This report will be made public. If it contains confidential or sensitive information, please also provide a revised report for sharing with the public.

Section I. Project Information	
Project Title: PACCT for Tiger Conservation: Reducing Resource-Competition Between People and Tigers	
Grantee Organisation: Zoological Society of London Nepal Office	
Location of project: Parsa National Park (PNP) and its Buffer Area, Central Nepal	
Size of project area (if appropriate): 628 sq.km. (PNP) and approx. 50 sq. km. of buffer area	**No of tigers in the project area, giving evidence & source:** 18 in PNP and 93 in CNP (connected national park) Source: Status of Tigers and Prey in Nepal, DNPWC and DoF, 2018

Partners: *(Please give details of partners, including communities, academic institutions, etc. for this project.*

Department of National Parks and Wildlife Conservation (DNPWC) is the government authority responsible for the overall management of Nepal's Protected Areas (PAs) including buffer zones. ZSL has a working MoU with the DNPWC, based on which we are already implementing several projects across the Terai Arc Landscape. DNPWC facilitated the implementation of project activities on the ground and took responsibility for the overall monitoring and evaluation of the project through the project established monitoring mechanism. DNPWC will take forward lessons learnt from the project to improve important tiger habitat as well as implement HTC prevention measures in other tiger-bearing PAs. ZSL also has a close working relationship with the PA manager and DNPWC staff in PNP.

Buffer Zone Management Committees (BZMC) are elected bodies of user groups living in the buffer zones around the PAs. These community representative institutions support community development works in the buffer zones and liaise with the park. In line with Nepali laws, 50% of the total revenue generated by PNP is managed by its BZMC for community development work. ZSL has strong existing relationships with the BZMC in PNP and the extension area (PNPea). In addition to this, we have also collaborated with **Community Forest User Groups (CFUGs)** and **Divisional Forest Office (DFO)** during project implementation.

The proposed project has been developed in consultation with the DNPWC and the required permission has been obtained.

Project Contact Name: (*main contact via email)*

Hem Sagar Baral

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Reporting period: 1 February 2019 – 31 January 2020

Please ensure that your report relates to the objectives and activities detailed in your proposal and log frame. Please include results data in Section II and Section III.

Section II. Project Results

Long Term Impact: (*How has this work contributed to the vision and long-term impact that your project aims to achieve?)*

ZSL Nepal has implemented several tiger-conservation projects in Parsa National Park (PNP) and its buffer area since 2014. Through these, ZSL supported the PNP in achieving a nearly three-fold increment in its tiger population. It is important to secure this populations' future in the PNP and beyond its boundaries. PNP's recently annexed 129 sq. km area (called PNP extension area; PNPea) provides an opportunity for the tigers to recolonize the eastern landscape, where they were extirpated from during the 1990s. WildCats Conservation Alliance has been instrumental in tiger conservation in PNP, particularly PNPea, supporting three different tiger conservation projects so far. Despite the smaller scale intervention of this project in terms of location and activities, it nonetheless serves to continue on the legacy of the previous projects, aiming to achieve ZSL's two long-term tiger conservation goals. The two goals are

i) securing Chitwan-Parsa Complex's (PCC) role as a globally vital tiger stronghold which can continue to support an increased tiger population in a rapidly changing world; with high-quality habitat, local communities committed to its conservation, and connectivity to the wider landscape and
ii) securing vital connectivity between all tiger-bearing PAs in the TAL through the effective implementation of PACCT.

For the achievement of the above-mentioned goals, this project dealt with two major objectives: i) to support the deployment of predator-proof corrals along with awareness-raising on available human-tiger conflict relief for the most vulnerable and forest-dependent households living on the edge of PNP extension area (PNPea) and ii) to support participatory habitat management within PNPea.

This project piloted Participatory Approaches to Corridor Co-existence with Tigers (PACCT) in which underlying resource-competition drivers are addressed by increasing prey availability for tigers within PNP, while protecting livestock from predation and facilitating community access to existing HTC relief funds. Additionally, participatory approaches in habitat management and HTC workshops/interactions have contributed to spread awareness and enhance people's knowledge of tiger conservation, its necessity to the community and the long-term benefit associated with it. Furthermore, community engagement in conservation tempered concerns about increasing tiger numbers and the risks it poses to life and livelihood. Likewise, habitat management such as grassland and wetland in PNPea aimed to build a foundation for tigers to connect to a broader landscape.

Conservation Outcome: (*What are the actual changes that this project has achieved?)*

National parks and its surrounding areas are important areas to conserve wildlife. However, conservation measures sometimes tend to negatively impact neighbouring human settlements which

is often challenging to address. This project aimed to secure core area within PCC, enabling tiger population increases to be sustained through various measures like reducing resource competition and minimizing human-tiger conflict, raising awareness and improving habitat quality by trialling PACCT. ZSL foresees extending PACCT implementation across the TAL to enable long-term human-tiger coexistence.

During the project implementation, 30 vulnerable households received Predator-Proof Corrals, which has reduced livestock depredation. Similarly, awareness programmes enabled more than 2000 community members to become aware of the importance of tiger conservation and its ecosystem. There haven't been any reported conflicts between tigers and people so far during the project period from these communities. We have also found increase in positive attitude and behaviour in people's perceptions towards tiger conservation (see table 3; page 8), while people have also cultivated respect for park rules and regulations. This has resulted in the reduction of illegal entries in the park, as reported by the national park officials and Nepal Army units who are safeguarding the park. During community workshops, community members expressed their concern on the negative impacts from conservation if resource competition occurs between their livestock and increasing wild animals. As a mitigative approach, our focal persons (Rangers, conservation officers, ZSL staff, representatives from Divisional Forest Office) advised the community members to stop grazing their livestock inside the park and embrace stall feeding. The community members are gradually adopting this particular measure, but it still has a long way to go.

Habitat management, especially grassland and wetland management, is another key conservation step to increase secure core area for wildlife within the park. Improved core habitat has a positive impact on the proliferation of prey species while reducing the attraction for wildlife to venture into neighbouring human settlements to procure resources. This project supported in managing 22 ha of grassland and crucial wetland in PNPea. Owing to the improved habitat quality, tigers and other wildlife are frequenting PNPea, which has been evidenced by ZSL's regular hotspot monitoring support through camera traps. In the beginning of 2019, we recorded a tigress with three cubs, which happened to be the first instance of tiger breeding from this area. We have been monitoring their progress ever since. Tigers are conservation dependent species, therefore recording breeding success indicate that they are responding to our interventions well. This has been one of the major outcomes of the WCCA supported projects.

PNP was once considered the sink site of Chitwan National Park's tiger but intensive habitat management activities undertaken by the park and ZSL through various projects has improved PNP habitat. It is now gaining momentum in accommodating increased wildlife population and harbouring hopes of becoming a tiger source site. If law enforcement, habitat management, community support, awareness and people's participation in tiger conservation keeps on continuing, PNP can transform into a sustainable breeding site for tigers, while securing vital connectivity across TAL.

Summary of activities and achievements: *(Please provide a summary for use in our communication materials Max 300 words)*

ZSL has supported the Government of Nepal's ongoing investment in PNP, facilitating its extension of an additional 129 km^2 area in 2015, and subsequently its upgradation to a national park in 2017. Through WildCats Conservation Alliance, ZSL has supported three tiger conservation projects in PNP,

particularly focusing on PNPea. Past projects have focused on improving tiger security and habitat through stringent law enforcement, biomonitoring and securing connectivity, which have contributed to a near three-fold increase in tiger population since 2013 and recovery of other wildlife.

This project aimed to address the potential for future escalation of Human Tiger Conflict (HTC) and improve tiger's access to high-quality habitat and resources within the core area of the park while reducing access to livestock and decreasing relative attraction for wildlife to enter human settlements, and fostering community support for tiger conservation. ZSL trialled Participatory Approaches to Corridor Coexistence with Tigers (PACCT), a key component of which was addressing HTC to reduce buffer zone community's costs from living alongside tigers in terms of livestock predation and the risk of attacks on people.

ZSL conducted stakeholder and community meetings in four forest-dependent communities for 108 participants to introduce PAACT and HTC relief mechanisms. During these meetings, the community themselves chose 30 most HTC vulnerable households who could be supported to build predator-proof corrals to deter large carnivores. Similarly, four participatory habitat management workshops conducted in the project site sensitized nearly 200 community members on the importance of tiger and its ecosystem, tiger conservation and its long-term benefits and HTC including relief mechanism. Furthermore, through the distribution of leaflets, more than 2200 people have been reached. Similarly, key habitat (grassland and wetland) management inside the core area of the park has aided in the recovery of prey species, thereby sustaining the increasing tiger number.

Details of activities and results: (*Please give detailed narrative of the results of each objective & output. Please include measures for example patrol numbers and distances covered)*

Objective 1: To support the deployment of predator-proof corrals and awareness raising on available human-tiger conflict relief for the most vulnerable and forest-dependent households living on the edge of PNPea.

Output 1. By the end of 2019, 30 predator-proof corrals have been deployed for vulnerable forest dependent households and 2,200 community members have increased ability to access existing human-tiger conflict relief funds.

To achieve the above-mentioned objective and output, following activities were undertaken:

Activity 1.1 Conduct three meetings with stakeholders and community to identify 30 HTC vulnerable households and introduce PACCT and HTC relief

To identify HTC vulnerable households and introduce PAACT, three meetings were conducted with stakeholders and communities living on the edge of the extension area of PNP. For this, four forest-dependent communities that were comparatively vulnerable to HTC were selected. All the selected communities lie within the jurisdiction of two Community Forest User Groups (CFUGs) namely Shree Shivashaktishwari CFUG and Tapobhumi CFUG. Interactions and community consultations were conducted to introduce PAACT and HTC, inform them about the increasing tiger numbers in PNP and its associated risk in terms of HTC. During the meeting, project objectives and activities were also shared. Altogether, 108 community members took part in three interaction programs out of which 50 were female (see Table 1).

Table 1: Number of participants

SN.	Interaction Program	Participants	Male	Female
1	Shree Shiva Shaktishwari CFUG (Interaction Programme 1)	44	28	16
2	Tapobhumi CFUG (Interaction Programme 2)	30	20	10
3	Tapobhumi CFUG (Interaction Programme 3)	34	10	24
Total		108	58	50

Conservation officers from division forest office, rangers from PNP, ZSL staff and chairmen of CFUGs were the focal persons to introduce PAACT, HTC relief mechanism, the importance of community support in tiger conservation and its benefits, wildlife conflict mitigation approaches and habitat management. All participants and focal persons interacted with each other on these issues. The chairman of the both CFUG expressed their satisfaction in the support provided and assured to participate in tiger conservation activities. Later, both CFUGs identified the most vulnerable households to build 30 predator-proof corrals.

Activity 1.2 Support 30 vulnerable households to build predator-proof corrals

After the identification of the most vulnerable households, an agreement was made with the respective CFUGs to construct 30 predator-proof corrals. It was built via partnership between ZSL, community and CFUGs, where ZSL provided majority support. The communities and the CFUGs incurred small additional cost to construct the predator-proof corral, to instil a sense of ownership and cultivate responsibility to keep the corral intact for a longer period. Also, the CFUGs supported building materials like woods/logs. This has demonstrated that corrals can be built using local materials. It has also proved itself to be an effective measure to minimize livestock predation from small and large carnivores. All the corrals built are intact to this date.

Nearly 800 leaflets elucidating information on tiger and its habitat conservation, conservation laws regarding tiger, HTC mitigation measure, etc. were distributed during different workshops/interactions with community people. More than 2200 community members now have knowledge regarding the HTC mitigation and relief mechanism and have increased the ability to access existing human-tiger conflict relief funds and increased awareness regarding tiger conservation.

Objective 2: To support participatory habitat management within PNPea

Output 2: By the end of 2019, 20 ha of grasslands, and Halkhoriya lake a key waterhole in PNPea, have improved habitat quality resulting from management through community engagement and ownership.

To achieve the above-mentioned objective and output, following activities were undertaken through this project:

Activity 2.1 Hold four participatory habitat management workshops

Four targeted participatory habitat management workshops were conducted. These were focused on vulnerable communities that were identified through previous community consultation meetings. Altogether 185 community members participated in these workshops out of which 83 were female participants (See Table 2). On 17 September 2019, ZSL conducted two workshops for 79 participants from two different communities of Tapobhumi CFUG, Nijghad-11, Ratapuri, Bara. The program was chaired by Mr. Dil Bahadur Thapa, (chairman of Tapobhumi CFUG) while Mr. Manjur Ahmed (Division Forest Officer of Divisional Forest Office, Bara) was the chief guest. Similarly, on 18th September, another participatory habitat management workshop was organized for 50 participants at Shree Shiva Shaktishwari CFUG, Nijghad-13, Dambarpur, Bara. This workshop was chaired by Mr. Sun Bahadur Lama, chairperson of Shree Shiva Shaktishwari CFUG. Likewise, on 23 October, a fourth participatory habitat management workshop was organized for 56 participants at PNP headquarter. Participants included representatives from PNP, Nepal Army deployed in the PNP, NTNC, and five buffer zone community forest groups (BZCFUGs) (Churiya Mai BZCFUG under Amleshowor Buffer Zone User's Committee, Bhimeshowor BZCFUG, Janajagaran BZCFUG, Musaharni BZCFUG, and Radhekrishana BZCFUG which are under Janahit Buffer Zone User's Committee). The program was chaired by Mr. Amir Maharjan, Chief Conservation Officer, PNP.

During all four workshops, the participants were provided with general awareness on tiger conservation and its long-term benefits, HTC including existing HTC relief mechanisms, how habitat management can help reduce HTC and other different associated aspects of tiger conservation. During the workshop, participants' expectations on the best approach to habitat management in PNP were collected. Participants seemed excited to take part in the workshop. Representatives from BZUC also put forward their concerns that stemmed from living alongside protected areas. Most of the participants had a poor understanding of the HTC relief mechanism, necessity of habitat management and increment of tiger population and its required habitat at the start of the workshop.

The table below shows the number of participants in three workshops:

Table 2: Number of participants.

SN.	Workshop	Participants	Male	Female
1	Tapobhumi CFUG (Workshop 1)	39	17	22
2	Tapobhumi CFUG (Workshop 2)	40	19	21
3	Shree Shiva Shaktishwari CFUG (Workshop 3)	50	18	32
4	Park headquarters, Aadhavar (Workshop 4)	56	48	8
Total		185	102	83

Activity 2.2 & 2.3 Management of grassland and Halkhoriya lake in PNP

While the grassland ecosystem plays an important role in maintaining biodiversity and sustaining prey species, it is also one of the most threatened ecosystems in South Asia. PNP has limited grasslands, with very few in the extension area but they are an oasis to wildlife. Even these few grasslands are

under the threat of succession. This activity was conducted to properly manage the grassland to ensure the minimisation of the threat and support increased prey species. For this, prior monitoring was conducted to select an appropriate site for grassland management by the PNP and ZSL staff. Established guidelines and successful methods were adopted for the management.

The project managed 22ha of grassland area, selected through discussion with park authorities and community leaders in relation to the site. Technical assistance was afforded to the park by technical team from ZSL Nepal office. Grasslands were managed by selectively cutting trees (10 – 50 cm DBH) and removing seedlings and saplings to avoid the risk of conversion into woodlands in the near future. Also, invasive species like *Lantana camara* and *Mikenia micrantha*, which severely affects the growth of grass species was uprooted. Following this, controlled burning was done to help the sprouting of new palatable grasses and plants to attract prey species and increase their numbers. PNPea has become an important habitat for the threatened rhino, tiger, elephant, and other wildlife.

PNP is a dry landscape, hence water scarcity threatens the increased number of wildlife populations and sometimes conflicting situations between wildlife and humans emerge. In search of water, wildlife often stray to the fringe areas of the park where human settlement exists. So, to minimize the movement of wildlife outside the extended area in search of water, ZSL has continued to support PNP to maintain good habitat with water availability within the park to reduce threats to neighbouring human population. Halkhoriya lake, a key wetland and the only perennial source of water located in the PNPea was managed again as ZSL recognises one-time management is not enough for wetland sustainability. Uprooting of unwanted plants, thinning vegetation and uprooting invasive species at its source, clearing obstacles on the way to the lake was done as part of the management activity in coordination with the national park. This wetland has become crucial habitat for numerous wildlife like tiger, elephant, gaur, leopard, leopard cat, honey badger, wild dog, jackle, deer species, number of birds and different other aquatic and semi-aquatic animals and an important stepping stone in connecting the park to broader landscapes including buffer zones and eastern TAL areas.

Key achievements of this project: (*Please give a bullet point list of key measurable outputs- for example xxx of staff trained in SMART monitoring techniques, xxx camera traps covering xxx km^2*)

SMART and camera traps were not a part of this project.

Key achievements

- Four community consultations conducted
- 30 Predator Proof Corrals distributed to HTC vulnerable households
- Zero human-tiger conflict recorded during the project duration
- More than 2000 people reached through tiger conservation initiatives
- 22 ha of grassland managed
- Crucial Halkhoriya Lake managed
- PACCT piloted

Obstacles to success: Give details of any obstacles/challenges to success that the project has encountered. (*Any changes to the project that have affected the budget and timetable of project activities should have been discussed prior to the end of the project)*

No obstacles were faced while implementing this project, but slight changes in timetable were made due to the blockade in fire-line/road networks during monsoon season.

Monitoring and Evaluation: (*Describe the methods used to monitor and evaluate the progress of the project)*

ZSL staff responsible for the implementation of this project was the lead person that periodically monitored the project. Apart from the project leader, previously formed Project Management Unit (PMU) led by PNP was involved in monitoring and evaluating the impacts of the project. Centrally, Project Coordination Committee (PCC) led by DDG of DNPWC monitored the implemented activities of the project. Monitoring involved field visits, project progress review and its sharing while project indicators were evaluated. Additionally, during monitoring and evaluation of this project, attitude and knowledge survey, data collection on HTC incidences from local communities and habitat management works inside PNP was conducted.

- Household survey on people's perception towards tiger conservation

Household surveys to identify people's perception towards tiger conservation was conducted at the beginning and the end of the project. Altogether 48 people from project sites (Ratanpuri and Dambarpur) were surveyed to understand their attitude towards tiger conservation. Out of 48 surveyed, 30 respondents were female and 18 were male. The table below shows the result of the respondent's attitude towards tiger conservation before and after implementing the project.

Table 3: Comparison between pre and post project survey results.

Sn	Categories	Agreeableness	Pre-project survey	Post-project survey	Percentage Change
1	Tigers should be protected	Strongly Agree	17	41	50
		Agree	24	7	-35.41666667
		Neutral	5	0	-10.41666667
		Disagree	2	0	-4.166666667
		Strongly Disagree	0	0	0
2	Tigers should be protected inside PAs only	Strongly Agree	15	24	18.75
		Agree	20	5	-31.25
		Neutral	6	3	-6.25
		Disagree	7	16	18.75
		Strongly Disagree	0	0	0
3	Tiger should be protected inside and outside the PAs	Strongly Agree	9	16	14.58333333
		Agree	18	4	-29.16666667
		Neutral	16	0	-33.33333333

		Disagree	5	28	47.91666667
		Strongly Disagree	0	0	0
4	Support tiger conservation even tough family member come under harm	Strongly Agree	8	18	20.83333333
		Agree	22	14	-16.66666667
		Neutral	17	13	-8.333333333
		Disagree	1	3	4.166666667
		Strongly Disagree	0	0	0

Although people seem to be concerned about the increasing number of tigers and its associated risks of conflict as well as the possibility of habitat shift of other carnivores due to the territorial behaviour of tiger, the majority of the respondents were positive towards tiger conservation with strong agreeableness showing an overall increase in all four categories. Interestingly, people that disagreed with "protecting tigers within the park only" has increased, indicating an increase in awareness of the habitat requirement of the tiger. However, increase in disagreeableness of people with regards to category 3 stems from poor mitigation measures in their communities to protect them and their livestock from tiger and other carnivores.

The most preferred mitigation measures during both pre and post project survey were the use of predation proof livestock shed followed by awareness/conservation education and electric wire fencing. Electric wire fencing and timely response and rescue mechanism traded places, which can be attributed to the increase in awareness of people on habitat requirements of the tiger, i.e., less fragmentation.

Table 4: Preferred mitigation measures, pre-project survey.

Weight	**Preference Order**	**Electric Wire Fencing**	**Wooden Livestock Shed House**	**Predation Proof Livestock Shed**	**Awareness/Conservation Education**	**Timely Response and Rescue Mechanism**	**Total**
5	1st Choice	5	2	20	17	4	48
4	2nd Choice	6	9	12	10	11	48
3	3rd Choice	12	15	7	8	6	48
2	4th Choice	8	14	6	6	14	48
1	5th Choice	16	8	4	6	14	48
Weighted Mean		2.49	2.65	3.78	3.55	2.53	

Rank	**IV**	**III**	**I**	**II**	**V**	

Table 5: Preferred mitigation measures, post-project survey.

Weight	**Preference Order**	**Electric Wire Fencing**	**Wooden Livestock Shed House**	**Predation Proof Livestock Shed**	**Awareness/Conservation Education**	**Timely Response and Rescue Mechanism**	**Total**
5	1st Choice	5		33	6	4	48
4	2nd Choice		20	8	14	6	48
3	3rd Choice	6	8	5	12	17	48
2	4th Choice	6	17	2	12	11	48
1	5th Choice	31	3		4	10	48
Weighted Mean		1.79	2.94	4.50	3.13	2.65	
Rank		**V**	**III**	**I**	**II**	**IV**	

- Data on HTC incidences from supported communities

For the last two and a half years, no HTC incidences have been recorded from the PNPea. Also, our pre and post household surveys failed to record any HTC incidences. Despite the absence of HTC, one man from our project community was killed by an elephant a year back and incidences of leopard attack on livestock were mentioned by the community members. Apart from the 30 HHs supported with corrals, there are still community members that are poor, and/or have no livestock shed to safeguard their livestock and are risking livestock predation from carnivores.

- Data from parks on habitat management

National parks invest a huge amount of money annually to manage habitat inside the parks, buffer areas, and biological corridors so that it can support increased wildlife populations within and beyond the park boundaries. Habitat management works are based on national and site-level conservation priorities determined through whether to focus on particular species, an entire ecosystem or wider landscape. PNP has managed 279 ha grassland area and key wetlands in several locations within PNP.

Shared learning: *(How will you share the outputs and learning from your project, in what format and with whom?)*

Internally, ZSL maintains an online database accessible to all staff which hosts project reports and outputs. Externally, all project outputs will be made available on ZSL and partner's websites and disseminated via different social media. Content will be provided to the WildCats Conservation Alliance for inclusion in media outreach.

We will disseminate the information further afield through associated organisations such as the relevant IUCN specialist groups, other conservation and development agencies working in Nepal, and at related events held at ZSL's London headquarters. Data will be shared to feed into global conservation initiatives such as the Living Planet Index as well as national needs, such as the regular reporting to the CBD. Information regarding the project will be shared with DNPWC – the focal government body for wildlife through Project Coordination Committee (PCC). The PCC is the central level body with the DDG of DNPWC as chairperson, section heads of DNPWC and ZSL (CR/DCR) as members. Project updates have been disseminated to the park through Project Management Unit (PMU), comprising of the CCO of the park, representatives from NTNC, ZSL and community leaders as members. Community workshops and meetings will be conducted to share the results from the project with the wider community members.
For those without access to digital media, we will share the project impacts through different interaction meetings and provide hard copies to communities and other stakeholders on needs basis. Results will also be communicated verbally to community members to ensure that everyone regardless of their literacy level has access to this information.

Media: *(Please provide a list of publications and media both local and national which mentions the work funded by this project and/or mentions WildCats Conservation Alliance)*

Some works from this project were covered in the annual report (Fiscal Year B.S. 2076/77) of PNP. But instead of WildCats Conservation Alliance, ZSL's name is mentioned there.

WildCats Conservation Alliance logo was stamped in brochures those distributed to community people.

Have you provided at least 2 blogs? Y/N?

1 blog published and 1 drafted. Please follow the link below for published blog.

https://www.zsl.org/blogs/conservation/a-roaring-tale-of-restoration

Have you provided at least 10 high quality images with details of the relevant credit? Y/N?

Yes, ten high quality images with details of the relevant credit will be provided as a separate folder.