PEP Project Final Report

Maximum ten pages. Annexes, including photographs to be attached/supplied as separate documents, but this text report must be sufficient to describe and report on the project

Globally Threatened Species:	**Lesser Florican (LF)**
Date of report:	April 2023 (v1.0), July 2023 (v2.0), Dec 2023 (v3.0)
Name of project: Right now, or Never: High mining pressure and the urgent need to establish Lesser Florican Community Conserved Areas in Rajasthan's Shokaliya landscape	
Duration: 1 October 2019 – 31 March 2023	

REPORT AGAINST PROPOSED ACTIVITIES
Please report against each of the proposed activities in the original project plan. To what extent have they been carried out? Please keep the account concise, but use as much space as needed.

OVERVIEW OF THE ACTIVITIES DONE

Ecology and habitat survey

The rainfall pattern dramatically affects the distribution of the LF. Female LF birds are difficult to detect as they are elusive, and their numbers are low across a vast area. During the peak monsoon season, which lasts from July to September, birds visit the study area. However, detecting all displaying males during this short period can be challenging. To address this issue, multiple observers conducted a large-scale survey based on displaying males simultaneously. To compile the necessary information, Bombay Natural History Society (BNHS) utilized a combination of literature surveys and the previous year's landscape surveys. In addition, we employed a team of two or more skilled observers who meticulously conducted a visual survey and documented their findings in a survey form. Furthermore, we meticulously recorded any incidental observations during the study to ensure we had all relevant data.

LF birds are known to survive in pockets of human-dominated landscapes. Initially, information on the species was gathered from published literature, including research project reports arranged chronologically. Data on the status and distribution of LF was compiled with the help of local NGOs and volunteers and through personal communication with staff from the Forest Department and the Government of Rajasthan. The study area has been divided into two parts: the Extensive survey area and the Intensive survey area.

Extensive surveys

The first step in the study was to designate a historical distribution area for birds through literature review since the 1980s. It covered a total of 3762 km² spanning the districts of Nasirabad, Bhinai, Sarwar, Tantoti and Kekri tehsils of Ajmer district, Shahpura, Gulabpura tehsils of Bhilwara. From there, a thorough survey was conducted in a smaller area of 2035 km² (Figure 2) within the Shokaliya landscape during the breeding season (June – October) in 2020, 2021 and 2022. The entire landscape was surveyed twice in each breeding season.

The landscape was divided into grids of 5x5 km and mapped over the Ajmer district, as shown in Figure 3. Out of the 514 total grids, 73 were surveyed based on previous surveys conducted by BNHS, literature review, and agricultural patterns. Priority was given to grids with previous bird sightings due to LF's high site fidelity. The survey was conducted using vehicle transects, with any areas where birds were

detected being further covered on foot. Population monitoring was performed using the complete count method, as bird density is low and patchy in distribution. GPS locations were collected to map and study bird distribution. In addition, data on displaying males within a 200m radius of each Lekking male LF location was collected using the point count method. This allowed a more detailed understanding of the bird's behaviour and habitat utilization. GPS tracks were also recorded, and displaying males were monitored to understand their microhabitat utilization and response to others. This provided valuable insights into the birds' social behavior and interactions. Threat data was collected using preformed datasheets to quantify threats identified in previous surveys, providing a more comprehensive understanding of the bird population's challenges.

Overall, this detailed methodology allowed a thorough understanding of the bird population and their habitat utilization. Using a combination of techniques, researchers collected a wealth of data to inform conservation efforts and ensure the continued survival of these important species.

Intensive surveys

Our team invested a significant amount of time and effort in meticulously observing LFs at a lek and the nesting area of LF located in the village of Madhopura-Shokaliya. To obtain high quality data, we visited these sites at least four times a week, both in the morning and evening hours during the breeding season of 2020. Our team used high-quality binoculars to obtain a clear view of the birds from a safe distance of 500 meters. We also maintained a detailed datasheet with the help of at least two team members to record all of the species behaviour patterns and activities. Our observations have been submitted for publication as a note on the courtship and mating behaviour of LF in the Journal of Bombay Natural History Society (JBNHS) in 2023.

In addition to conducting LF surveys, we also took the initiative to educate the locals and farmers about the challenges these birds face. We provided information on the types of crops that the Florican rely on for their sustenance and the dangers posed by free-roaming dogs and chemical sprays. Our team believes in creating awareness amongst the local community and taking steps towards conservation efforts for the Lesser Florican.

Socio-economic surveys

Throughout our extensive research on Shokaliya, we utilized various data collection methods to gather both quantitative and qualitative data. To obtain secondary data, we consulted government records and published reports. In addition, we conducted interviews to obtain primary data and utilized various methods such as deploying posters and stickers, meetings with locals, and street plays to raise awareness and engage with the community.

To gather qualitative data for a better understanding of the community beliefs and gain further insight into people’s perceptions of Shokaliya, we conducted an open-ended questionnaire survey with key informants. Ten people from six villages were surveyed in 2020 – 2021. From the BNHS side, the survey team included at least two team members and a local field assistant, to ensure that language barriers were overcome. The sample size for these surveys was small because of their targeted nature. Various informants across villages were observed. Of these, a subset was selected who had a good understanding of their village. One to two informants were deemed sufficient from each village for this exercise.

Our dedication to thorough and varied data collection methods allowed us to gain a comprehensive understanding of Shokaliya and the needs of its community.

Lesser Florican in Shokaliya landscape historical overview and current status

A Lesser Florican survey by Shankaran (1999) found that 38 individuals were seen in central Rajasthan with records in Tonk, Ajmer, Chittorgarh, Bhilwara, and Pratapgarh communities. Subsequently, a survey by the Wildlife Institute of India in 2010 discovered only 18 individuals in Rajasthan, a decline of approximately 47% from the area's previous record. In both cases, most birds were sighted in Chittorgarh district, followed by Ajmer.

Until 2010, the most significant number of individuals were reported in Prathapgarh and Chittorgarh districts. However, the number of sightings in these areas have since decreased due to drastic changes

in land use and agricultural practices leading to habitat loss and degradation as well as invasion of weed *Prosopis juliflora*. Most of the recent records are now from the Shokaliya landscape in Ajmer district as in the section below.

A. Monitoring of the breeding sites of floricans with the help of local people for effective conservation

In the past few years, BNHS has established two field bases in Ajmer, Madhopura Village, and Gram Panchayat Shokaliya. Since March 2023, the Shokaliya field base has been moved to Nasirabad. This was because Nasirabad has good road connectivity to three lek sites of LF. The town also has all the basic facilities required for the team to setup a field base. In addition, the local stakeholders, including the Rajasthan Forest Department, have been actively helping BNHS determine the current status and distribution of the species in the area.

To assess the status of floricans and their breeding population in the Shokaliya landscape, BNHS conducted observational landscape surveys from June to November from 2019 to 2022.

A total of 34 males and 13 females in 2019 (surveys were supported by another project); 39 males and eight females in 2020; a total of 18 males in 2021; and a total of 27 males and ten females in year 2022 were counted during landscape surveys. These counts suggest relatively large fluctuations in populations (or detections) in recent years which is consistent with trends observed prior to this project since 1994 (Figure 1). Over the years, the LFs were detected in 73 out of 230 surveyed locations in the Shokaliya landscape. Courtship displays by male birds were recorded in 52 of these sighting locations.

In 2019 and 2020, the male LF was first spotted just one day following the first monsoon showers in June and July in Shokaliya village and the surrounding area. In 2019, LF sightings lasted from the second week of July to the first week of October, while sightings in 2020 lasted from the last week of June to the first week of September. In 2021, the sighting lasted until the last week of September due to scattered rainfall in the area. The distribution of the birds was more scattered in 2022 due to a fair amount of rainfall, with areas like Pali and Dudu having approximately 5-7 birds.

The survey sighting records are illustrated in Figure 4, a bar graph. The increase in the number of birds in 2022 compared to 2021 was due to a good amount of rainfall recorded that year. The birds were more widespread and could be seen in the landscape longer. The last bird was observed until mid-November, indicating that the Lesser Florican remains in the area.

This study is critical in understanding the breeding patterns and habitat requirements of the Lesser Florican. The data collected from these surveys can be used to formulate conservation strategies to protect the species. The BNHS and other stakeholders will continue monitoring the Lesser Florican population in the area to ensure its long-term survival.

<u>Involvement of local people in project activities for effective conservation</u>

1. Mr Chandraprakash Prajapat from Madhopura village of Shokaliya has been engaged as a ‘field assistant since the beginning of this project. He assists the project fellow in monitoring the sites under Shokaliya Gram Panchayat (~3000 Ha) where floricans are regularly reported, especially areas under Shokaliya Gram panchayat, that have been intensively monitored. He also helps the research staff in collecting the field data. His continuous presence in the field has also helped create awareness among the community about BNHS's work on Lesser Florican in the Shokaliya landscape. Because of a salary hike, Mr Chandraprakash left BNHS and joined the conservation breeding program of the Wildlife Institute of India (WII) in April 2023.

2. Mr Kalyan Singh joined the project as a volunteer in January 2021 to monitor Lesser Florican and to galvanise local support for developing the LF Community Reserve in Shokaliya. His relatives are representatives in the Forest Department as well as the village administration. Having Kalyan in the

team has made communicating with the concerned people easy. During the breeding season of the floricans, he assists scientific staff in conducting the field surveys.

3. Mr Shoaib Silawat belongs to the newly created Kekri district in Ajmer, where 75% of the Florican sites are now located. He is associated with the Road Transport Office (RTO) in Kekri and creates awareness during his work.

4. *Kharmor Mitra* (Florican friend) – A total of 4 nesting sites for LF were spotted during the reporting period (October 2019 to March 2023). One nest of LF was observed in September 2020 on the boundary of Kalyanipura and Madhopura villages. In 2022, 3 nests were observed in Dhantol, Kalyanipura and Bandhanwara areas through a network of local people such as Kharmor Mitra.

5. In monsoon 2022, local framers like Nawrat Prajapat from Kalyanipura showed interest towards conserving and assist in monitoring the species. Nawrat helped the team to spot and safeguard the nesting sites during the study period. He spent the whole day on a rotational basis to drive away the free-ranging dogs and cattle from the nesting site that was also frequently used by male florican display sites.

B. **Provide technical help to the community and Rajasthan Forest Department to restore the degraded florican habitat into suitable ones, especially removing invasive *Prosopis juliflora* from common grazing or government-owned land.**

BNHS past work on LF in the Shokaliya landscape has raised awareness about habitat loss due to *P. juliflora*. Villagers of Shokaliya Gram Panchayat came forward and voluntarily removed *P. juliflora* from around 10 Ha in March 2020. In April 2021, the locals approached the BNHS team to help eradicate this exotic species from a larger area. We used the PEP project funding to remove *P. juliflora* from an additional 70 ha area in Madhopura grazing land, at a cost of £10 per ha. This activity has led to an even greater awareness about LF conservation. At least two villages (near Madhopura) have also started removing *P. juliflora.* A 200-hectare area of Aheda grazing land was cleared from *P. juliflora in* summer 2022.

C. **Promote sustainable/ traditional agriculture practices such as using bio-pesticides, bio-fertilizers, and** manual tools where female floricans are nesting.

The LF intensively uses crop fields and the common grazing lands, while the pasture grounds have been invaded by exotic *P. juliflora.* The primary hazards to breeding birds include disturbance from farming operations, including machinery, widespread use of chemical fertilizers and pesticides, and overgrazing on *kankads* (common grazing pastures).

A recent survey (June – July 2023) conducted by BNHS aimed to gather information on the types of pesticides/chemicals used by 150+ local farmers during the breeding season and their impact on insect diversity. The questionnaire was thoughtfully designed in the local language to ensure respondents and volunteers could easily understand it and provide accurate responses. See Annex 1 for a Hindi version of the questionnaire. The survey findings were alarming, highlighting a significant need for more knowledge among local farmers regarding organic farming practices. A staggering 84% of villagers reported having yet to learn organic farming techniques, with only 16% having some idea about it. This lack of awareness is a significant concern, given the potential harm pesticide use can bring to the environment and human health. The survey revealed that all farmers in the area use inorganic pesticides except for crops used for fodder. Pesticides were used for an average of 15 days, depending on the weather conditions. During the monsoon season, 57% of farmers used pesticides three times, 4% used them four times, and 37% twice in one crop. These statistics highlight the extent of pesticide use in the area and the need for greater awareness and education on the harmful effects of these chemicals. Results from this survey are informing future BNHS activities centered around developing Florican friendly agricultural practices and will be reported in the subsequent report.

Krishi Vigyan Kendra (KVK) (Farming Science Centre) initiated a three-year programme promoting seed enrichment for producing good quality seeds for further research and organic farming. Around 50 farmers are part of the initiative, and each has spared one to two bighas (One bigha = 1,618.7 sq. m) under organic farming. KVK provides seeds, organic pesticides, and manure to selected farmers at subsidized costs. Due to COVID-19 restrictions on gatherings in 2020-2021, in-person programs were not organized. The scientists of KVK organized a farmers' meeting on the 26 August 2022 and made the people aware of the presence of LF in this area and how pesticides and fertilizers affect them. BNHS was invited to that Kishan Chaupal (farmer's meet) event. There is no data yet on the efficacy of organic pesticides against inorganic ones. This could be a useful topic of future study.

D. **Identification and development of Florican Community Conserved Areas (FCCAs)**

In 2005, the Indian Government made a significant policy shifting legislation in closed areas (where hunting was prohibited) by introducing Community Conserve Areas (CCA) instead. These areas are established by local communities, either independently or with the help of external individuals or organizations. The involvement of external entities may be due to requests from the locals or independent efforts to address local concerns. The community conservation program has been immensely beneficial to many communities in India, improving economic, political, and developmental factors.

Community Reserves and Conservation Reserves in India are protected areas that serve as buffer zones between established national parks, wildlife sanctuaries, and protected forests. These areas are essential for preserving India's unique biodiversity. By providing a pathway for migration between these areas, the reserves ensure the safe movement of wildlife and prevent the fragmentation of habitats. These reserves also offer opportunities for eco-tourism, generating revenue for nearby communities and creating jobs. Overall, the Community Conserve Areas and Reserves in India represent a prime example of how sustainable conservation can be achieved through community-led efforts. This approach empowers local communities to take ownership of their natural resources while preserving them for future generations.

FCCA

The Shokaliya Gram Panchayat, a local self-governance body, has taken a significant step towards LF conservation by identifying and approving the establishment of a 367-hectare area (Figure 6) as a Florican Community Conserved Area (FCCA) at the village level. However, the proposal awaits Rajasthan government approval and official endorsement. That said, acquiring village level approvals were also a complex process with BNHS involved from the beginning. The process is outlined below.

Firstly, to raise awareness about conservation and the importance of community reserves, meetings were held with the Sarpanch (village head) of the neighboring villages in the Shokaliya landscape since the inception of the project. These meetings aimed to encourage the participation of residents in the conservation efforts and to address any concerns they might have about the proposed community reserve. Some nearby villages showed interest in the initiative, and meetings were held with farmers from areas frequently used by floricans.

The local people have expressed their desire to retain land use rights while creating the community area. In exchange, they are willing to participate in the Florican conservation efforts at the FCCA.

In February 2020, a Kisan Chaupal (farmers' meeting) was held with the Forest Department to educate representatives from ten villages about LF conservation. This event aimed to increase awareness among local farmers and encourage their participation in conservation efforts. Additionally, various events were organized in 2020 to celebrate occasions such as World Environment Day and Wildlife Week with the locals of Madhopura villages. These events were designed to raise awareness among students, teachers, and parents about the importance of conservation efforts and the need to protect the local flora and fauna. As a result of these awareness raising efforts, more reports of floricans and

their nests have been received from the local communities. However, it has been observed that many of these nests were those of the Peafowl that are commonly found in the area.

Next, the draft framework for the proposed 367-hectare FCCA was prepared by BNHS after consulting with local leaders in October 2020. The framework was discussed in common village meetings in February 2021. The Gram Panchayat (village council) of Shokaliya accepted the proposal to develop the FCCA on their common grazing ground.

A management committee was subsequently established in 2021 (of which BNHS is a part) to guide and provide technical support in declaring the FCCA. Necessary paperwork which included appropriate proposals and letters were submitted to relevant government agencies which included the Deputy Conservator of Forest (DyCF) office, who oversees forest conservation in the area. Follow-ups have been conducted in 2022 and 2023.

Since the land is not under control of Forest Department, District Administration also needs to endorse the proposal. A couple of meetings were held between the Divisional Forest Officer, Ajmer, representatives from office of Chief Wildlife Warden (CWLW) Rajasthan and the District Collector of Ajmer.

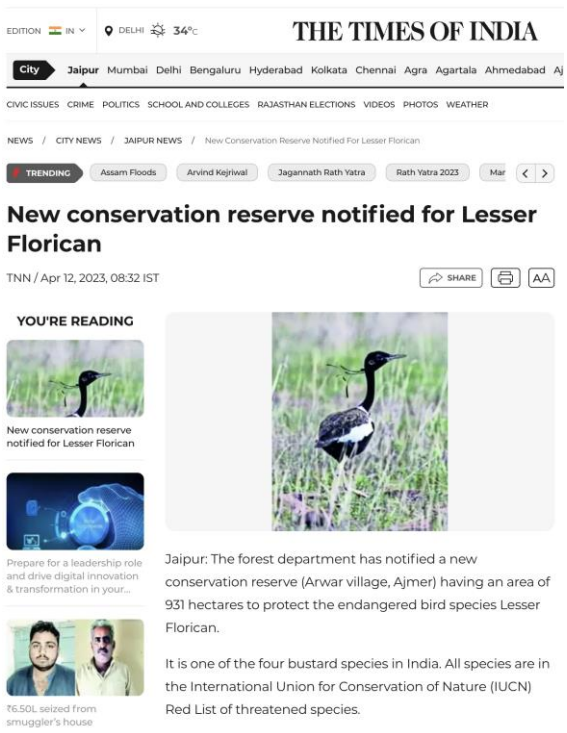
Unfortunately, the Declaration of Community Reserve has been put on hold for unknown reasons at the Government level. Our sensing is that the Forest Department wants to maintain greater control of FCCA as these areas are to be managed for wildlife i.e. LF (wildlife management sits under the Forest Dept) and that merely sitting on the management committee alongside other stakeholders is probably not sufficient from their perspective.

FCR

With support from BNHS, the Ajmer forest division had proposed an 893-hectare area to be declared as a Florican Conservation Reserve (FCR) in 2021 (as reported in BNHS interim report to BL PEP; Figure 7). The area comprised of three blocks, namely Arwad, Goyala, and Kheeriya. The decision to propose this area was made after extensive surveys were conducted by BNHS from 2017 to 2021 which revealed the presence of Lesser Florican (LF) males in the surrounding areas. To safeguard the 400-hectare Arwad block from cattle grazing, the Ajmer Forest Division constructed a robust concrete fence in March 2021. Furthermore, they also completely removed and auctioned off the dense plantation of invasive *P. juliflora* from the same area.

Declaring Conservation Reserve needs public consultations. Consultation meetings were conducted in Arwad village in 2022. Since March 2022, the Forest Department has been intensively developing a 231-hectare area near Arwad to establish the FCR. The development plan includes the construction of a grass nursery, Forest Chauki, and other facilities to promote ecotourism. The area has been divided into four compartments experimental purposes (with varying form of grassland cover regimes), as outlined in the detailed map and report submitted by BNHS to the Forest Department (see Figure 8). The development of ecotourism facilities helps generate revenue and raises conservation awareness as well.

In April 2023, the Rajasthan government declared a 931-hectare conservation reserve (40 ha addition to the main proposal submitted to declare the 893 ha as FCR) in three blocks as outlined above. The 231-hectare Arwad block mentioned above is part of the 931-ha FCR. The forest department has started intensively restoring/managing the Arwad block. Public consultations were also conducted in Goyala and Kheeriya blocks in 2022. These blocks will be prioritized for restoration and management (similar to Arwad) in the future.



THE TIMES OF INDIA

New conservation reserve notified for Lesser Florican

TNN / Apr 12, 2023, 08:32 IST

YOU'RE READING

New conservation reserve notified for Lesser Florican

Jaipur: The forest department has notified a new conservation reserve (Arwar village, Ajmer) having an area of 931 hectares to protect the endangered bird species Lesser Florican.

It is one of the four bustard species in India. All species are in the International Union for Conservation of Nature (IUCN) Red List of threatened species.

DH

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BNHS welcomes Rajasthan govt's decision to declare the Lesser Florican Conservation Reserve in Ajmer

The Mumbai-headquartered Bombay Natural History Society (BNHS), which is working for the conservation of Lesser Florican, has welcomed the move

Mrityunjay Bose | DHNS DHNS

Last Updated 12 April 2023, 01:22 IST

The smallest of the bustard family, Lesser Florican, which is renowned for its spectacular leaping breeding display, faces a severe threat. However, as part of conservation initiatives, the

Article links
https://timesofindia.indiatimes.com/city/jaipur/new-conservation-reserve-notified-for-lesser-florican/articleshow/99421878.cms

https://www.deccanherald.com/india/bnhs-welcomes-rajasthan-govt-s-decision-to-declare-the-lesser-florican-conservation-reserve-in-ajmer-1208698.html

The Rajasthan government's decision to establish the FCR is a significant step in the right direction and will undoubtedly aid in conserving this threatened species. Apart from working alongside government agencies and communities at every step of the declaration process, BNHS can claim credit to the idea of declaring FCCA and FCRs for LF in Ajmer district which came about as a result of BNHS report in 2017 which recommended halting mining activities in these areas for LF, which was endorsed by the National Green Tribunal and acted upon by the Rajasthan Forest Department.

E. **Attempt to avail better market price** for their crop yield on a pilot basis for the farmers who get associated with florican-friendly agricultural practices

As we navigated through 2021, the COVID-19 pandemic brought numerous challenges, including restrictions on public gatherings and activities. Despite these challenges, the farmers in the Shokaliya region participated in a survey (as described in section C) to assess the types of pesticides used in the area. The survey's primary objective is to develop effective strategies for addressing any issues related to pesticide use in the region. The results of this survey are expected to have a significant impact on future policies and initiatives.

However, the BNHS team has encountered some challenges during the survey process. Specifically, they have faced socioeconomic challenges and a need for more community support regarding the market linkages, which have hindered progress in a particular aspect. Despite these challenges, the team remains committed to addressing the issue of pesticide use in the Shokaliya region. It is working tirelessly to develop effective strategies to tackle this issue head-on.

REPORT AGAINST EXPECTED OUTCOMES

Please report against each of the expected Outcomes in the original project plan. To what extent have they been achieved? To what extent has the species directly benefited them? Please keep the account concise, but use as much space as needed.	
1. Increased awareness amongst local communities at key Lesser Florican sites and local community perspectives integrated into micro (site) level conservation planning	Preserving the Florican population on privately owned land poses a significant challenge. Although farmers are cognizant of the presence of these birds, engaging them in the planning process takes much work.
2. At least two young people from villages get involved in monitoring and protection of the floricans as field assistants	1. Mr Chandraprakash Prajapat – Shokaliya 2. Mr Kalyan Singh Rathor – Shokaliya 3. Mr Shoaib Silawat – Kekri
3. Baseline information on known Lesser Florican sites in the Shokaliya landscape, Ajmer district will be collected and five Florican Community Conservation Areas (CCAs) will be identified.	Paperwork has been processed and submitted to the relevant government offices for only one proposed FCCA at Shokaliya Gram Panchayat. If there are no positive outcomes, BNHS will not proceed further.
4. Based on the presence of breeding birds and the interest of the concerned farmers, ten meetings/workshops will be organised under awareness programmes for the promotion of sustainable/ traditional agriculture practices such as the use of bio-pesticides, bio-fertilizers, and the use of manual tools where female floricans are nesting	Three meetings followed by field communications were organised at two designated sites covering eight villages. BNHS has surveyed 150+ farmers (refer to section C). However, it is fair to say that we have been able to influence about 10 of them to change to LF-friendly agricultural practices. We acknowledge that behaviour change takes time. Furthermore, recent experience has revealed that interacting with farmers individually while working in the field is significantly more effective than organising community meetings. This discovery highlights the importance of personalised communication and engagement in effectively reaching and connecting with farmers in these areas.
5. On a pilot basis, at least 25 farmers will get involved in florican-friendly agricultural practices which can undergo the necessary training and avail better market prices for their crop yield	The team from BNHS is currently facing challenges in devising efficient strategies to propagate the significance of Florican Friendly Agriculture Practices and their corresponding market linkages among the local community.
Other results achieved for this species (or other threatened species)	1) A scientific study on the mating behaviour of LF will be published in the September or December 2023 issue of JBNHS (Annexure 1). 2) The manuscript on Lesser Florican ecology and conservation threats in human-dominated agro-pastoral landscapes of Ajmer, Rajasthan, India is ready for submission (Annexure 2).
FUTURE PLAN OF WORK Please summarise what work you are planning to undertake in the future. **Objective 1: Build networks and provide training to strengthen capacity**	

1. Create a list of farmers in areas where Lesser Florican has been sighted, focusing on five lek sites spread across Ajmer-Kekri areas.
2. Select additional farmers from other Florican sites.
3. Provide capacity-building to staff, volunteers, and field assistants.
4. Sensitize roughly 50 farmers about FFAP to develop interest and explain the program

Objective 2: Enroll farmers into the Florican-Friendly Agricultural Practices (FFAP) - criteria

1) Presence of Lesser Floricans in their crop field,
2) Willingness to become a part of the program,
3) Readiness to reduce chemical use in crops and
4) Willingness to spare at least two bighas (1l2 acre) of land under FFAP.
5) Select a couple of Kharmor Mitra (volunteers) from the enrolled participants of the FFAP and provide the necessary training for monitoring the birds.

Objective 3: Develop a land-sparing model which can be replicated elsewhere

1) Conduct a landscape survey and finalise 50 farmers based on bird sightings and area usage.
2) Explain FFAP to selected farmers and pay incentives as a first instalment before sowing (in June) and the second after harvesting (in November - Diwali season).
3) Monitor weekly to assess the (a) status of land and vegetation, (b) presence of birds and their activities, and (c) ongoing activities of farmers like chemical use or machine use. Maintain a farmer's diary for details.
4) Intervene for protection where Lesser Florican nests are found.
5) Based on the evaluation, pay a minimum incentive of Rs. 10000/- to Rs. 15,000/- per bigha per farmer (~50 farmers), while the number and exact amount depend on the response.

A pilot project on the land sparing model was initiated in 2020 – 2021 with 3ha no grazing lands set aside for LF in Sanodiya village. However, the local person (Dharam Veer Singh Jodha) championing this initiative has left the Ajmer district which has led the earlier initiative to be discontinued. A revised land sparing model and its compensation will have to be re-contextualized and tested by the BNHS team in the future.

Objective 4: Purchase land in lekking sites

LF males and nesting females have a small habitat range in peak breeding season. Therefore, BNHS will acquire land based on their site fidelity (Figure 5).

Expected Outcomes

1) Engage 50 farmers and protect 2-3 nests.
2) Save 4-5 chicks every year.
3) Establish a network of farmers willing to participate in Florican-friendly agriculture practices.
4) Breeding bird survey
5) Designing a model of florican friendly agricultural practices (FFAP)

CHANGES IN STATUS/DISTRIBUTION/THREATS

Please provide your views on whether the status of the species and its habitat has changed since the last report and the reasons for this. If this is backed up by monitoring activities, please provide details.

Since 2017, BNHS has conducted surveys to understand the Lesser Florican in the Ajmer Area of Rajasthan and recommended measures to preserve the species. One crucial recommendation was to halt mining activities in specific areas where the bird inhabits. This decision aimed to protect the bird's natural habitat and ensure its survival. The Rajasthan Forest Department acted upon this recommendation endorsed by the National Green Tribunal and enforced a ban on mining in these areas, safeguarding the Lesser Florican from further harm. Additionally, BNHS proposed establishing Community or Conservation Reserves in the Ajmer region, serving as protected areas for the Lesser Florican and other wildlife. This intervention ensures that their natural habitats are not disturbed by human activities. Moreover, BNHS suggested adopting "Florican-friendly" agricultural practices, enabling farmers to practice farming compatible with the bird's habitat and food requirements. Overall,

BNHS, local farmers and the Rajasthan Forest Department's efforts have been instrumental in protecting the rapidly declining Lesser Florican and its habitat.

Despite the above measures, recent reports suggest that Lesser Florican birds have not been sighted in the adjoining districts of Paratagarh and Bhilwara during 2021-23. This is concerning as the Lesser Florican is a critically endangered bird species, with only a few hundred breeding individuals remaining in the wild. The BNHS conducted a comprehensive search of all known non-breeding sites from North-West India to South Deccan to investigate the cause of this decline. Our findings suggest that undisturbed grasslands, which are the preferred habitat of the Lesser Florican, have been disappearing at an alarming rate due to land use changes across the landscapes, including non-breeding habitats. This loss of habitat is a significant threat to the survival of the Lesser Florican and other species that depend on grasslands an certain extent on agro-pastoral landscape for their survival. The BNHS has called for urgent action to protect and conserve these grasslands, which are critical for biodiversity conservation and ecosystem services.

SPECIES FACTSHEET

Please download the species factsheet for this species from http://datazone.birdlife.org/species/factsheet/Lesser-Florican-Sypheotides-indicus, paste it into Word, and add any updates, additions and corrections using track changes. These will then be incorporated into the next update of the factsheet for the BirdLife website.

In addition to the above, as appropriate, please provide digital photos of project activities, copies of any awareness materials, and copies of other reports or papers which have been produced. These will help us promote the project.

ANNEX 1

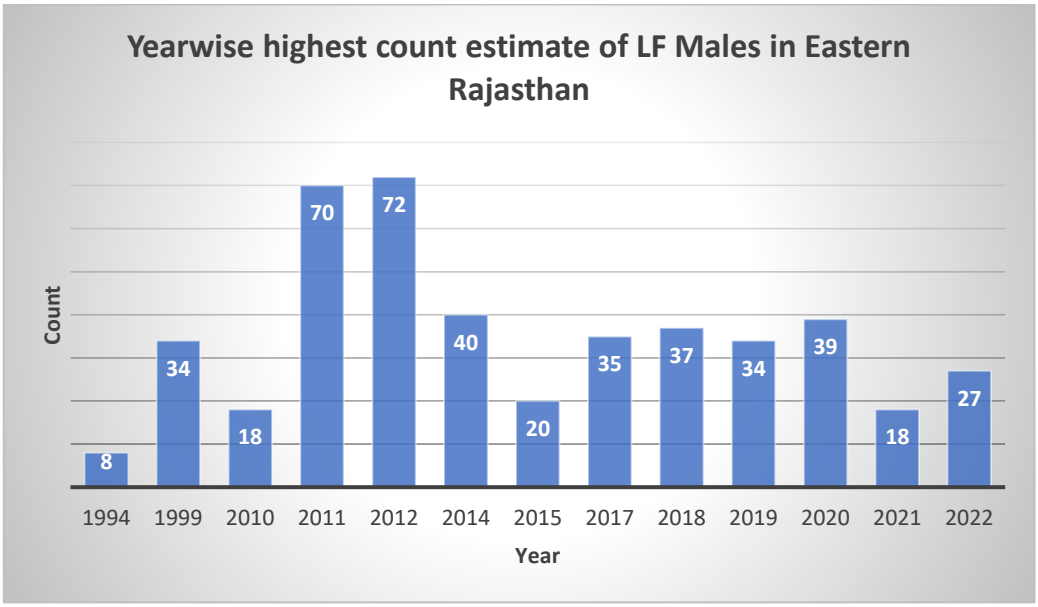

Figure 1 Sighting records of Lesser Florican in Rajasthan since 1994. LF sightings from 1994 – 2017 were from the eastern parts of Rajasthan. In recent years, LF sightings are now rare outside Ajmer district.

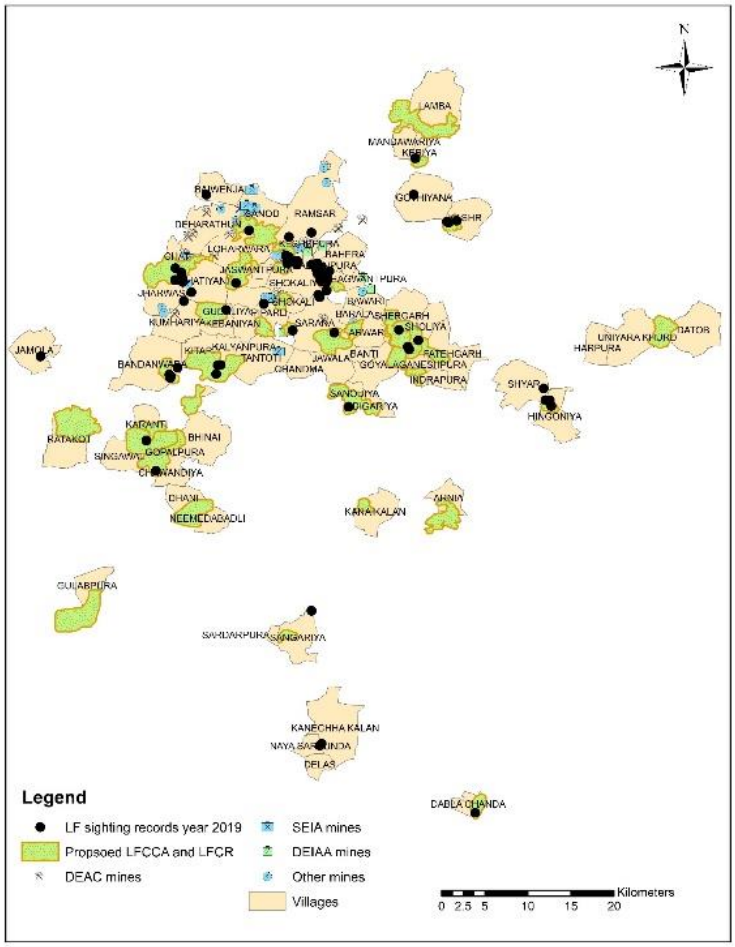

Figure 2 Survey area (Ajmer, kekri and Bhilwara districts of Rajasthan)

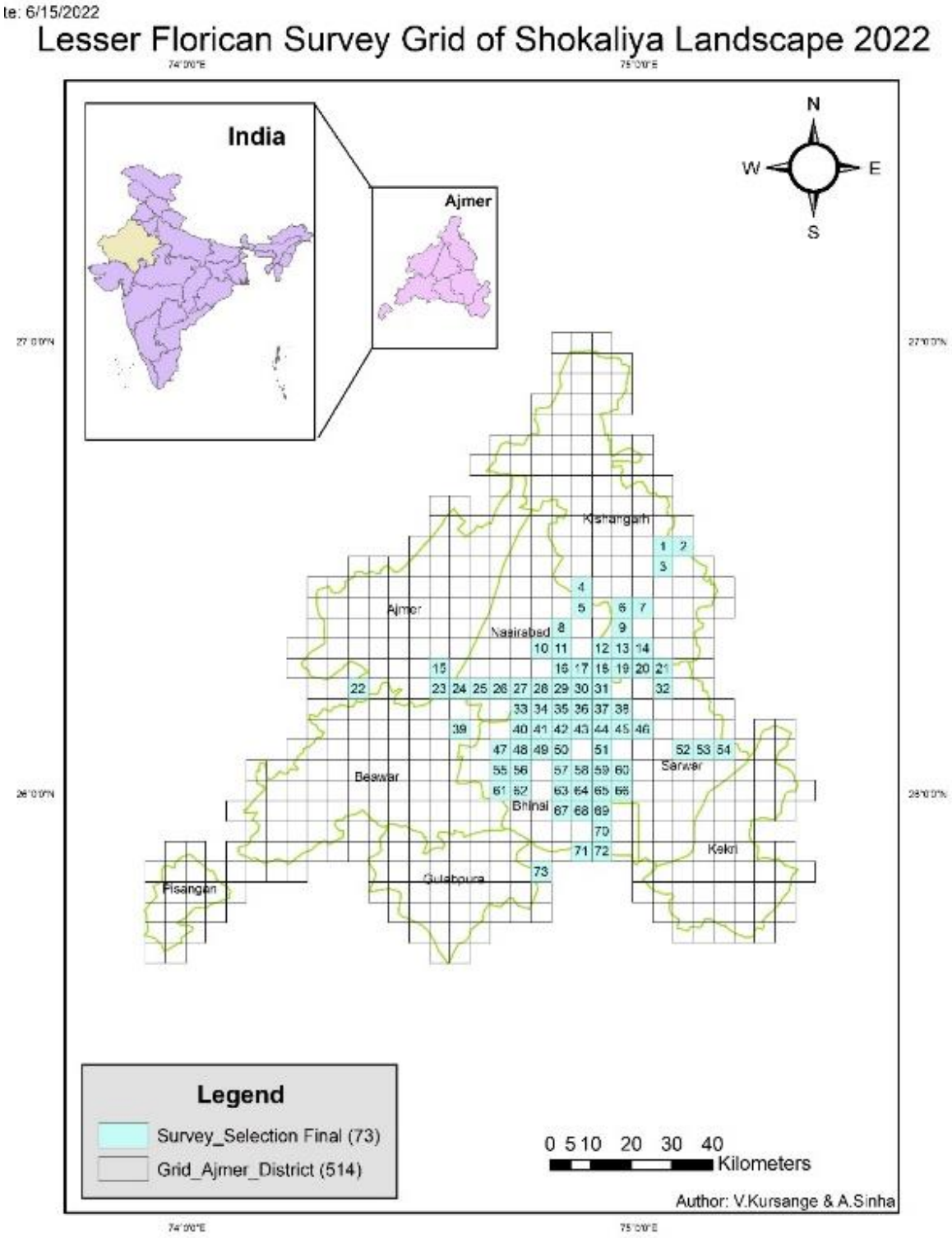

Figure 3 Systematic survey approach using grids for Lesser Floricans in Ajmer district. The birds were recorded in 73 grids marked in light blue color.

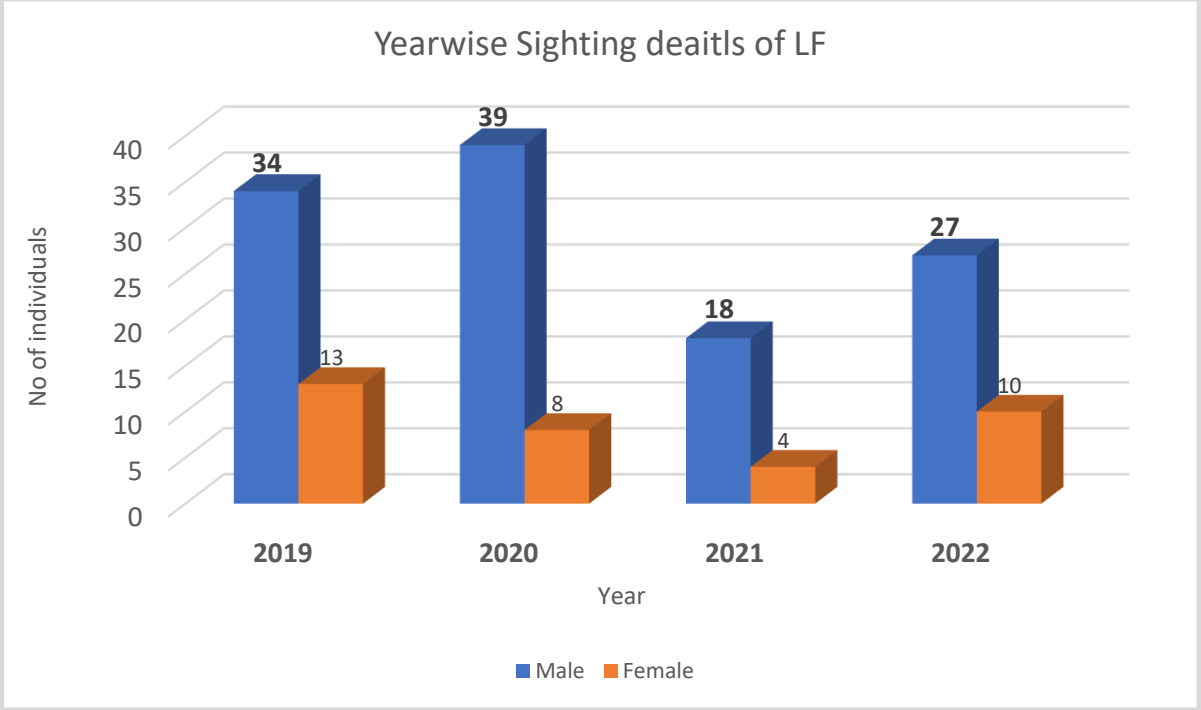

Figure 4 A year-wise representation of LF males and females sighted in Ajmer-kekri Landscape since 2019

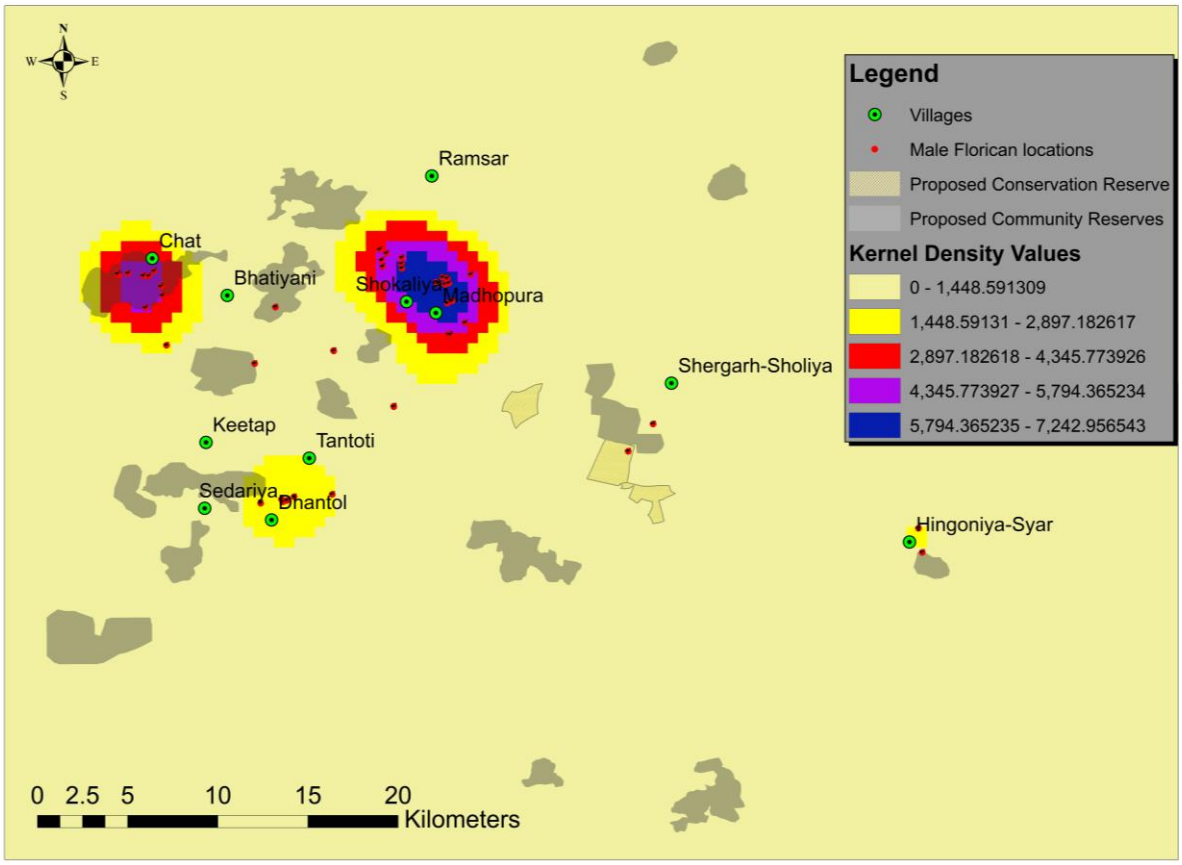

Figure 5 Identification of five important lekking sites in Ajmer-Kekri area of Rajasthan

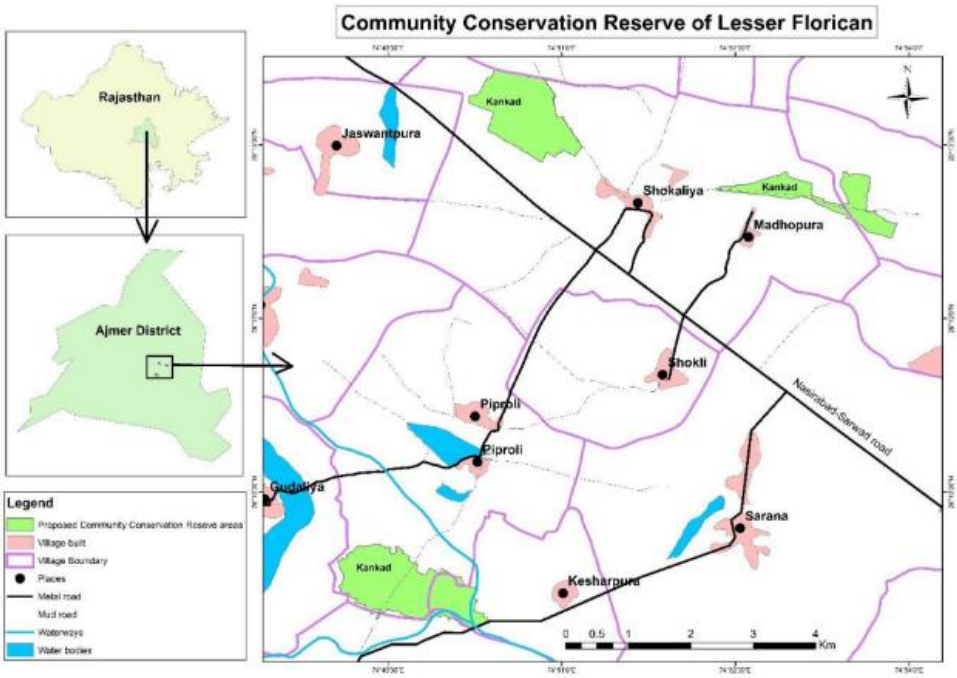

Figure 6 Proposed 367-ha Florican Community Conservation Area (FCCA) in the Shokaliya landscape of Ajmer District.

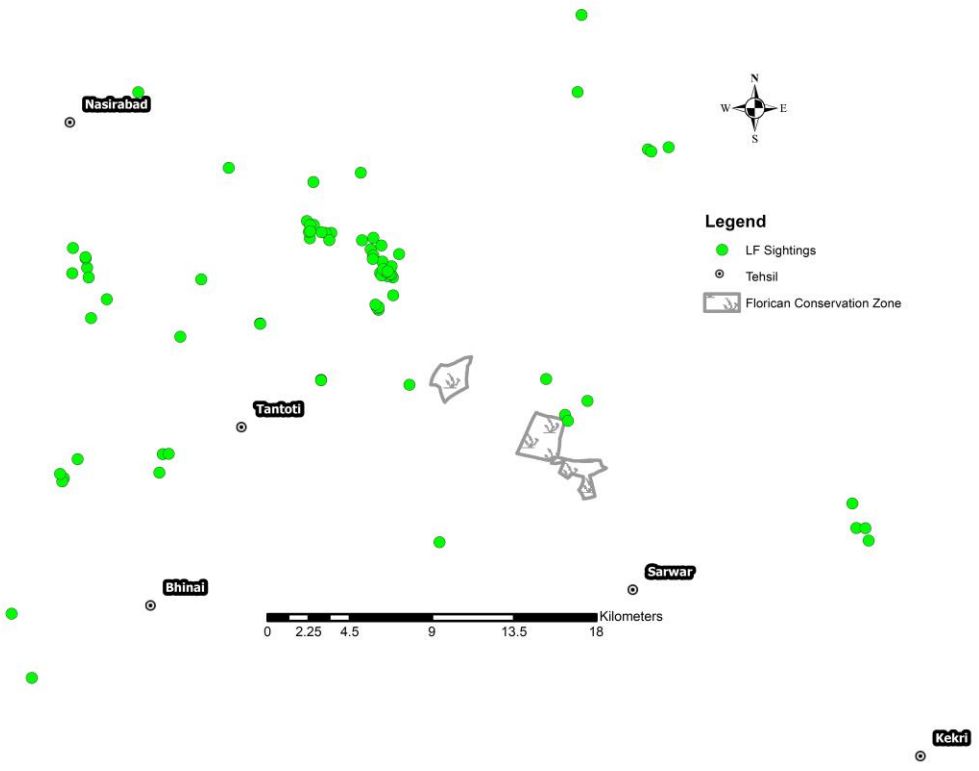

Figure 7 – Proposed Conservation Reserve in Arwar-Goyala-Kheeriya villages, Kekri District.

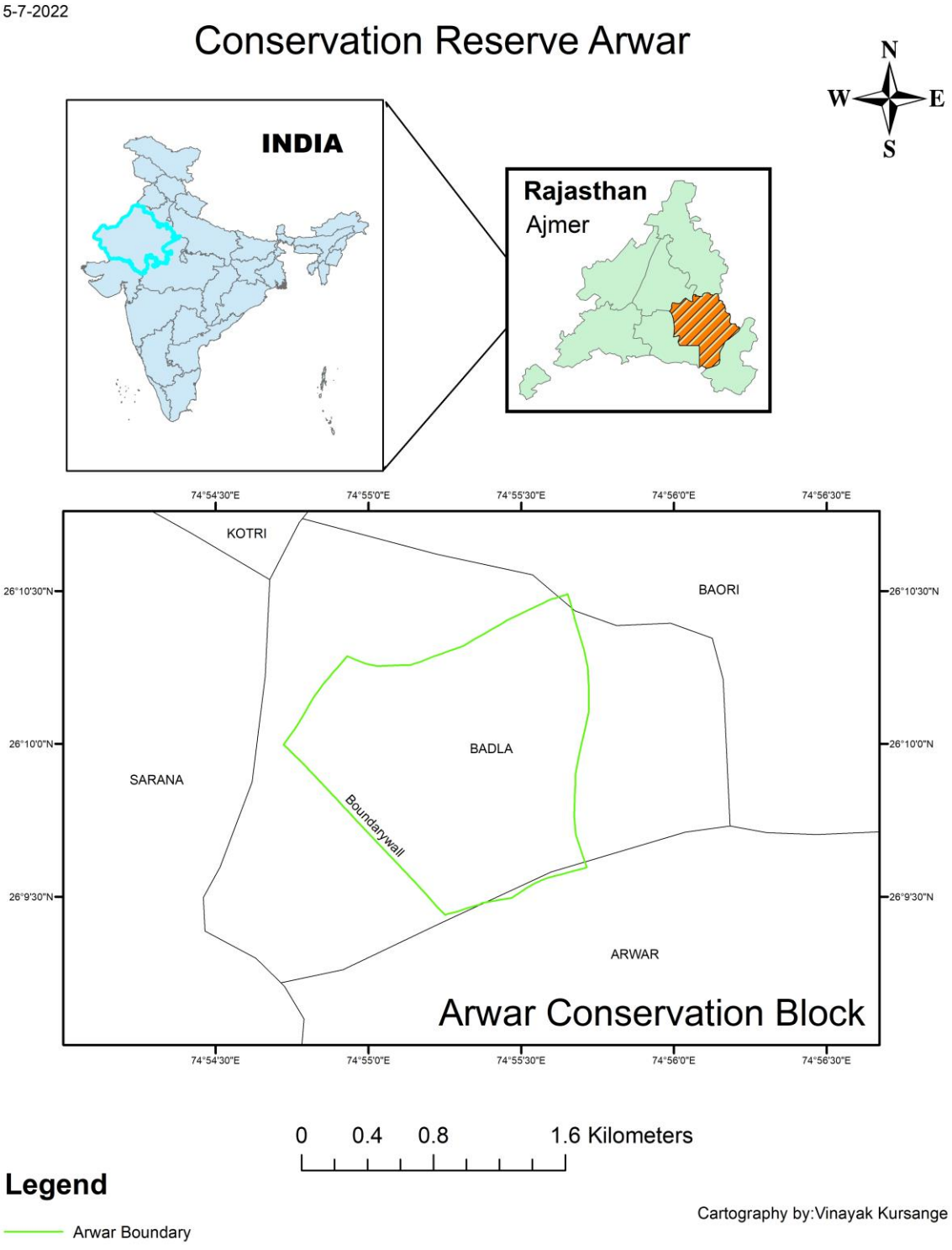

Figure 7 – 231 ha of conservation Reserve under management plan in Arwar, Kekri District.

A NOTE ON COURTSHIP AND MATING BEHAVIOR OF LESSER FLORICAN *Sypheotides indicus* FROM SHOKALIYA, AJMER, RAJASTHAN

Keywords: Lesser Florican, *Sypheotides indicus*, Behavior, Courtship, Shokaliya

Introduction: The Lesser Florican (*Sypheotides indicus*) is a smallest endemic bustard species found in Indian subcontinent. Historically it was widely distributed and used to breed throughout the Indian subcontinent (Baker 1921, Hume 1879, Lachungpa and Rahmani 1990, Sankaran *et al*. 1992). Now the major breeding grounds for the species are Velavdar National Park, Bhavnagar in Gujarat and Shokaliya landscape of Ajmer, Rajasthan. Other breeding areas where species breed in low numbers are from western Madhya Pradesh; north-west Maharashtra; Rollapadu Wildlife Sanctuary, Andhra Pradesh (Sankaran and Rahmani 1990, Sankaran *et al*. 1992, Dutta *et al*. 2018) and Bidar district, north Karnataka (Sivasankar and Vivekanand, 2020).

The current observations are part of a study conducted from January 2019 to March 2021 in Shokaliya landscape, Ajmer district, Rajasthan (Fig.1). We covered two breeding seasons during the study period to record breeding behavior i.e., June-October 2019 and June-September 2020. The landscape is mosaic of revenue lands dominated with sparse scrub and traditional agriculture. Green gram *Vigna radiata*, Black gram *Vigna mungo*, Sorghum *Sorghum bicolor*, and Sesame *Sesamum indicum* are the major monsoon crops, known as *kharip* crop in India. The *kharip* season that starts with the pre-monsoon (end May or early June) and lasts up to October; overlaps with breeding season of floricans. The height of the *Sorghum* and *Sesame* remains below 100 cm till August, while other crops such as pulses seldom grow more than 80 cm.

Figure 9 – A screenshot of the manuscript submitted to JBNHS. Currently under review

Annex 1 – Questionnaire for socio-ecological data

चयनात्मक/केंद्रित नमूनाकरण

सामाजिक-आर्थिक और पारिस्थितिक सर्वेक्षण

पृष्ठभूमि - दीर्घकालिक संरक्षण रणनीति के लिए उन साइटों/स्थानों की एक सूची विकसित करना जहां 2017-18 में लेसर फ्लोरिकन देखा गया था।

नोट - स्थान पर बिताया जाने वाला समय - दो घंटे (या तो सुबह 6.00 बजे से 10.00 बजे तक या शाम 4.00-630 बजे तक)

1. लोकेशन नाम –
2. व्हिजिट नंबर -
3. जीपीएस कोऑर्डिनेट्स -
4. निरीक्षण कर्ता का/के नाम -

1) अगर जमीन खेती है तब (in 200 m) - (पर्यवेक्षक द्वारा भरा जाना है)

	फसल 1	**फसल 2**	**फसल 3**	**वीड / घासफूस**
नाम				
उंचाई (सेंमी)				
कव्हर (प्रतिशत)				
दृश्यता (प्रतिशत)				

2) **पाक्षि और उसके अधिवासको खतरे (in 200 m)** (पर्यवेक्षक द्वारा भरा जाना है)

	कितने केवी कितनी लाईन्स (मीटर्स में)	**कुत्ते**	**चराऊ जानवर (गाय/बकरी)**	**खान (mine)**
Florican लोकेशन से अंतर				
संख्या				

3) किसान का ब्योरा (information to be collected from farmer)

	नाम	**संपूर्ण क्षेत्र**	**खेती के उपकरण/ मशीन**	**फोन नंबर**
1				
2				
3				
4				
5				
6				
7				
8				
9				

4) खेती करनेके तरिके (किसानों से एकत्रित की जाने वाली जानकारी)

अनु		रासायनिक खेती	सेंद्रिय खेती
1.	प्रतिशत		
2.	कौनसे खाद		
3.	खाद काहांसे लाते है?		
4.	खाद कितनी मात्रा (पर हेक्टर)		
5.	खाद कितनी बार दिया		
6.	कौनसे कीटनाशक		
7.	कीटनाशक कितनी मात्रा		
8.	कीटनाशक कितनी बार दिया		
9.	उपज (in quintals)		
10.	अनाज/उपज कहाँ बेचते हैं?		
11.	पिछले साल /अब फसलं ज्यादा अच्छि		
12.	खेती कि उपज से आप संतुष्ट हैं?		
13.	शासन या कृषी विभागकी कोई योजनाका लाभ हो रहा हैं?		
14.	अधिक उपज निकालाने के लिए आपका सुझाव		

5) आपकी राय (किसानों से एकत्रित की जाने वाली जानकारी)

1. पारंपरिक/आधुनिक फसलं –
2. वन विभाग से कृषी संबंधी कोई योजना कि अगुवाई कि जाये तो उसका हिस्सा बनना चाहेंगे?-
3. जंगली सुअर और नीलगाय से फसलो को कैसे बचाते है?

6) वन्यजीव (जानकारी चरवाहे/किसान/ग्रामीण से एकत्रित की जानी है)

	गोडावण	खरमोर	लोमडी (Fox) / सियार (Jackal)	नीलगाय	जंगली सुअर	भेडिया (Wolf)	गोह मॉनिटर लिझार्ड
देखे हैं?							
कितने?							
कब?							
इनसे फायदा या नुकसान							
फायदा/नुकसान कितना?							

7) दो घंटेमे देखे वन्यजीव (अलग सूची)