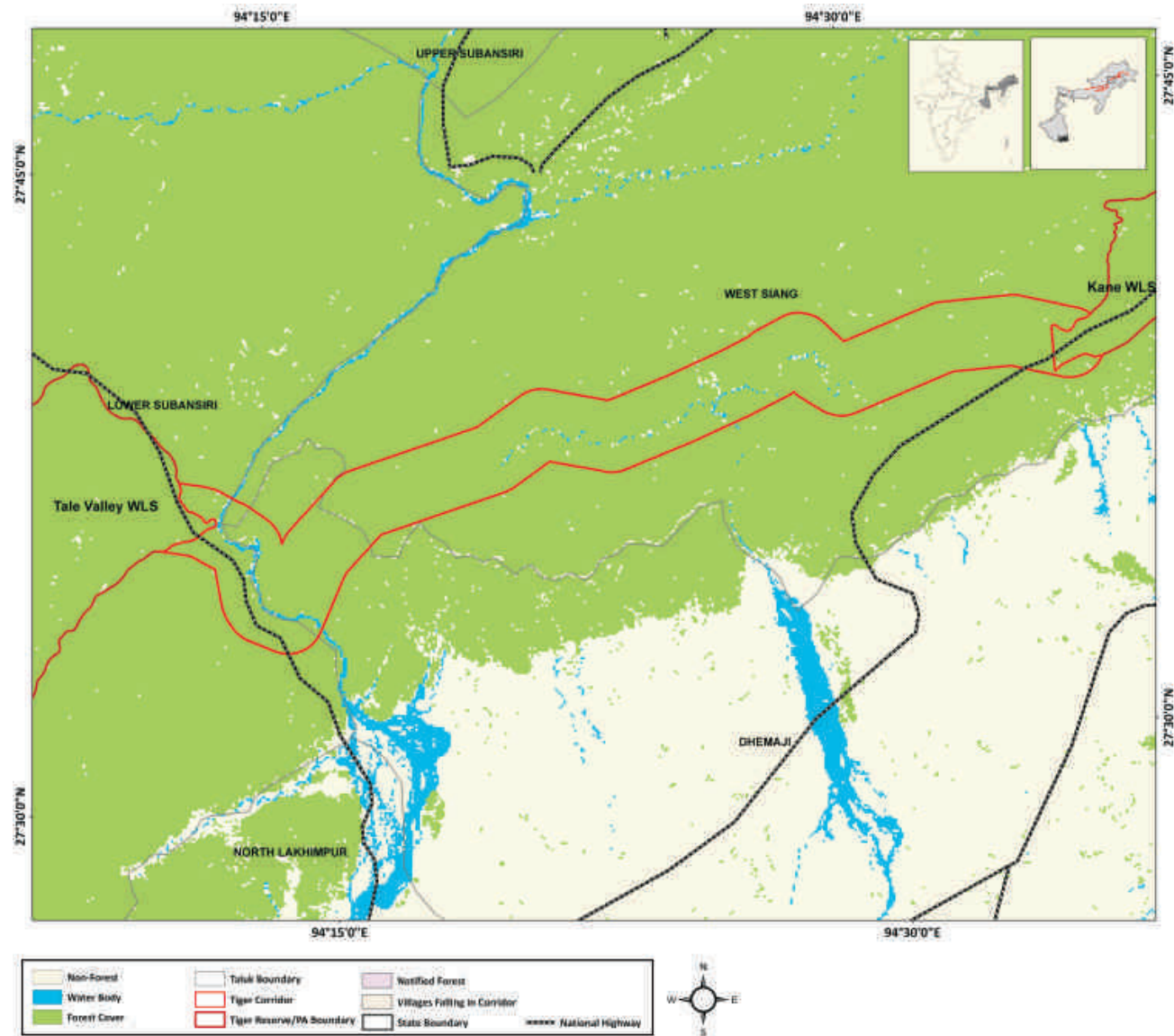


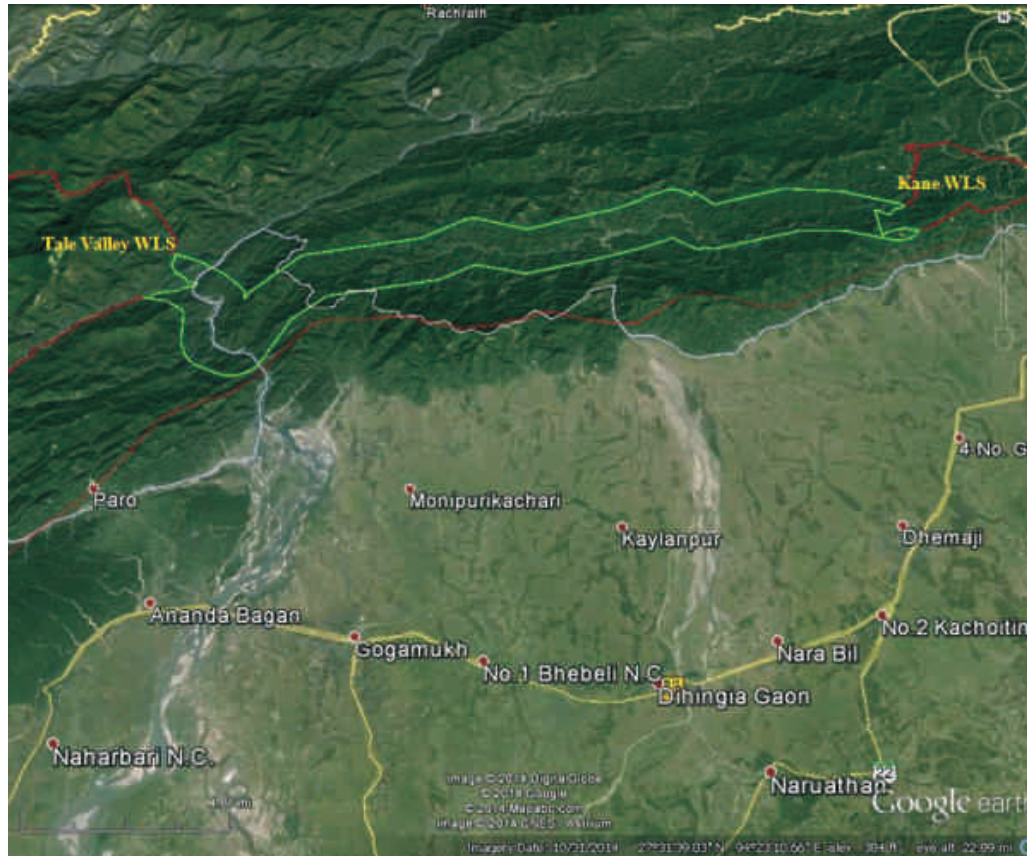
**Figure 4.25:**  
 Human habitation as depicted by nightlights within the Dibru Saikhowa-Ering-Mehao landscape in the year 1992 and 2012



**Figure 4.26:**

Least Cost Pathway corridor for Tiger movement between Kane WLS-Tale Valley WLS Corridor overlaid with village map

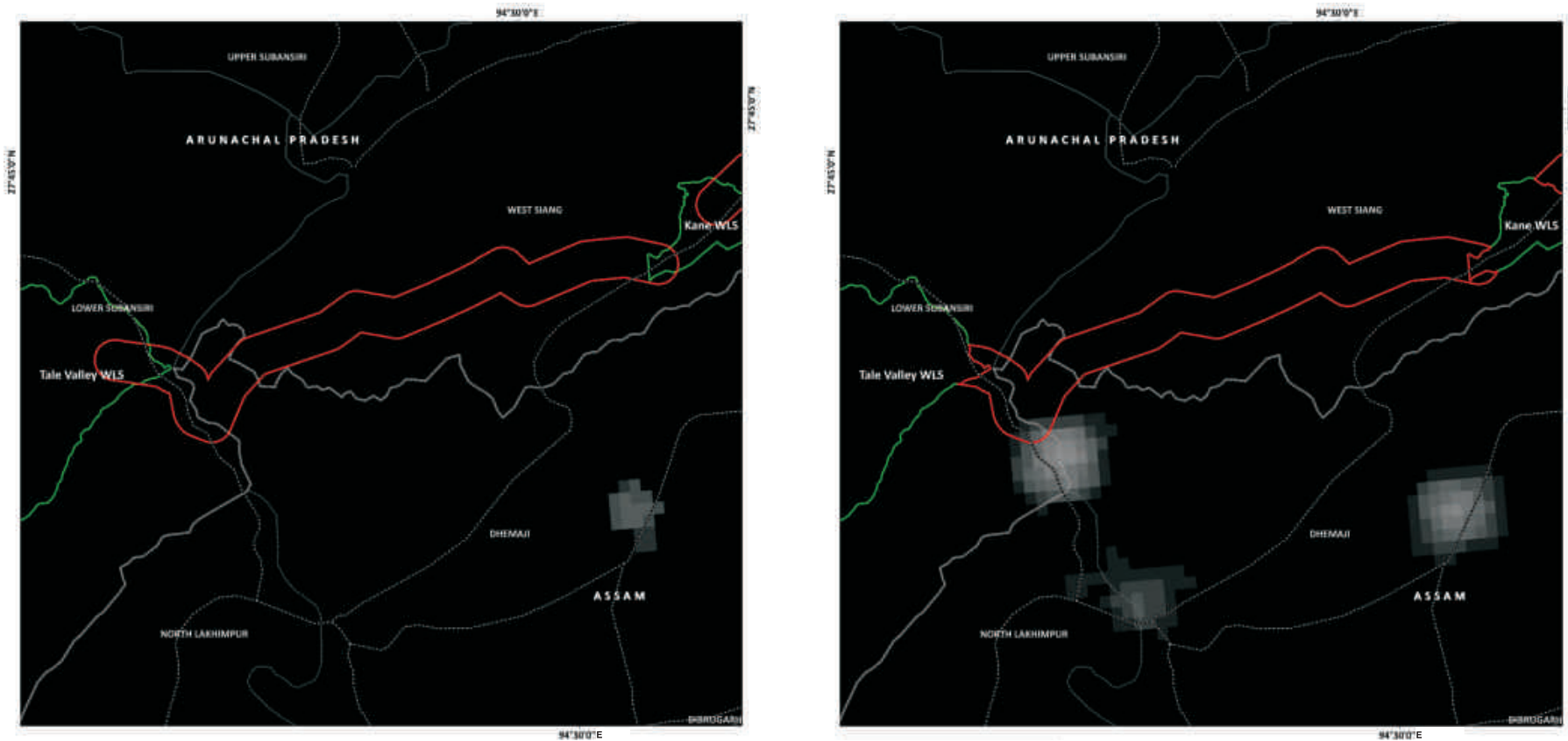




**Figure 4.27:**  
Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Kane WLS-Tale Valley WLS

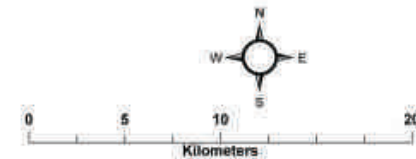
**Kane WLS-Tale Valley WLS Corridor**

|                          |                          |
|--------------------------|--------------------------|
| <b>Habitat size</b>      | 155799 Km <sup>2</sup>   |
| <b>Source Population</b> | Arunachal Pradesh-Bhutan |
| <b>Size of Source</b>    | NA                       |
| <b>Protected Areas</b>   | Kane WLS<br>Tale WLS     |
| <b>Corridors</b>         | Kane WLS-Tale WLS        |



**Figure 4.28:**

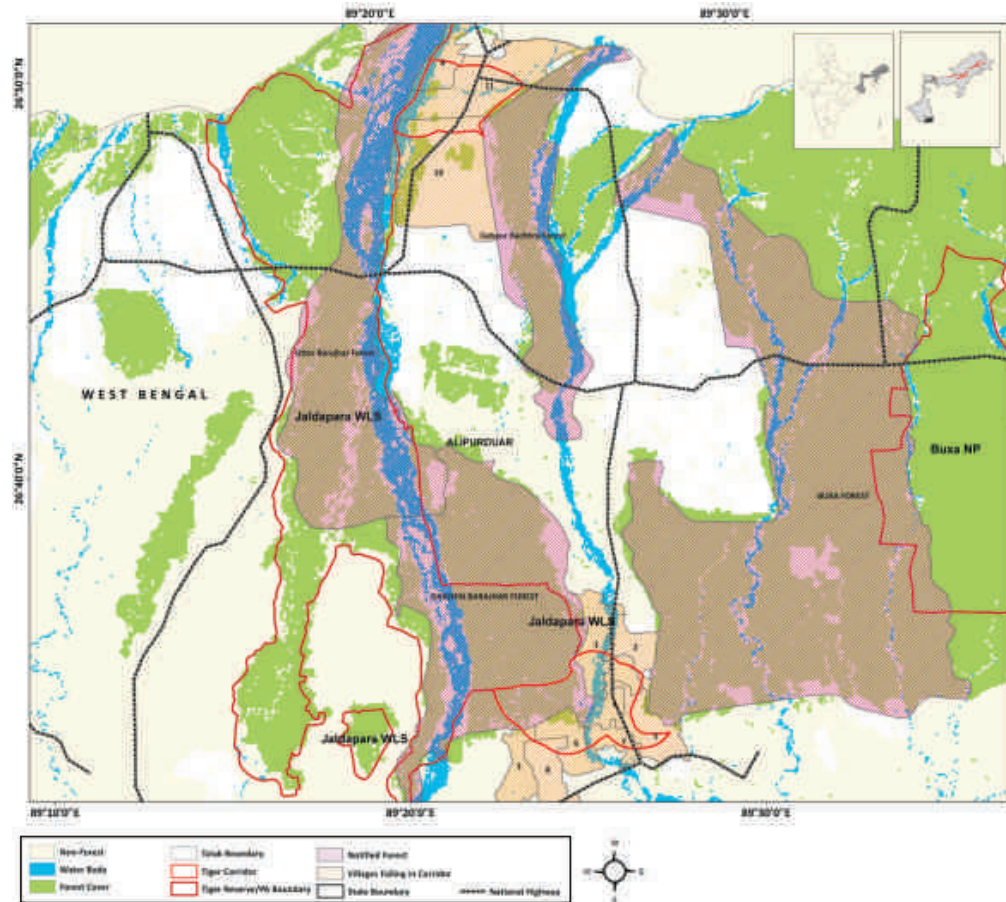
*Human habitation as depicted by nightlights within the Kane WLS-Tale Valley WLS landscape in the year 1992 and 2012*



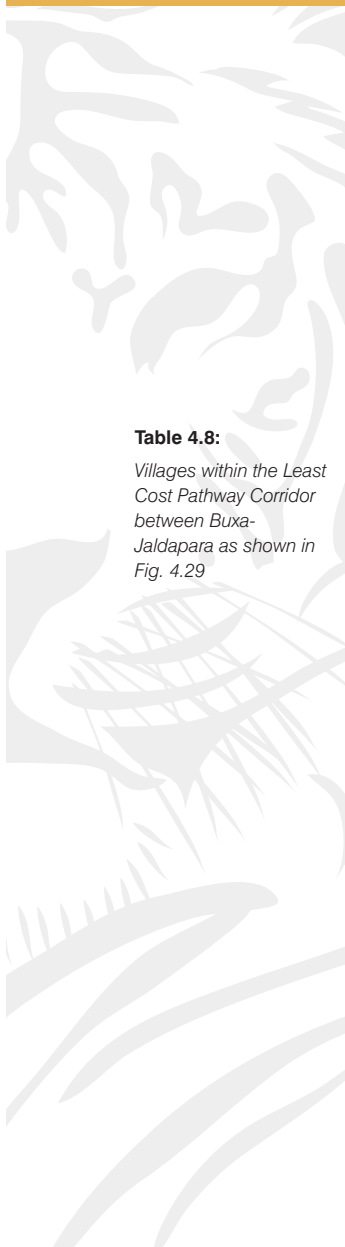
## BUXA-JALDAPARA

Buxa, is located in the Alipurduar sub-division of Jalpaiguri district and covers an area of 760.87 km<sup>2</sup>. To the east, it is separated from the Manas Tiger Reserve of Assam by River Sankosh while on the west, tea estates and the Joygaon-Nimti State Highway demarcate its boundaries. To the north of it is the international boundary with Bhutan while on the south a mosaic of agricultural land, tea estates and the National Highway 31C are located. The Reserve has 37 forest villages while 7000-8000 pilgrims visit the Mahakal Temple, located within the Reserve, in March each year. The other factors adding to existing disturbance levels in the area include existence of a number of PWD roads, a National Highway and a meter gauge railway line from Damanpur to Hasimara. Until 1996, the area was also mined for dolomite, post which a stay order was passed on mining activities within the Park by the State High Court.

Buxa Tiger Reserve has a weak connectivity to Jaldapara National Park and Gorumara Wildlife Sanctuary. While both these latter areas are small with high levels of disturbance (with about 32 Toto villages around Jaldapara and 9 villages around Gorumara), they still provide some connectivity to tigers dispersing in this landscape. To the east, Buxa has a good connectivity with a much larger tiger landscape of Manas, Bor Nadi Wildlife Sanctuary in Assam and Royal Manas National Park in Bhutan.



**Figure 4.29:**  
Least Cost Pathway  
corridor for Tiger  
movement between  
Buxa-Jaldapara  
Corridor overlaid with  
village map (the village  
numbers are  
referenced in Table 4.8)

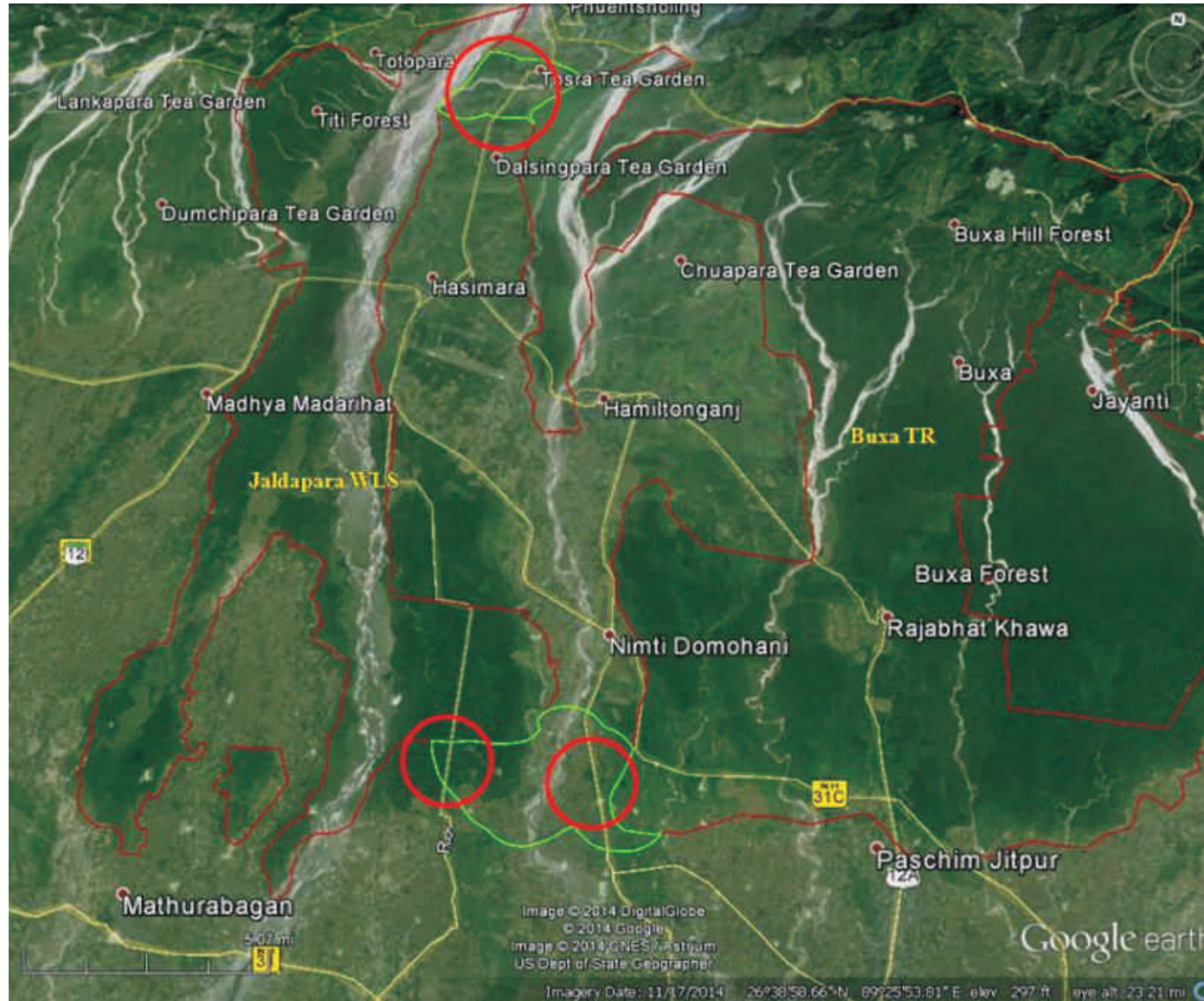


**Table 4.8:**  
Villages within the Least Cost Pathway Corridor between Buxa-Jaldapara as shown in Fig. 4.29

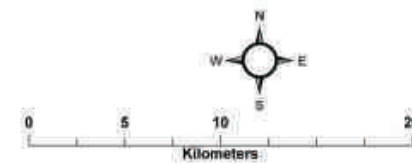
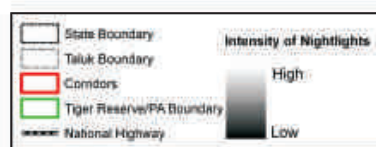
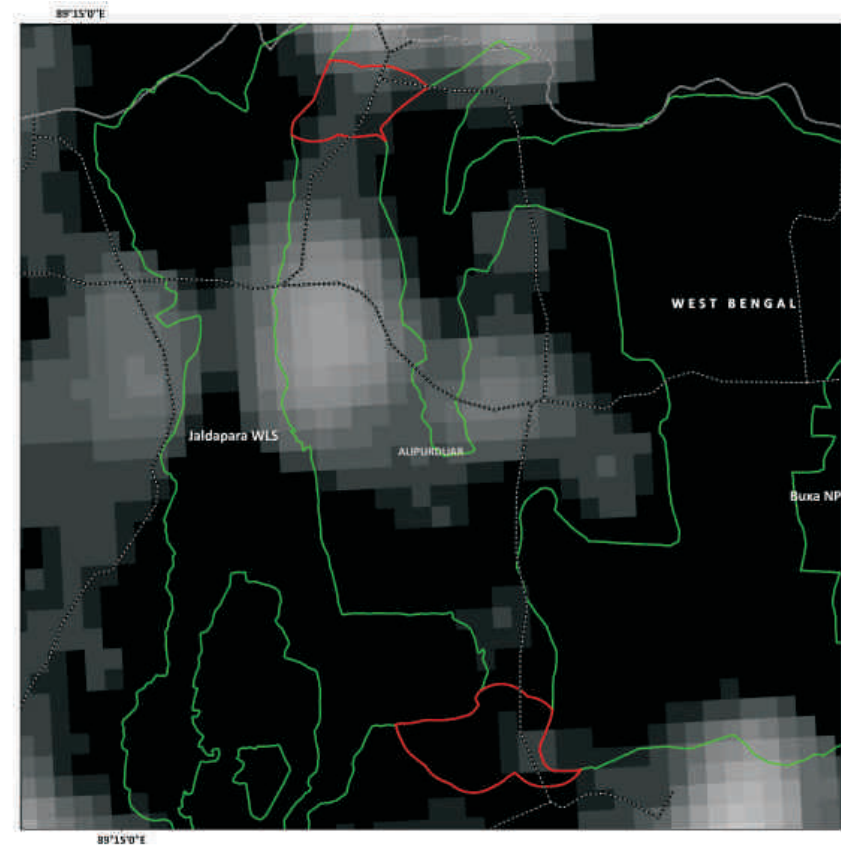
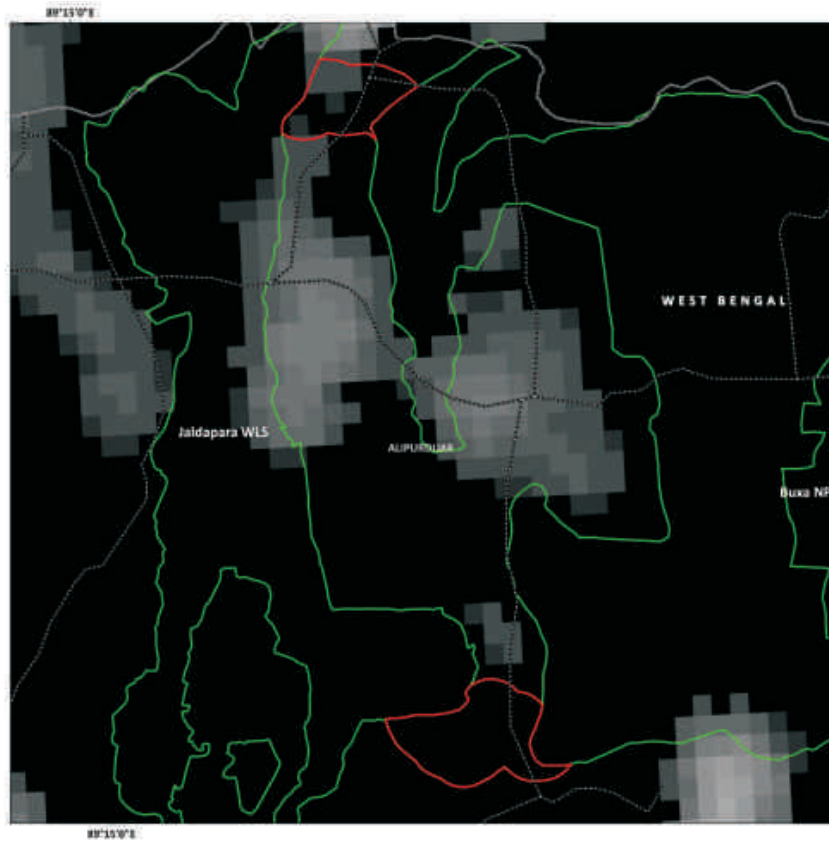
| Village_ID | State       | District   | Tehsil        | Village                | No of Household (2001) | Total Population (2001) | No of Household (2011) | Total Population (2011) |
|------------|-------------|------------|---------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| 1          | West Bengal | Jalpaiguri | Kalchini      | Dakshin Mandabari      | 516                    | 2625                    | NA                     | NA                      |
| 2          |             |            | Kalchini      | Nimtijhora Tea Garden  | 870                    | 4266                    | NA                     | NA                      |
| 3          |             |            | Alipurduar -I | Kumarpara              | 345                    | 1823                    | NA                     | NA                      |
| 4          |             |            | Alipurduar -I | Uttar Paitkapara       | 545                    | 2716                    | NA                     | NA                      |
| 5          |             |            | Alipurduar -I | Paitkapara Tea Garden  | 905                    | 4654                    | NA                     | NA                      |
| 6          |             |            | Alipurduar -I | Uttar Chakoakheti      | 241                    | 1251                    | NA                     | NA                      |
| 7          |             |            | Alipurduar -I | Madhya Paitkapara      | 331                    | 1712                    | NA                     | NA                      |
| 8          |             |            | Alipurduar -I | Mathura Tea Garden     | 1705                   | 8472                    | NA                     | NA                      |
| 9          |             |            | Kalchini      | Mechiabasti            | 966                    | 5046                    | NA                     | NA                      |
| 10         |             |            | Kalchini      | Dalsingpara Tea Garden | 2879                   | 15752                   | NA                     | NA                      |
| 11         |             |            | Kalchini      | Tosra Tea Garden       | 1007                   | 5142                    | NA                     | NA                      |

**Buxa-Jaldapara Corridor**

|                          |                            |
|--------------------------|----------------------------|
| <b>Habitat size</b>      | 9096 Km <sup>2</sup>       |
| <b>Source Population</b> | Manas-Buxa                 |
| <b>Size of Source</b>    | 9+ in 1349 Km <sup>2</sup> |
| <b>Protected Areas</b>   | Buxa TR                    |
|                          | Jaldapara WLS              |
| <b>Corridors</b>         | Buxa-Jaldapara1            |
|                          | Buxa-Jaldapara2            |



**Figure 4.30:**  
 Potential bottlenecks, obstacles and weak links within the Least Cost Pathway corridor connecting Buxa-Jaldapara



**Figure 4.31:**

*Human habitation as depicted by nightlights within the Buxa-Jaldapara landscape in the year 1992 and 2012*

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