Darwin Initiative Main & Extra Annual Report

To be completed with reference to the "Project Reporting Information Note": (https://www.darwininitiative.org.uk/resources/information-notes/)

It is expected that this report will be a **maximum of 20 pages** in length, excluding annexes)

Submission Deadline: 30th April 2025

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• Darwin Initiative Project Information

Scheme (Main or Extra)	Main
Project reference	30-017
Project title	Strengthening communities livelihood and stewardship to conserve Otters in Karnali
Country/ies	Nepal
Lead Organisation	WWF UK
Project partner(s)	WWF Nepal, Freed Kamaiya Women Development Forum (FKWDF), Sonaha BIkash Samaj (SBS), Dolphin Conservation Center (DCC), Small Mammals Conservation and Research Foundation (SMCRF)
Darwin Initiative grant value	GBP £596,618
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Reporting period (e.g. Apr 2024 – Mar 2025) and number (e.g. Annual Report 1, 2, 3)	April 2024 - March 2025, Annual Report 2
Project Leader name	Nicola Loweth
Project website/blog/social media	Project webpage
Report author(s) and date	WWF UK: Nicola Loweth, Catriona Mclean, Deborah Mackay WWF Nepal: Rajesh Sada, Aashish Kapali, Arati Rayamajhi, Karma Dolma Gurung, Doma Tshering Sherpai, Shobhana Bista SBS: Ratna KC; FKWDF: Jagadish Rana Tharu; SMCRF: Sanjan Thapa and DCC: Bijaya Raj Shrestha 30th April 2025

1. Project summary

The Lower Karnali Watershed, spanning 747 km2 within Nepal's Terai Arc Landscape, boasts remarkable aquatic biodiversity (Annex 4.1.1) and providing vital ecosystem services to local

communities. Its diverse habitats, including rivers, riverine forests, floodplain grasslands, and oxbow lakes, support a plethora of species, including those listed on the IUCN Red List such as the Critically Endangered gharial crocodile, Vulnerable mugger crocodile, Endangered Gangetic River dolphin, and Vulnerable smooth-coated otter. Recognizing its importance, the Government of Nepal has designated the western channel of the Karnali River as an ecological corridor, while the eastern channel is encompassed within the buffer zone of Bardia National Park (Annex 4.1.2,4.1.3,4.1.4,4.1.5,4.1.6). Illegal and unsustainable fishing practices persist in the western channels of the Karnali River due to interconnected factors, including limited enforcement capacity for fisheries regulations and inadequate fisheries management procedures. Unregulated river aggregates extraction has rapidly increased in the western belt of the Karnali (Annex 4.1.7), with contractors neglecting environmental mitigation plans required by Initial Environmental Examination (IEE) reports. Weak compliance and monitoring mechanisms from local governments exacerbate the degradation of river systems and otter habitats, leading to the destruction of vegetation and fish spawning sites. This degradation has led to a decline in fish diversity and abundance, jeopardising the traditional livelihoods and food security of indigenous and marginalised Sonaha and Tharu communities. Otter species serve as ecological indicators of healthy aquatic ecosystems and are protected under Nepal's amended Aquatic Animal Protection Act 2002. However, declining fish diversity and abundance due to overfishing and habitat disturbance caused by intensive river aggregates threaten the health of the river ecosystem and declining smooth-coated otter populations. Insufficient research on their distribution further impedes the development of an effective national otter conservation strategy. Considering these challenges, this project aims to improve the livelihoods of marginalised river dependent communities, promote sustainable fishing practices, and enhance the capacity of government stakeholders and civil society organisations in the Lower Karnali Watershed. The project will also facilitate the formation and mobilisation of community-based river stretch co management groups to monitor the river regularly to mitigate threats to fish and smooth-coated otters in the Lower Karnali Watershed.

2. Project stakeholders/ partners

WWF Nepal has a strong partnership with the Department of National Parks and Wildlife Conservation (DNPWC) and Department of Forests and Soil Conservation (DoFSC) under the Ministry of Forests and Environment (MoFE). This collaboration is formalised through a Scope of cooperation agreement (SoC) renewed every five years, encompassing all conservation activities undertaken by WWF Nepal. The project progress, achievements and future plans were shared at a Project Executive Committee (PEC) meeting co-chaired by Director Generals of the DNPWC and DoFSC with the participation of relevant officials of both the departments and MoFE, ensuring full government and comprehensive support for project activities.

The project has been strongly collaborative, developed in response to local demand and implemented through partnerships with four project implementing partners: Sonaha Bikash Samaj (SBS), Dolphin Conservation Center (DCC), Freed Kamaiya Women Development Forum (FKWDF) and Small Mammals Conservation and Research Foundation (SMCRF). The project team has also worked closely with the municipalities in the project areas- Tikapur Municipality, Rajapur Municipality, Lamki Chuha Municipality, Janaki Rural Municipality and Geruwa Rural Municipality, to support the drafting of Aquatic Animal Conservation Bill, river stretch management plans, sustainable riverbed sand, stone and gravel mining protocols, and fish sanctuary management plan.

Consultations with community members, municipal officials, elected municipal ward chairpersons and members are an ongoing part of the project ensuring that project activities remain aligned with local needs and priorities, particularly regarding sustainable fishing practices, biodiversity conservation and livelihood improvement of the river dependent communities.

Since the start of the project, partner engagement has been strengthened through joint workshops, regular coordination meetings, and participatory monitoring exercises. CRSMGs have played a key role in identifying crucial hotspots for fish sanctuary, proposing seasonal

fishing bans particularly in identified fish sanctuary areas, and promoting sustainable fishing practices along the river stretch. Project monitoring and adaptive decision-making have been co-developed with local and district authorities, while technical support from project implementing partners has ensured that capacity-building efforts remain responsive and evidence-based.

The project's progress and achievements were shared with FCDO's Climate and Environment Advisor in Nepal on October 10th, 2024, for inclusion in CBD COP16. Additionally, project related risks and challenges along with their mitigation strategies, specifically on capacity building and GESI considerations were shared at the Biodiversity Challenge Fund workshop on November 19th and 20th, 2024.

The project has also actively collaborated with schools and local institutions to organise events and disseminate information on aquatic animal and biodiversity conservation. To enhance understanding of biodiversity conservation and livelihood intervention approaches, the project uses local language, illustrated posters, radio PSAs and mobile PSAs. Pre and Post tests conducted during the awareness activities ensure that the messages delivered have been well understood by the community.

3. Project progress

3.1 Progress in carrying out project Activities

Output 1: By 2026, river dependent communities and local governments demonstrate river stretch co-management covering at least 10 kms of the Karnali river and one fish sanctuary, enhancing sustainable fishing practices and inclusive decision-making processes.

1.2 Support the formation and registration 15 community river stretch management group (CRSMG) in the designated community managed river stretch in close coordination with the local government in three municipalities ensuring equal representation of men and women, in close coordination with local government and community forest user groups

A total of 15 CRSMGs were formed and registered in their respective municipal ward offices during year 1 of the project. During this reporting period, the project supported the drafting of an Aquatic Animal Conservation Bill in response to formal requests from Geruwa Rural Municipality (Annex 4.3.1.a) and Rajapur Municipality (Annex 4.3.1.b). The draft bill was shared with Geruwa Rural Municipality (Annex 4.3.1.c) for in-depth review and discussion of each section and sub-section. The endorsement process is set to continue through respective municipality meetings in the next fiscal quarter. The bill, once enacted, is expected to increase the municipality's ownership of the CRSMGs and their management plan, fostering an environment that supports co-management and the conservation of aquatic biodiversity (Annex 4.3.1.1)). Additionally, three meetings were organized at Tikuligadh (Bardiya), Sankatti (Bardiya), and Phanta (Kailali) to explore the inclusion of additional interested members in the groups.

1.3 Train 30 community members (2 from each CRSMG) on sustainable fishing practices and river monitoring through training and workshops to support the implementation of management plan

A two-day training session was held on June 10-11, 2024, in Rajapur-3, Bardiya, with 45 members of the Community River Stretch Management Groups (CRSMGs) in attendance, including 20 men and 25 women (3 members from each CRSMG). The training focused on promoting sustainable fishing practices and effective river monitoring techniques. Participants were educated on the utilisation of traditional fishing gears and techniques, the importance of understanding breeding seasons, and the significance of adhering to appropriate fishing timings to minimise ecological impact.

Additionally, they were trained to monitor habitat changes, threats, and key species during river monitoring activities, providing insights into the abundance and overall health of the riverine ecosystem. The training session played a pivotal role in disseminating knowledge regarding local

natural and cultural resources, underscoring their significance in sustainable resource management.

Resource mapping exercises were also conducted to enhance participants' understanding of resource dynamics and promote effective stewardship. An analysis of pre-test (58%) and post-test (78%) results revealed a 20% increase in knowledge scores (Annex 4.3.1.2). Furthermore, four community dialogue events were organized, representing each CRSMG and local representatives, including ward chairpersons, to discuss the current status, challenges, and issues related to group mobilization and river monitoring, along with potential mitigation measures (Annex 4.3.1.2.a).

1.5 Draft 15 river stretch management plans incorporating sustainable fishing guidelines, informed by the fish abundance and otter occupancy baseline assessments, in coordination with local government (environment focal point, representatives of municipal environmental committees), and community groups (Community forest and buffer zone community forest user groups, water users group), and submit to local governments for approval/endorsement

In year 2, 15 river stretch management plans (Annex 4.3.1.3) were developed, incorporating sustainable fishing guidelines based on fish abundance and otter occupancy baseline assessments. These plans were created in collaboration with 363 participants (Male-143, Female-220) from local governments, and community groups (Community Forest and buffer zone community forest user groups, water users' group) of Bardiya and Kailali districts (Annex 4.3.1.7). The plans emphasize collaborative management of the river stretches by extensive community engagement, drawing on the traditional and indigenous knowledge of the Tharu and Sonaha communities. The plan aims to address critical issues including unsustainable fishing practices that lead to juvenile harvesting, over-extraction of river aggregates, pollution from agricultural runoff and waste disposal, and the disruptive impacts of infrastructure developments such as bridges and dams. By outlining sustainable practices like riverbank stabilization, habitat restoration, and the promotion of organic farming in river-adjacent areas, the plan aims to rejuvenate ecological balance and safeguard nursery zones critical for fish populations.

1.6 Support CRSMGs to conduct regular monitoring (twice a month) of their designated managed river stretch to control illegal activities in the river with the local government, CFUG (Community Forest User Group) and law enforcement agencies

To reduce illegal and destructive practices along the Karnali River, each CRSMG was supported to conduct regular monitoring of their respective river stretches. To facilitate effective monitoring, all CRSMGs were equipped with essential field gear, including binoculars, as well as emergency safety equipment such as torch lights and first aid kits. Furthermore, to ensure the safety and security of CRSMG members, accidental health insurance coverage was provided in accordance with government standards. In total, 15 CRSMGs conducted 346 river monitoring, recording 267 cases of illegal fishing i.e., use of gill net (*Tiyari jaal*)- 263 instances and fishing through river diversion- 4 instances (Annex 4.3.1.4). To ensure safety and facilitate exchange of knowledge and experience, CRSMGs have also been conducting joint river monitoring with the Community-based Anti-Poaching Unit (CBAPU) in the stretches within the vicinity of the buffer zone area (Annex 4.3.1.4.a).

1.7 Support 15 CRSMGs to organize awareness raising programmes, install hoarding boards and develop IEC (digital) materials and implement youth-led campaigns related to sustainable fishing practices and Otter conservation to support the implementation of management plans and sustainable fishing guidelines.

In order to raise awareness regarding the conservation and importance of otters and their habitat among the local community and government, World Otters Day was celebrated on 29th May 2024 at Tikapur-5, Kailali. A total of 75 participants (Male-53, Female-22), representing the Ministry of Land Management, Agriculture and Cooperatives of Far-Western Province, local governments,

Division Forest Offices, Law enforcement agencies (Nepal Police and Armed Police Force), Bardia National Park and CBOs attended the event (Annex 4.3.1.5).

On 22nd September,2024, an Inter School Art Competition was organized in a collaboration of the Dolphin Conservation Centre, Sonaha Bikas Samaj, Radiant Montessori English School and Tikapur Municipality, in celebration of World Rivers Day. The event, themed "Water for All" aimed to raise holistic awareness on the importance and challenges of river systems. A total of 36 individuals participated in the event. Additionally, on the 25th and 26th September 2024, 44 Otter Champions (OCs) (Male-16, Female-28), from 15 CRSMGs received refresher training on Otter identification and monitoring, as well as the importance of sustainable fishing practices. The training aimed to empower youth to lead community-based conservation efforts and ensure long term sustainability. During the event, the participants shared their learnings and experiences from year 1 and further planning was done for year 2 (Annex 4.3.1.5.b).

To mark World Water Day and Earth Hour, a two-day event was organized on 21st and 22nd March 2025 in collaboration with the Global Peace and Spiritual Science Society. The event included a river cleaning campaign, an inter-school art competition, and a meditation session, aimed at raising awareness about the importance of clean and healthy river systems, promoting creativity among youth with the theme of "Glacier Preservation", and encouraging mental well-being while contributing to Earth Hour by "giving the planet an hour." The programme attracted over 280 participants (Male-155, Female-125) from Kailali and Bardiya districts and received in-kind support valued at NRs 30,000 (Annex 4.3.1.5.c).

Furthermore, a total of 63 community-based awareness campaigns were organized, engaging 2,427 participants (Male-649, Female-1778). Pre (50%) and post (85%) surveys conducted during these activities revealed a 35% increase in knowledge. Hoarding boards were installed at five different sites in Rajapur Municipality and Geruwa Rural Municipality (Annex 4.3.15.d), mobile PSAs were mobilized, and a radio jingle was broadcast to disseminate information on the importance of Otters and the impact of illegal and destructive fishing.

1.8 Based on hotspots identified in Output 4, conduct feasibility assessments and stakeholder consultations with CRSMGs on the potential of establishing a fish sanctuary.

Community consultations were conducted at six sites with 236 participants (Male-48, Female-188) across Bardiya and Kailali districts to assess the feasibility of establishing fish sanctuaries in identified otter and fish biodiversity hotspots. These consultations engaged elected local ward members, including CRSMGs and the discussion focused on the potential scope, pros and cons and structure, and implementation mechanisms for fish sanctuary management (Annex 4.3.1.6). Based on a series of community consultations and the scientific study on fish diversity conducted in year 1 (Annex 4.3.1.6.a), three potential fish sanctuary sites were identified.

1.9 Develop a fish sanctuary management plan for the agreed site, conduct a brief environment study; and create a management committee who will submit the plan for approval to the local government and will be initiated only after FPIC from the local and indigenous people living nearby and potentially affected by the proposed site

In response to local government requests for assistance in preparing a fish sanctuary management plan, a comprehensive feasibility study was carried out at the three identified potential fish sanctuary sites to assess the ecological and social dimensions of the identified fish sanctuary sites. In addition, 18 focus group discussions were conducted involving 363 participants (Male-143, Female-220) from CRSMGs, elected Ward Chairpersons, Forest User Groups, and Village Chiefs to ensure inclusive and participatory planning and discussion on the management and governance of the fish sanctuary (Annex 4.3.1.7). Based on the collective input from these meetings and the feasibility study, the stretch from Sattighat to Arnauha was identified as the most suitable location for establishing a fish sanctuary due to the presence of deep pool and stable substrate serving as refuge for native fish species year-round. Following this, a draft Fish Sanctuary Management Plan was prepared (Annex 4.3.1.7.a).

A multi-stakeholder consultation workshop was organized on 28th March 2025, with participation from Civil society organizations (CSOs), local governments of Lamki Chuha, Tikapur, Geruwa, and Janaki, Fisheries experts, Officials from Division Forest Offices (DFO) Bardiya and Kailali,Ministry of Industry, Tourism, Forests and Environment (MOITFE) of Lumbini and Sudurpaschim provinces to share and discuss the draft fish sanctuary management plan (Annex 4.3.1.7.b). FPIC will be obtained from the local and indigenous people before the local government declares the fish sanctuary in year 3.

1.10 Support for leadership/sustainable fishing training of CRSMG's members, particularly women

To cultivate leadership skills, improve decision-making abilities, and promote sustainable fishing practices, ten two-day training events on leadership and sustainable fishing were organised. A total of 252 participants attended (Male-31 and Female-221) representing 13 CRSMGs i.e., Samjhana CRSMG, Sakhi CRSMG, Sarkhol CRSMG, Gochali CRSMG, Sayapatri CRSMG, Dakshin Tedhiya CRSMG, Jari CRSMG, Milan CRSMG, Jharana CRSMG, Kaneri CRSMG, Sunaulo CRSMG, Deuthan CRSMG and Rajipur CRSMG. Pre and post-test results indicate a 49.5% increase in the knowledge of participants (Annex 4.3.1.8).

1.11 Support a multi-stakeholder learning exchange visit to socialize key stakeholders (CRSMGs, partners and government stakeholders) on community based fishery management

A learning exchange visit to Laos was organized during 9-15, March 2025 (Annex 4.3.1.9). A total of 8 participants (2 each from three municipality offices, 1 each from Sonaha Bikash Samaj and WWF Nepal) participated in an exchange visit. The purpose of the visit was to learn about the Fish Conservation Zones (FCZ) in Laos, including the process of their declaration, the pros and cons of FCZs, challenges in their implementation and lessons learned in managing them. During the visit, the team from Nepal met with WWF Laos in Pakse, as well as Laos government officials from federal, provincial and district government in Khong district. The team also had meetings with local communities in two villages who were engaged in managing FCZs. The team visited multiple FCZs in Khong island where they interacted with local communities to understand their perceptions of the FCZs and their impact on livelihoods and socio-economic conditions. Overall, the visit was fruitful and was appreciated by the representatives of the municipal offices.

Output 2: 200 Sonaha/Tharu households (at least 50% women as direct beneficiaries) living in and around the lower Karnali increase their annual income by 15% through market oriented vocational training to enhance their technical skills followed by material support for establishment of micro-enterprises.

2.1. Identify and prioritize most vulnerable households through vulnerability mapping and select beneficiaries.

During this reporting period, 3 group meetings were organized with a total of 70 participants (Male-54 and Female-16) to ensure that vulnerable households are selected for diversifying their livelihood and are not adversely affected by the establishment of a fish sanctuary. As a result, 11 additional households were prioritized for beneficiary selection and their interest for the enterprise support was also collected and finalized.

2.2 Support Sonaha/Tharu community through on farm trainings

Pig farming training: A three-day pig farming training was conducted from June 8–10, 2024, in Rajapur, Bardiya, to enhance the capacity of the Sonaha/Tharu community. Seventeen participants (3 men and 14 women) attended the session, which was led by a local resource person in the local language. The training covered improved pig farming practices, including shed

construction, feeding, healthcare, breeding, marketing, and record-keeping for income and expenditure. Participants expressed strong interest in applying the knowledge gained, transitioning from traditional methods to more hygienic and sustainable practices (Annex 4.3.2.1).

Vegetable farming training: A three-day vegetable farming training was held from August 16th to 18th, 2024, for 17 beneficiaries (4 men and 13 women) to enhance their technical skills in both seasonal and off-season vegetable cultivation. The training covered nursery management, site selection, plastic tunnel cultivation, wave vegetable cultivation, pest and disease management, the use of organic fertilizers, composting, and marketing techniques (Annex 4.3.2.2). All 17 beneficiaries were provided with input materials, including plastic tunnels, mulch, spray tanks, and seeds for chili, cauliflower, cabbage, tomato, and rope.

Goat rearing training: Two events of three-day training were held from August 21st to 23rd, 2024, and from September 28th to 30th, 2024, for 30 beneficiaries (6 men and 24 women). The training focused on shed construction, breed selection suited to the local environment, and developing commercial plans for goat rearing. It also covered disease control measures, feed management, as well as the risks associated with goat farming and marketing strategies (Annex 4.3.2.3). A total of 60 goats, along with mesh wire and nails, were provided to the 30 beneficiaries, while the remaining materials for shed construction were sourced by the beneficiaries themselves (Annex 4.3.2.3.a).

Integrated Pest Management training: A 16-week Integrated Pest Management training was conducted once a week in Rajapur-3, Bardiya, for 31 participants (5 men and 26 women). The main objective was to teach participants how to produce healthy, pesticide-free vegetables using locally available materials, reducing production costs. The training also aimed to build practical vegetable farming skills through a "learning by doing" approach. Participants were divided into groups to foster teamwork and leadership. The training followed a step-by-step process, covering group formation, nursery management, land preparation, organic pesticide preparation, transplanting using both traditional and improved methods, pest identification, and marketing of harvested products. Key crops included chili, cabbage, cauliflower, and tomato (Annex 4.3.2.4).

In the second phase of the training, participants were again divided into four groups for effective learning, teamwork, and leadership. This phase focused on vine crops such as cucumber, bottle gourd, okra, and bitter gourd. The training enhanced participants' skills in environmentally friendly pest management and improved their knowledge of vegetable farming techniques (Annex 4.3.2.4.a).

Duck Rearing training: A two-day duck rearing training event was successfully held to enhance the technical knowledge of local participants on duck farming. A total of 11 women actively participated in the training. The training covered essential topics such as an introduction to duck rearing, characteristics of ducks, techniques for raising ducklings, shed and feed management, as well as common duck diseases and their prevention and control measures. Before the training, many participants faced challenges in raising ducklings, but the sessions addressed their concerns and provided practical knowledge on duck care and feeding. Participants also gained valuable insights into duck marketing (Annex 4.3.2.5).

Betel leaf farming: A one-day betel leaf farming orientation was organised for 8 beneficiaries (3 men and 5 women), which included a visit to Karuna Nursery to learn about betel leaf cultivation, types, growing methods, harvesting, pest control, and preservation techniques. The orientation also covered harvesting, grading, and packaging processes. Additionally, a local shopkeeper demonstrated how to make Paan (betel leaf freshener) and guaranteed to buy betel leaves from the farmers, motivating participants to pursue betel leaf farming and open their own Paan shops (Annex 4.3.2.6).

Activity 2.3 Support Sonaha/Tharu community through Off farm trainings (small restaurant opening, traditional fishing gears, jewellery making, handicraft making, tailoring, repair etc.)

Driving training: A one-month skill development training on car driving was successfully completed with the aim of equipping beneficiaries with practical driving skills to help them transport their products to new markets and diversify their livelihood options. The training was conducted from November 14 to December 17, 2024, for 10 beneficiaries (10 Male) and they have filled in the form for driving skill test (Annex 4.3.2.7).

Tailoring training: A six-month tailoring training program was successfully completed from September 2024 to March 2025. The program aimed to enhance tailoring skills and foster enterprise development for 15 female beneficiaries. It included both theoretical instruction and hands-on training, with participants divided into groups based on skill levels for more effective learning. The project provided essential materials and equipment, such as sewing machines, interlock machines, pico machines, irons, and other supplies. By the end of the training, participants had learned to design and stitch over 34 different clothing items, enabling them to start both group and individual tailoring enterprises (Annex 4.3.2.8).

Advanced grass-based handicraft training: A one-month grass-based handicraft training was conducted in Rajapur, Bardiya, facilitated by Deego Nepal with local trainers. The training aimed to enhance women's skills in crafting modern, market-oriented natural grass-based products and empower them toward self-employment. Fourteen women participated and learned to make items such as jewelry boxes, hot cases, various styles of baskets, and double-woven laundry baskets. The training also covered pricing, packaging, marketing, and material coordination, with a group leader appointed to oversee ongoing production and sales. A business counseling session by Deego Nepal’s co-founder encouraged participants to continue their entrepreneurial journey. The group has since supplied products to Deego Nepal twice, demonstrating strong market linkage. During the closing ceremony, Deputy Mayor Mrs. Mankala Kumari Chaudhary, Ward Chairperson Mr. Prasadu Tharu, and other local officials praised the initiative and assured continued municipal support. With locally available raw materials and expanding market access, the training has laid a strong foundation for sustainable, income-generating opportunities for the participants (Annex 4.3.2.9).

2.4 Provide Input /material support (seeds, breeds, tools, seed money) to facilitate enterprise establishment

Fish farming support: Additional fish farming support was successfully provided to the most marginalized Sonaha community in Lamki Chuha Municipality, Balchaur, Kailali, where fishpond excavation was supported by the local government. This initiative aimed to diversify income sources away from overfishing in the Karnali River and create a new, sustainable stream of income generation. A total of five members were selected to implement fish farming using a group model. The project provided essential materials, including an irrigation motor, wire netting, cemented poles, polythene pipes, fish pellets, and fingerlings, enabling the group to establish and operate a small-scale fish farming enterprise.

Similarly, four beneficiary groups, each consisting of five to seven members, were supported in establishing fishponds, each measuring 7,284 square feet. A total of 1,200 fingerlings were provided to each group, along with the necessary feed (pellets) to ensure successful fish cultivation.

Pig farming support: A total of 23 households from the Sonaha and Tharu communities in Rajapur Municipality and Geruwa Rural Municipality received input support for pig farming. In the first event, 17 households were provided with two piglets each, along with materials such as cement, nets, nails, and cement blocks required for shed construction, following a 3-day pig farming training (Annex 4.3.2.10).

Activity 2.5 Support Sonaha/Tharu community through Skill development trainings (Long term certified course for employment creation (electric auto rickshaw/ car vehicle driving, masonry, plastering training etc.)

A hair cutting (barber) training program was conducted from November 27, 2024, to January 2025 at Rajapur-1, Bardiya, with the aim of creating sustainable income opportunities by enhancing practical hair cutting skills for the target beneficiaries. A total of four participants (2 male and 2 female) received hands-on training under the guidance of a local trainer (a beneficiary within the project) at his hair cutting center. The training gained community attention through the announcement of free haircut services, attracting students and locals, which provided the trainees with ample real-time practice. Following the training, the project provided essential equipment and materials (mirror, chair, trimmer, scissors, and other necessities) to support the establishment of individual salons. With this support and additional investment, three out of the four trainees have already launched their own businesses. These newly established salons have seen promising early results and full-time engagement (Annex 4.3.2.11).

Activity 2.7 Support market linkages to facilitate enterprise development through participation in trade fairs, promotion via online platforms, cooperatives, business counselling, stakeholders and market actors' interaction.

Increasing market access to wholesalers and retailers: Two interaction meetings were successfully conducted in Rajapur Municipality Ward No. 4 with the objective of facilitating better market access for farmers' vegetable products. A total of 40 participants (Male-15 and Female-25), including local wholesalers, betel leaf retailers, the Chairperson of the *Haat Bazaar* (farmers market) Management Committee, and local farmers, took part in the events. The meetings focused on building direct connections between producers and buyers to strengthen the supply chain. During the discussions, wholesalers encouraged farmers to cultivate vegetables on a larger scale by forming pocket areas, which would enable easier and more organised collection. As a result of the interaction, participants gained a better understanding of marketing processes, and contact information was exchanged between farmers and wholesalers to enhance direct communication and future coordination (Annex 4.3.2.12).

Business counselling: A business counselling event was successfully held with the goal of enhancing participants' foundational business knowledge, covering topics like pricing, marketing strategies, and entrepreneurship. A total of 21 participants (11 male, 10 female) attended the event, which was divided into three parts: the first day included a field visit and beneficiary discussions, while the second and third days focused on in-depth counselling sessions. The training emphasized income generation, self-employment, entrepreneurship development, business planning, and the characteristics of successful entrepreneurs. Real-life case studies were shared through audio and video formats, offering relatable examples. Key business components such as financial management—including budgeting, forecasting, supervision, and management—were thoroughly covered. Participants received guidance on local bookkeeping practices, profit-loss analysis, and financial reporting. The sessions also explored pricing practices, comparing participants' current methods with recommended strategies. Other topics included customer segmentation, relationship management, credit management, and marketing principles. Special focus was given to digital marketing and the role of social media as a powerful business promotion tool, with discussions on how participants can optimize their current strategies on these platforms (Annex 4.3.2.13).

Entrepreneurship development training: Three successful Entrepreneurship Development Training sessions were conducted in Rajapur, Bardiya, aimed at enhancing participants' understanding of enterprise management, risk handling, and business registration processes. A total of 77 participants (18 male and 59 female) attended the training. The sessions covered essential topics, including an introduction to entrepreneurship, business idea generation, business planning, the relationship between entrepreneurs and their families, the basic business cycle (Game Model 1), and the qualities of successful entrepreneurs based on their chosen enterprises. Additionally, sales strategies, identification of business opportunities, and enterprise registration procedures were discussed. Participants were educated on key entrepreneurial principles such as the link between production and profit, wise use of loans, the importance of offering quality goods and services, saving from profits, and the value of business planning. The training boosted participants' confidence and equipped them with the necessary skills to sustain and grow their enterprises (Annex 4.3.2.14).

Learning visit for selected entrepreneurs: A successful learning visit was conducted from February 3 to 7, 2025, aimed at exposing selected entrepreneurs to real-world examples of successful businesses, innovative technologies, and effective marketing strategies. A total of 34 participants (9 male and 25 female), including individuals from various livelihood models, board members, and project staff, took part in the event. The group visited key locations in Nepal, including Chitwan, Lumbini, and Dang. Throughout the visit, participants observed large-scale vegetable farming operations, bio-floc fish farming, pig and goat farming, and various cooperative-led initiatives, gaining valuable insights that they could apply to their own enterprises (Annex 4.3.2.15).

2.8 Support establishment/reformation of two - local community cooperatives (capacitate and support existing saving and credit groups to turn into cooperatives) for sustainable access to finance (collateral free loan for enterprise establishment, expansion and for saving product) and to ensure sustainability of project initiative

Business plan development workshop for cooperative: A three-day workshop focused on business plan development was successfully conducted from June 5 to 7, 2024, in Rajapur, Bardiya, aimed at strengthening the institutional capacity of three cooperatives that had previously received seed funding under the project. A total of 21 participants (6 male and 15 female) from the three cooperatives actively participated in the sessions. Throughout the workshop, each cooperative developed a three-year business plan designed to create a shared vision, guide decision-making, secure funding, and drive sustainable, community-focused impact (Annex 4.3.2.16).

Financial literacy training to cooperative board and staff: A 5-day Financial Literacy Training of Trainers (ToT) program was successfully conducted to enhance the financial decision-making skills of cooperative board members and staff, while also encouraging active participation in household-level financial planning. A total of 12 participants from three cooperatives took part in the training (Annex 4.3.2.17).

Financial literacy campaign at community level: A total of 9 financial literacy campaign events were successfully conducted at the community level to enhance beneficiaries' understanding of cooperative membership benefits, promote sound financial planning and decision-making, and highlight opportunities for collateral-free loan acquisition at subsidized interest rates. Each of the three project-supported cooperatives facilitated three events, led by trainers who had been trained through a project-supported Training of Trainers (ToT) programme. In total, 202 participants (Male-46, Female-156) attended the sessions (Annex 4.3.2.18).

Cooperative leadership training: A three-day cooperative leadership training event was successfully held to enhance leadership skills and awareness among cooperative representatives. A total of 23 participants (Male-3, Female-20) from three cooperatives—Deuthan Agricultural Cooperative, Shree Sarad Sana Kishan Cooperative, and Bindeshwari Agricultural Cooperative—participated in the training. The programme aimed to foster a clear understanding of their current leadership dynamics and identify areas for improvement to ensure effective and visionary leadership within the organizations. This would enable participants to make informed decisions, strengthen governance, and drive the sustainable growth of their respective cooperatives (Annex 4.3.2.19).

Cooperative management training: A 4-day cooperative management training event was successfully held in Rajapur, Bardiya, for the board members and staff of three cooperatives. The objective was to enhance participants' knowledge and skills in cooperative management and responsibilities to strengthen cooperative operations, improve loan recovery processes, and promote the development of small enterprises through better cooperative practices. A total of 19 participants (Male-4, Female-15) attended the training. The sessions covered key topics, including the concept and evolution of cooperatives, cooperative values and principles, functions of management, cooperative systems, roles of officials, general meetings, evaluation and monitoring practices, and loan recovery and management (Annex 4.3.2.20).

Cooperative expert visit: During the reporting period, a scheduled cooperative expert visit was successfully conducted with the aim of reviewing financial records, project-supported seed money, loan disbursement documents, and identifying operational gaps. The visit focused on assessing audit documentation, loan amounts and processing systems, loan recovery, business plans, and overall cooperative performance. Key insights were gained into areas of compliance, growth, and ongoing challenges. Additionally, the visit highlighted the positive impact of the project's support in strengthening cooperative governance, service delivery, and policy development (Annex 4.3.2.20.a).

Output 3: Government officials (municipalities, division forest office, park authorities) have improved capacity to monitor and control river aggregates extraction and destructive fishing practices, in order to better protect fish spawning sites and otter habitats.

3.1 Provide training to government officials (including environment focal point/division forest office & park authorities) on otter and their prey base conservation, the consequences of destructive fishing practices and ensure standard processes of Initial Environmental Examination (IEE) are followed based on capacity gap assessment.

A capacity-building workshop on otter and prey base conservation was held on 27th September 2024 in Tikapur, Kailali, targeting local governments and government line agencies. The workshop aimed to raise awareness among government officials about otters, their prey base, and the impact of destructive fishing practices on otter habitats. Participants were educated on otter behavior, ecology, relevant laws and regulations, and the challenges in otter conservation. Additionally, the workshop covered environmental topics such as Initial Environmental Examination (IEE), Environmental Impact Assessment (EIA), and Environmental Management Plans, linking them to addressing illegal sand and gravel mining in the Karnali River and promoting sustainable fishing practices. This would help conserve the fish species vital for maintaining the otter prey base. A total of 27 participants (Male-20, Female-7) attended the event, representing organizations like Division Forest Offices, municipal offices (Tikapur, Rajapur, Geruwa Rural, Lamki Chuha, Bhajani, Janaki Rural), and Bardiya National Park (Annex 4.3.3). On average, participants showed a 32% increase in knowledge based on pre- and post-test results

3.2 Develop a standard protocol and monitoring mechanism to regulate river aggregates extraction in Otter hotspot areas identified in Output 4 and advocate for endorsement by the local government

A needs assessment on regulating river aggregate extraction was conducted with Lamki Chuha, Janaki, and Tikapur municipalities before initiating the preparation of a standard protocol and monitoring mechanism for regulating extraction in identified otter hotspot areas. The assessment revealed a significant need for a protocol to ensure sustainable river aggregate extraction, prompting local governments to request the support of the project partner, Dolphin Conservation Center (DCC), in drafting it. Following this request, the project assisted in developing the protocol for sustainable river aggregate extraction (Annex 4.3.4, 4.3.4.a, 4.3.4.b). Focus group discussions were held across six sites within the municipalities to better understand the dynamics of river aggregate extraction, its impacts, and potential solutions. These discussions included local government representatives (environment focal points and municipal environmental committee members) and community stakeholders, such as community forest user groups and water user groups. The draft protocols were shared during a dedicated workshop and subsequently submitted to the respective municipalities (Annex 4.3.5, 4.3.5.a, 4.3.5.b). The endorsement of the protocol is expected during upcoming municipal meetings in the current fiscal quarter.

3.3 Conduct training workshops on the Aquatic animal protection act for 45 law enforcement agency (Nepal Police) officials on illegal activities related to aquatic biodiversity based on capacity gap assessment.

The lack of awareness regarding prevailing laws and regulations concerning the protection of aquatic animals within law enforcement agencies has been identified as a key obstacle to effective regulation in aquatic biodiversity conservation efforts. To address this challenge, a training workshop specifically focussing on Aquatic Animal Protection Act and National Park and Wildlife Conservation Act was convened for 32 officials (Male-25 and Female-7) from law enforcement agencies, specifically the Nepal Police and Armed Police Force, in Tikapur, Kailali on 15th June, 2024. The participants received comprehensive information regarding existing laws and policies related to the conservation of aquatic biodiversity, with a specific focus on otters and their prey base. Additionally, a dedicated session on Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA) was conducted to equip participants with the necessary tools to monitor and mitigate illegal activities along the Karnali River (Annex 4.3.7). On average, a 35% increase in knowledge was observed among participants based on pre and post-test assessments (Annex 4.3.6).

3.4 Support the Provincial Ministry of Industry, Tourism, Forests and Environment (MoITFE, Lumbini and Sudurpaschim province), Division Forest Office (Kailali and Bardia) and Bardia National Park to conduct regular river patrolling to monitor and control river aggregates extraction and destructive fishing practices.

Joint monitoring events were conducted on December 28, 2024, and March 27–28, 2025, with a total of 67 participants (Male-56, Female-11) from various organisations, including the Ministry of Industry, Tourism, Forest and Environment (MoITFE)- Lumbini, MoITFE- Sudurpaschim, Bardiya National Park, Division Forest Office (DFO) - Bardiya, DFO - Kailali, District Coordination Committee - Kailali, and local government representatives. These monitoring visits focused on sharing project updates, providing feedback, assessing ongoing activities, and conducting joint river patrolling to identify freshwater-related threats. Additionally, the team reviewed the mitigation measures being implemented across the project sites (Annex 4.3.7, 4.3.7.a).

Output 4: Endorsed otter conservation action plan is adopted by all relevant stakeholders underpinned by robust scientific research and evidence-based approaches.

4.4 Engage 4 university graduates to conduct and publish research on Otter ecology- food habit and habitat use

In year 2, three university graduates were provided grants to conduct research on Smooth-coated Otter across three different sites in the lower Karnali Watershed. The titles of their research were: 1. Conservation and Ecology of Smooth-Coated Otters in Karnali-Mohana River: Habitat and Human Impact Assessment, 2. Habitat Use and Distribution of Smooth-Coated Otters in the Orahi River, Bardiya National Park, Nepal and 3. Assessing Yearly Site Use of Smooth-Coated Otters In the Geruwa River Channel, Nepal: A Multi-Season Occupancy Analysis.

The first study was conducted across 34 transects along the Mohana River and recorded signs of otter activity, including spraints, footprints, and grooming sites. The study indicates a strong preference of habitats with moderate river width, shallow to medium water depth, and the presence of *Saccharum spontaneum*, a key riparian vegetation species. Human disturbances such as fishing, sand mining, and riverside construction were negatively correlated with otter presence, suggesting that increased anthropogenic activity significantly reduces habitat suitability.

The second study investigated the habitat use and distribution of the smooth-coated otters in the Orahi River by using camera traps and sign surveys, aiming to identify key habitat factors influencing otter occurrence and the primary threats they face. Nine otter latrines were recorded, with higher otter activity observed in the Bantariya area. Camera trap images showed fishing, human presence, and livestock as major threats. The study revealed a significant positive correlation between the presence of tributaries and the likelihood of detecting smooth-coated otters.

The third study surveyed a 30 km stretch of Geruwa river along the shoreline of the river, covering 19 sites, and two temporal replicates of each site to record indirect signs (footmarks, dens, spraints) as well as direct sighting of SCO. The study applied a multi-season occupancy model to estimate the detection, site use, colonization and extinction probabilities of SCO across Geruwa river channel. The survey was conducted on two consecutive dry seasons (February 2024 and December 2024). The detection probability of SCO signs was significantly influenced by shore substrate, with sand substrate supporting higher detectability than stone or soil substrates. The top model estimated an average detection probability of 20.7%. Site use probability was positively associated with dense bank vegetation and greater distance from human settlements and negatively influenced by open vegetation.

4.6 Draft smooth-coated otter conservation action plan of Nepal

From April - Sept 2024, six community consultations were conducted with 203 participants (Male-131, Female-72) to inform the development of the Otter Conservation Action Plan. These consultations took place in Majhgaun- Kanchanpur, Arnahawa- Kailali, Thakurdwara- Bardia, Kapilvastu, Kasara- Chitwan and Kusaha- Sunsari ranging from Shuklaphanta National Park in the far-western Nepal to Koshi Tappu Wildlife Reserve in the eastern Nepal (Annex 4.3.8).

3.2 Progress towards project Outputs

Output 1: River dependent communities and local governments demonstrate river stretch co-management covering at least 10 kms of the Karnali river and one fish sanctuary, enhancing sustainable fishing practices and inclusive decision-making processes.

Under Output 1, which focuses on river stretch co-management, 15 community river stretch management groups (CRSMGs) were supported to prepare their respective management plans, integrating sustainable fishery guidelines informed by baseline assessments of fish abundance and occupancy (Activity 1.5, Indicator O 1.2). The plans will be finalized in year 3 and will be endorsed by the respective CRSMGs and the municipal offices (Indicator O 1.2).

A total of 360 monitoring events were conducted in year 2 (Activity 1.6, Indicator O 1.4). Additionally, a two-day training session on sustainable fishing practices was conducted for 45 CRSMG members (55.5% female), aimed at facilitating the adoption of sustainable fishing practices (Activity 1.3, Indicators O 1.3 and O 1.4).

Fish hotspot and potential fish sanctuary sites were identified through intensive stakeholder consultations (Activity 1.8) and fish diversity and abundance assessments (Activity 1.4) and fish sanctuary management plan (Activity 1.9) was drafted (Indicator O 1.5).

Output 2: Diversifying, culturally appropriate livelihood options: By 2026, 200 Sonaha/Tharu households (at least 50% women as direct beneficiaries) living in and around the lower Karnali increase their annual income by 15% through market oriented vocational training to enhance their technical skills followed by material support for establishment of micro-enterprises.

In the second year of the project's implementation, 141 (Male-30, Female-111) individuals (108 new beneficiaries in year 2 and 33 from year 1) participated in skill development training and received input support for both farm and off-farm livelihoods. Of these, 41 individuals underwent refresher courses, exposure visits and Level 2 training, while 108 individuals (Male-25 and Female-83) received training for the first time, equipping them with essential skills and resources to establish and strengthen their chosen enterprises (Activities 2.2, 2.3, 2.4; Indicators O 2.2). Additionally, 155 beneficiaries launched micro-enterprises and gained employment and 22 are in the process in various sectors, including barbering, tailoring, natural fibre-based handicrafts, vegetable farming, fish farming, and driving.

Under farm-based enterprises, the beneficiaries successfully produced 24,591 kgs of pesticide-free green vegetables and 466 kgs of fish. Of this, 6,585 kgs of vegetables and 158 kgs of fish

were directly consumed by the beneficiaries and their families, thereby enhancing their nutrition and food security. The newly established enterprises generated varying income levels, ranging from [redacted] (Activities 2.2, 2.3, and 2.4; Indicators O 2.1 and O 2.5). Moreover, three enterprises have been successfully registered, which has facilitated their ability to access legal identity, subsidized grants, tax incentives, and an official business identity, a key step toward ensuring sustainable income sources within the supported communities.

In parallel, three community-owned and led cooperatives, which were initially provided with seed money during year 1, have undergone significant capacity building, cooperative education campaigns, and leadership building in year 2, ensuring strengthened operation and growth (Activity 2.8). This included training on business plan development, which has empowered the cooperatives to establish a shared vision, make informed decisions, secure funding, and create a lasting, community-focused impact. Through these efforts, the cooperatives have expanded their reach to benefit a total of 170 individuals, with 29 members withdrawing loans totalling £6,118 to support the establishment and expansion of their enterprises (Indicators O 2.3, O 2.4, and O 2.5).

As the project progresses into its third and final year of the project, it has achieved notable success in providing sustainable income and diversifying livelihoods for the most marginalised Sonaha and Tharu communities, who have traditionally relied on fishing and gold panning in the Karnali River. By equipping these communities with essential skills and new enterprise opportunities, the project has strengthened economic resilience and is gradually reducing their dependence on unsustainable practices, laying a strong foundation for long-term, diversified livelihoods.

Output 3: Institutional capacity building: By 2026, government officials (municipalities, division forest office, park authorities) have improved capacity to monitor and control river aggregates extraction and destructive fishing practices, in order to better protect fish spawning sites and otter habitats.

A training session covering otter and prey base conservation, sustainable fishing practices, and Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA) processes was provided to 27 government officials (Male-20 and Female-7) (Activity 3.1). This training enhanced their understanding of otter habitat and prey species, the impacts of uncontrolled aggregates extraction, and destructive fishing practices on fish stocks, as well as standard processes for Initial Environmental Examination. The pre and post-test surveys revealed a notable increase in participants' knowledge by 35%, with the average pre-test score at 43% and post-test score at 78% (Activity 3.1; Indicator O 3.1).

A protocol for regulating river aggregates extraction (Activity 3.2; Indicator O 3.2) has been drafted for Lamki Chuha, Janaki, and Tikapur municipalities (Annex 4.3.4, 4.3.4.a, 4.3.4.b) following a series of consultation meetings with local government representatives as well as community stakeholders. The draft protocols were shared during a dedicated workshop and submitted (Annex 4.3.5, 4.3.5.a, 4.3.5.b) to the respective municipalities. Endorsement of the protocol is planned through municipal meetings in Year 3.

The regular river monitoring by the CRSMGs members reported 0.77 cases per monitoring event in year 2 compared to the 1.9 cases per monitoring event in year 1 showing a significant decrease in illegal and destructive fishing practices and unsustainable river aggregates mining (Indicator O 3.3)

Training on Aquatic Animal Protection Act and other relevant laws and policies on aquatic biodiversity conservation was provided to 32 law enforcement agencies officials (Male-25 and Female-7) to strengthen their capacity to monitor and control unsustainable river aggregates extraction and illegal and destructive fishing practices (Activity 3.3; Indicator O 3.4). The training has increased knowledge of officials by 29% (average pre-test score was 38% and post-test score was 67%).

Output 4: Enabling conditions to scale and safeguard otters: By 2026, endorsed otter conservation action plan is adopted by all relevant stakeholders underpinned by robust scientific research and evidence-based approaches.

For the preparation of the Otter Conservation Action Plan of Nepal, six community consultations were held involving 203 individuals (35.5% female) to understand issues, challenges, and action points (Activity 4.6).The plan will be finalized in year 3 and endorsed by the relevant government organizations after getting it reviewed by otter experts and DNPWC and Department of Forestry and Soil Conservation (DoFSC) officials (Activity 4.7; Indicator O 4.2 and 4.3).

Additionally, three university graduates received support for research on otter distribution and habitat (Activity 4.4). All the reports will be collated and at least one manuscript will be prepared and submitted to a peer-reviewed journal for publication (Indicator O 4.4).

3.3 Progress towards the project Outcome

Outcome: Improved river management and enhanced wellbeing of 200 river dependent households through diversified livelihoods, result in increased fish abundance and otter occupancy in the Lower Karnali Watershed.

Based on activities implemented in year 2, the project is on track and has made good progress towards achieving the project outcome. Below are the specific updates related to the outcome indicators:

Outcome Indicators

Human wellbeing

O.1 By 2026, 200 river dependent households in 15 pilot sites report an improvement in wellbeing in relation to an increase in income levels by 15% due to livelihood interventions, financial resilience due to diversification of income sources, increased participation and influence over river governance and fisheries management decisions (in comparison to the year 1 baseline)

Baseline: Income: Average annual income per household = [redacted]

Average number of different income sources per household=2.5

Participation and Influence over fisheries management

Out of 151 respondents, only 30 responded they were aware of meetings related to fisheries management 2 years back. Zero respondents were invited to any meetings 2 years back. 99% of respondents thought there was a need for a community-based plan for fisheries management 2 years back.

Participation and influence over river aggregate mining

Out of 151 respondents, only 8 respondents were invited to meetings related to fisheries management and 4 respondents responded that other family members were invited 2 years back. Satisfaction with level of participation and influence (of those involved) was always/Mostly at 7.14%; Sometimes at 32.14% and Rarely/Never at 5.36%. 100% of respondents thought there was a need for local level protocol/guideline/plan 2 years back.

Year 2 progress: Wellbeing survey conducted in year 1. However, due to a flaw in the design and timing of the questionnaires relating to Participation and Influence questions, we updated the questions in year 2 and collected historic perceptions of participation and influence prior to engagement in project activities.

Data as per Solstice dashboard for Participation and influence (and outlined above):

https://share.solstice.world/v3/dashboard_link/2bead755370846acb30016c9c1ef88dc?share=d7a39cf29e18404bbe4bf9f5674ac327

The endline will be conducted to measure change against the baseline by the end of year 3.

Improved river management

O.2 By 2026, 15 Community River-Stretch Management Groups (covering at least 10 km and one fish sanctuary) are implementing and measuring the effectiveness of sustainable river management plans.

Baseline: No Community River-Stretch Management Groups, management plans or fish sanctuaries within the project site (2024)

Year 2 progress: 15 Community River Stretch Management Plans drafted, Potential fish sanctuary sites identified, and One Fish Sanctuary Management Plan drafted.

Increased otter occupancy

O.3 By 2026, 5% increase in Otter occupancy in river stretch covered by CRSMGs compared to the baseline [current understanding is 21% occupancy over a stretch of 8 km in western channel of Karnali river - Kathariya 2022; and 44% occupancy over a stretch of 12 km in eastern channel of Karnali/Geruwa river - Thapa 2019].

Baseline: Otter occupancy estimated at 24.13% (2024)

Year 2 progress: Drafting of Otter Conservation Action Plan of Nepal has been initiated.

The endline will measure change against the baseline by the end of year 3.

Reduction in threats/drivers to otters

O.4 By end 2026, identified priority threats/drivers (declining prey, unregulated aggregates extraction, illegal and unsustainable fishing) to otters and other freshwater species are each reduced by 10% (compared to year 1 baselines).

Baseline: The threat score for illegal and destructive fishing and unregulated river aggregates extraction is 2.20 and 2.22, respectively. The overall threat score for all the identified threats is 2.34 (Annex 4.3.25).

Year 2 progress: The regular river monitoring by the CRSMGs members reported 0.77 cases of illegal activity per monitoring event in year 2 compared to the 1.9 cases per monitoring event in year 1 showing a significant decrease in illegal and destructive fishing practices and unsustainable river aggregates mining.

A protocol for sustainable river aggregate extraction has been developed and is expected to be endorsed by local municipalities shortly. While 27 government officials show a 32% improvement in knowledge of consequences of destructive fishing practices and illegal sand and gravel mining; and 32 law enforcement officials showed a 35% increase in knowledge of tools to monitor and mitigate illegal activities.

The endline will measure change against the baseline by the end of year 3.

Increased fish diversity and abundance

O.5 By end 2026, fish abundance within the river stretch covered by CRSMGs will be increased by 10% (in comparison with the year 1 baseline).

Baseline: Mean abundance: 5.54 (December 2024) and 8.3 (February 2024)

Year 2 progress: The stretch from Sattighat to Arnauha identified as the most suitable location for establishing a fish sanctuary. A draft Fish Sanctuary Management Plan has been developed for this site.

The endline will be done to measure change against the baseline by the end of year 3.

3.4 Monitoring of assumptions

Outcome Assumptions

Assumption 1: River dependent communities around the Lower Karnali Watershed perceive potential for more resilient and equitable benefits from river stretch co-management models, increasing likelihood of involvement.

Comments: It still holds true.

Assumption 2: The introduction of community stretch co-management and sustainable fishery practices are sufficient for the fishery and/or key fish species to partially recover in the time period, or at all.

Comments: It still holds true.

Assumption 3: Reduction of threats/drivers leads to an increase in otter occupancy; otter populations can increase and disperse within the lifetime of this project.

Comments: It still holds true.

Assumption 4: Conservation interventions will occur quickly enough for fish populations to react within the lifetime of the project, resulting in positive changes in fish abundance - while visible changes in fish stocks will take longer than the project to materialise.

Comments: It still holds true.

Output 1 Assumptions

Assumption 5: The government continues to allow the registration of community groups and does not make any legislative changes impacting on the registration.

Comments: The assumption is valid**;** The project supported two municipal offices to draft the local level Aquatic Animal Conservation Act to further strengthen the registration of the groups.

Assumption 6: Communities and local governments can reach a consensus and agreement on river co-management plans.

Comments: The assumption holds true; both the communities and local authorities have been supportive.

Assumption 7: Community groups formed for co-management of river stretches are significantly inclusive and capable of delivering the results.

Comments: The assumption is valid. All the CRSMGs formed are inclusive and capacity building of these groups is ongoing but the capability of delivering results depends on local dynamics and stakeholder engagement.

Assumption 8: Increased knowledge and understanding among CRSMGs members will encourage them to adopt more sustainable fishing practices.

Comments: It still holds true but the deep-rooted culture of fishing and the role fishing plays as a source of income may not change.

Assumption 9: CRSMG members are continuously willing and able to monitor rivers.

Comments: The assumption is still valid and the continued support from stakeholders has played a crucial role.

Assumption 10: Government is supportive and committed to declaring Nepal's first fish sanctuary.

Comments: It is still valid. The government has been very supportive so far and a close collaboration and advocacy will be required in year 3.

Output 2 Assumptions

Assumption 11: 70% HHs provided with skill-based training are successful in running their enterprise and earn sufficient income to sustain their livelihood.

Comments: The assumption is still true. Out of 208 total beneficiaries supported till year 2, 73.5% of the beneficiaries have already started engaging in income generating activities while the remaining 26.5% are in preparation. However, regular follow up and monitoring will be required in the final year.

Assumption 12: The governance of the cooperatives is effective, and they are capable of using the seed money wisely.

Comments: The assumption is still true. The cooperatives have been screened to ensure their effectiveness, and relevant policies have been updated, and multiple trainings were provided to cooperatives board members and staff to strengthen their governance.

Assumption 13: Selection of a range of livelihood activities based on local partners' experience in market development in the area, potential opportunities, resources available and product/service marketability means that viable livelihoods can be derived from on- and off-farm activities and enterprises.

Comments: It still holds true.

Output 3 Assumptions

Assumption 14: Government prioritises protocol developed for river aggregates extraction for implementation.

Comments: The assumption still holds true. The endorsement process for the protocol developed in close coordination with local governments and stakeholders is currently underway and is expected to be completed through municipal meetings within the upcoming quarterly fiscal period.

Assumption 15: Protocols are adopted by local governments once endorsed.

Comments: The assumption is valid as the local politics and existing policies will also have an influence. Continued engagement and advocacy will be essential to ensure timely adoption and integration of the protocol into municipal regulatory frameworks.

Assumption 16: Government officials have sufficient capacity to enforce fishing/illegal extraction regulations.

Comments: The assumption is still valid; however, enforcement varies with availability of the resources.

Assumption 17: Monitoring activities do not pose any risks to CRSMGs members and their family members.

Comments: The assumption is still valid. Accidental insurance and field equipment has been provided to CRSMGs members.

Output 4 Assumptions

Assumption 18: All the relevant stakeholders from government and community continue to be supportive of developing the Otter conservation action plan.

Comments: The assumption is still valid. The DNPWC has provided approval to initiate the plan preparation process.

Assumption 19: All relevant stakeholders (federal, provincial and local governments, conservation organisations, and local communities) commit to implementing the action plan and support the necessary actions beyond the lifetime of the project.

Comments: The assumption still holds true.

3.5 Impact: achievement of positive impact on biodiversity and multidimensional poverty reduction

Intended impact: As outlined in our original application, the project's intended impact is: The ecological integrity of the Lower Karnali Watershed is safeguarded to sustain freshwater biodiversity, smooth coated otter populations and improve the resilience of local livelihoods.

Poverty Reduction: In the long-term, the project aims to positively impact on human wellbeing by active engagement of indigenous women and men in co-management of river stretches, which will continue to further enhance community stewardship of river resources. Livelihood diversification of Sonaha and Tharu communities will reduce their dependence on river resources, and diversify and enhance their incomes, enhancing their wellbeing. Year 1 progress has laid the foundations by forming 15 CRSMGs covering 28 kms of river stretch compared to the target of 10 CRSMGs covering 10 km of river stretch in original application form. Similarly, the project originally intends to improve the livelihood of 200 households, which is already surpassed by the end of year 2, hence, the target of 200 households will be exceeded by the end of the project period. Therefore, the second year has been a good pathway to achieve the intended impact and beyond. The supported households have been engaged in income generation activities, contributing to diversifying household level income. The success story of Samjhana Sonaha becoming entrepreneur after her engagement with project, and how her son has decided to stay in hometown, assisting his mother to run the business, instead of going to India for labor migration is an example of how the project has helped to uplift well-being of the river dependent households in Lower Karnali (Annex 4.3.9). Diversification of household income is expected in improving the resilience of these river dependent marginalized communities.

Biodiversity Impacts: The enhanced community stewardship of river resources enabled by the co-management of river stretches, combined with institutional capacity building to better protect fish spawning sites and otter habitats will contribute to the long-term reduction of the threats to otters and fish in the river. Year 2 has drawn a pathway to achieve the intended biodiversity impacts by developing the municipal Aquatic Animal Conservation Bill, the Sustainable Sand, Stone and Gravel Mining Protocol along with identification of fish sanctuary site. Additionally, 27 government officials have been trained in otter and prey base conservation, as well as sustainable fishing practices, while 32 law enforcement officials have strengthened their capacity to monitor and control unsustainable river aggregate extraction and illegal fishing activities. Regular river monitoring by CRSMGs has also shown a decrease in illegal and destructive fishing in the project area (Annex 4.3.1.4).

4. Project support to the Conventions, Treaties or Agreements

National Biodiversity Strategy and Action Plan (NBSAP): Although the NBSAP (2016-2020) has expired, it prioritised the declaration and management of at least 3 suitable wetlands as fish sanctuaries. Under activities 1.1 and 1.4, the project has identified hotspots and potential fish sanctuaries and drafted a fish sanctuary management plan. The fish sanctuary will be declared in year 3 (Indicator O1.5).

Following approval and support from the Department of National Parks and Wildlife Conservation (DNPWC) and the Department of Forests and Soil Conservation (DoFSC) for community consultations (Annex 4.4.1) to initiate the process of preparing the Otter Conservation Action Plan, fourteen consultation meetings were conducted in last 2 years gathering all the required information for preparing Otter conservation action plan (Activity 4.6; Indicator O 4.2). The plan will be finalised and endorsed in year 3 of the project (Indicator O 4.3). This activity contributes to the NBSAP's aim of developing in-situ and ex-situ conservation plans for at least 10 threatened aquatic species.

Kunming-Montreal Global Biodiversity Framework: The project directly contributes to the Kunming-Montreal Global Biodiversity Framework. The formation of Community River Stretch Management Groups (CRSMGs), their capacity building, and mobilisation for regular river monitoring (Activities 1.1, 1.2, 1.3, 1.6, 1.7, 3.1, 3.3, and 3.4; Indicator O 1.1, O1.2, O 1.3, O 1.4, O1.5, O 3.2, O 3.3 and O 3.4) support the maintenance or enhancement of the integrity and resilience of lower Karnali River ecosystems (Goal A of the framework) and promote sustainable fishing practices that ensure the sustainable use and management of biodiversity (Goal B of the framework). Specifically, the project supports the framework's 2030 action targets: 1, 2, 3, 4, 5, 9, 22, and 23.

Terai Arc Landscape Strategy and Action Plan (2015-2025): The project directly supports its implementation through the formation of CRSMGs, their capacity building, mobilisation for regular river monitoring (Activities 1.1, 1.2, 1.3, and 1.6; Indicator O 1.1, O1.2, O 1.3, O 1.4 and O 1.5), contributing to engaging local communities as river stewards to conserve rivers and floodplains (Strategy 1.3) and conservation of riparian areas, especially along the Karnali corridor (Strategy 2.2). Similarly, capacity building of right holders and duty bearers on sustainable fishing practices (Activity 3.1 and 3.3) and mobilisation of CRSMGs members on river monitoring (Activity 1.6) and river patrolling (Activity 3.4) contributes to promoting sustainable fisheries and livelihood interventions for river-dependent communities (Activity 2.2, 2.3, 2.4 and 2.8) and green enterprises (Strategy 3.1 of an action plan).

Sustainable Development Goals (SDGs): The project also contributes to the SDGs. Activities 2.2, 2.3, 2.4, 2.5, 2.7 and 2.8 contribute to Goal 1 (No Poverty) and Goal 8 (Decent Work and Economic Growth) by implementing livelihood interventions (Indicator O 2.1 and O 2.2) and supporting the establishment of microenterprises to diversify incomes of river-dependent people (Indicator O 2.5). Engaging more than 50% women members in CRSMGs, selecting more than 50% women as direct beneficiaries from livelihood interventions (Indicator O 2.2), and capacity building in leadership skills development contribute to Goal 5 (Gender Equality). Additionally, activities 1.1, 1.2, 1.3, 1.5, 1.6, 1.7, 1.8. 1.9, 1.10 and 1.11 contribute to Goal 6 (Clean Water and Sanitation) and Goal 15 (Life on Land) by empowering local people as stewards of freshwater ecosystems and reducing pressure on fish and ensuring otter habitats.

National Adaptation Plans (NAPs): The project's activities align with the NAPs (2021-2050) objectives of securing river- and forests-based watershed resources and managing and restoring ecological connectivity. Activities 1.2, 1.3, 1.5, 1.6, 1.8, 1.9, 1.10, 3.1, 3.2 and 3.3 directly contribute to these objectives by forming CRSMGs, capacity building of CRSMGs member and duty bearers, regular river monitoring to oversee illegal and destructive activities in the river, identifying fish sanctuary site and preparing fish sanctuary management plan (Indicator O 1.2, O 1.4 and O 1.5) and preparing sustainable riverbed sand, stone and gravel mining protocol for securing the river and watershed resources (Indicator O 3.2, O 3.3 and O 3.4).

5. Project support for multidimensional poverty reduction

The project aims to support vulnerable and marginalized river dependent Sonaha and Tharu communities by improving their livelihoods and enhancing their stewardship on conservation. In year 2, the project has directly supported 141 (108 new beneficiaries in year 2 and 33 from year 1) individuals (Male-30, Female-111) from the Sonaha and Tharu communities to enhance their skills and knowledge through a comprehensive array of on-farm and off-farm training activities. Support was provided in barbering, tailoring, natural fibre-based handicrafts, vegetable farming, fish farming, and driving. The results are promising as the beneficiaries already generated collective income of £37,257 (NPR. 63,60099), with an individual income ranging from £1 to £4323 showcasing tangible progress towards poverty alleviation and economic empowerment within the targeted communities. Furthermore, to facilitate affordable finance access for the targeted communities, three community-led cooperatives have been strengthened with a multi-pronged approach. The project supported cooperatives to prepare their business development plan, provided financial literacy training to 12 cooperatives board and staff (Annex 4.3.2.17), cooperative leadership training to 23 participants (Male-3 and Female-20) (Annex 4.3.2.19), cooperative management training to 19 participants (Male-4 and Female-15) (Annex 4.3.2.20). Further, nine different financial literacy campaigns were organized benefitting 202 participants (Male-46 and Female-156). This approach plays a crucial role in ensuring the sustainability of the cooperatives, thereby enhancing the likelihood of success for the enterprises of the cooperative member

6. Gender Equality and Social Inclusion (GESI)

GESI Scale	Description	Put X where you think your project is on the scale
Not yet sensitive	The GESI context may have been considered but the project isn't quite meeting the requirements of a 'sensitive' approach	
Sensitive	The GESI context has been considered and project activities take this into account in their design and implementation. The project addresses basic needs and vulnerabilities of women and marginalised groups and the project will not contribute to or create further inequalities.	
Empowering	The project has all the characteristics of a 'sensitive' approach whilst also increasing equal access to assets, resources and capabilities for women and marginalised groups	X
Transformative	The project has all the characteristics of an 'empowering' approach whilst also addressing unequal power relationships and seeking institutional and societal change	

The project demonstrates a strong understanding of the context in which it operates and has taken a responsive and empowering approach to Gender Equality and Social Inclusion (GESI) by integrating key principles such as rights, representation, resources, and roles into its design and implementation. For example, *Free, Prior and Informed Consent* (FPIC) processes were conducted in Year 1, following the National FPIC Implementation Guidelines launched in 2023. The process actively involved vulnerable and marginalized groups, ensuring the equitable representation of Indigenous groups, women, and other marginalized communities in the Community River Stretch Management Groups (CRSMGs). In Year 2, CRSMGs continued their work of monitoring the river stretch and safeguarding their activities, with necessary protective

gear and insurance provided. All training for these groups was conducted in the local language to make the processes more inclusive, ensuring that all participants, regardless of gender or background, could engage fully in the training. The training was also led by experts to provide high-quality, relevant learning.

The Free Kamaiya Women Development Forum led livelihood interventions, selecting 300 households based on comprehensive criteria including proximity to hotspots, commitment to conservation, age, livelihood dependence on fishing, landholding, monthly income levels (less than £120), and indigenous status. These interventions have facilitated 111 female and 30 male members' engagement in various livelihood activities, with their participation being aligned with community consultations and real needs. Access to markets and finance was actively facilitated, leveraging existing cooperatives for sustainable income growth.

An illustrative success story from the project is that of Sitapati Chaudhary, whose transition from struggle to self-reliance demonstrates how the project empowered women and Indigenous Peoples to enhance their livelihoods and achieve greater economic independence (Annex 4.6.1). The story on the trail of transformation from the field also highlights the project's responsive and empowering approach to Gender Equality and Social Inclusion (GESI) (Annex 4.6.1.a).

Throughout the project, efforts have been made to ensure that capacity-building initiatives are fully inclusive. For example, the Dolphin Conservation Center (DCC) facilitated training sessions on otter and prey base conservation, sustainable fishing practices, and Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA) processes, ensuring equitable participation of duty bearers, with efforts made to invite and engage female participants (Male-20, Female-7) which are poorly represented in law enforcement. Similarly, workshops on the Aquatic Animal Protection Act and other relevant laws and policies on aquatic biodiversity conservation for law enforcement agencies saw participation of both female (7) and male (25) officials, with ongoing efforts to ensure equitable representation in the future, despite the gender disparity in law enforcement roles in Nepal.

These capacity-building efforts strengthened participants' understanding of aquatic biodiversity, legal frameworks, and the environmental impacts of harmful practices. Inclusive consultation processes with local governments and community stakeholders led to the development of draft protocols for regulating river aggregate extraction in three municipalities: Lamki Chuha, Janaki, and Tikapur, ensuring that diverse voices were considered in decision-making.

Small Mammals Conservation and Research Foundation (SMCRF), conducted six consultations across Nepal, engaging 203 individuals, of which 35.5% were women. These consultations provided a platform for diverse community voices, including those of women and marginalized groups, to share their perspectives on key issues, challenges, and actions needed for otter conservation. This inclusive approach ensures that the concerns and knowledge of all community members are reflected in the planning process. The draft plan will be reviewed by otter experts and relevant government authorities (DNPWC and DoFSC), with the final version incorporating feedback to ensure both scientific rigor and inclusive, community-informed conservation strategies.

Local knowledge and voices were incorporated throughout, and local resource persons were trained to support implementation. Lessons learned include the value of localized training for improving engagement, the opportunity presented by male out-migration to strengthen women's roles, and the need for continued follow-up to sustain engagement. Overall, the project has effectively promoted inclusive participation and equitable benefit-sharing, meeting the benchmarks of a GESI empowering approach.

7. Monitoring and evaluation

The project team has been regularly reviewing the project log frame and risks and assumptions to ensure that the project implementation is on track and contributing to the project outcomes. In

year 2, the project team along with the project partners conducted a review and planning workshop two times. The first workshop was organized on 16-17, May 2024 with an aim of re-iterating project objectives and targets, sharing updated log frame, risks, assumptions and mitigation strategies, communication strategies and providing refresher training on compliance, GESI and ESSF. This event also had in-depth discussion sessions on the budget and implementation plan for the year 2. The second workshop was organized on 4-6, Dec 2024. It was more focussed on detailed programmatic and financial review of partners, revisiting the project log frame, sharing challenges and risks during project implementation and providing refresher training on compliance, inclusive conservation and communication strategies.

All project interventions data are systematically tracked through WWF Nepal's online database system, which is populated by data from all project partners. This centralised system ensures real-time access to data and allows for continuous monitoring of project progress and performance. At site level, WWF Nepal's Programme Associate based at the project site closely coordinates with the partners to ensure that the project activities are being implemented effectively and efficiently, through regular meetings and interactions. To ensure project targets are on track, WWF-Nepal hosts weekly meetings virtually and in-person meetings monthly with partners, fostering open communication and addressing any challenges or opportunities encountered.

Joint monitoring visits were conducted with relevant government officials on 28th December 2024 and 27th March 2025 with a total of 20 participants on the first visit and 47 on the second. These visits provided an opportunity for the project team including project partners to share the project plan, highlight progress and achievements and demonstrate project interventions. The team also engaged with local communities ensuring that the perspectives and feedback from the ground were incorporated into ongoing project implementation. WWF-Nepal has been regularly providing refresher sessions and technical support on M&E requirements and database management as needed, reinforcing partners' capacity in these areas. To ensure impartiality and the accuracy of project reporting, a separate monitoring visit was also conducted by WWF Nepal's M&E focal in March without the presence of the technical team. This independent visit focused on monitoring field interventions and conducting a data quality assessment, ensuring that the reported progress and achievements were reliable and unbiased.

8. Lessons learnt

- The drafting of the Aquatic Animal Conservation Bill helped formalize and strengthen the recognition of CRSMGs within the municipality, providing a legal foundation for their operations. Formalizing local conservation groups through legislative or municipal recognition early in the project cycle could improve both identity and formal roles and responsibility.
- Coordination with the Community-Based Anti-Poaching Unit (CBAPU) significantly enhanced the safety of CRSMG members during river monitoring, while also enabling swift response to illegal activities. Such collaboration could foster knowledge sharing and partnership to ensure safety and strengthen surveillance among the community members.
- Regular community engagement and multi-tier consultations is instrumental in addressing early misunderstandings regarding fish sanctuary zones and to get local people buy-in.
- Illegal fishing practices, including electrocution at night and poisoning in upstream areas beyond the project's intervention zone, continue to pose serious threats to river ecosystems and biodiversity.
- Inundation events damaged at least one fishpond established through the project, leading to economic losses for the beneficiary.
- The use of modified fishing gear with the use of mesh wire (e.g., DJ Traps or *Ultaa Khongya*), not previously known to the community and unregulated by local authorities, was identified as a significant threat to juvenile fish populations. Incorporating such

specific gears in the management plan for ban could address the issue and result in timely recognition and response.

- Reluctance of insurance companies for livestock insurance during the winter season as well as delays due to full vaccination requirements, led to loss among livestock beneficiaries as it could not be compensated. Early engagement and negotiation with the insurance providers could help in flexibility of procedures.
- The transfer or resignation of key government officials caused disruptions in policy coordination and decision-making, affecting project timelines and approvals. Sharing meetings regarding project objectives, activities, timeline and budget are imperative for the newly appointed government stakeholders.

9. Actions taken in response to previous reviews (if applicable)

Comment 1: Concerns were raised by some community members leading to reluctance to participate in project activities. While it is understood that the project organised focus group discussions and monthly awareness raising events in response, the outcome of these measures has not been reported. Please clarify.

Response*: Focus group discussions, awareness campaigns, regular monthly meetings with CRSMGs, have been organised by the project partners to raise awareness and foster stewardship among community members. This has resulted in formation and registration of 15 CRSMGs including regular monitoring of their respective river stretches and organisation of the community led awareness raising activities.*

Comment 2: Two camera traps installed for otter occupancy monitoring were stolen during the reporting period. In mitigation, the project has collaborated with village chiefs and local law enforcement agencies. However, it is unclear what measures have been taken by these stakeholders in response. Please clarify.

Response: *The village chief raised the issue of the stolen cameras during their village meetings, emphasising the importance of retrieving data for otter conservation. Community members were also encouraged to report any suspicious activity or information regarding the theft; however, no information has been provided so far.*

Comment 3: It is unclear if the project is recognized as a distinct project with a clear identity or does it form part of a larger program. Please clarify.

Response: *Yes, the project has been recognized as a distinct project due to its specific focus on river-dependent communities, river stretch co-management and the conservation of and their prey base conservation. However, it significantly contributes to the government's Terai Arc Landscape Strategy and Action Plan (2015-2025), and WWF Nepal's strategic plan (2022-2026).*

10. Risk Management

In the second year of implementation, the project observed improved community understanding and engagement through continuous outreach and dialogue efforts. During the initial phases of community consultation on the establishment and potential sites for fish sanctuaries, there was some misunderstanding among community members regarding the idea of a year-round no-fishing or extraction zone along river stretches. However, through multi-tier consultations and meetings coordinated with local governments and CRSMGs, these misunderstandings were overcome with the community on designating a fish sanctuary after understanding the significance of sustainable fish conservation.

The role and responsibilities of the CRSMGs were sometimes questioned by local people during river monitoring activities, despite their registration at the municipal ward office. To address this,

a river stretch management plan, CRSMGs constitution and municipal aquatic animal conservation bills were drafted to provide legal clarity and recognition of the groups.

The use of modified fishing gear, locally called as DJ Traps or *Ultaa Khongya*—which involve the use of mesh wire, previously lesser-known to the community, has raised concerns. These gears, which are not recognized by local authorities, pose a threat to fingerlings by disrupting their movement. In response, the draft fish sanctuary management plan has explicitly included a provision to ban the use of such traps.

Coordination has been formalized through a Memorandum of Understanding (MoU) with the local disaster management committee regarding the use of safety gears during river monitoring activities conducted by boat. Additionally, the boat will be made available for rescue operations, particularly during the flooding season.

11. Scalability and durability

The project plays a crucial role in maintaining the ecological integrity of Karnali River and contributes to the Government of Nepal's biological corridor approach outlined in the Terai Arc Landscape Strategy and Action Plan (2015 -2025). Local government authorities, project partners, and community-based organisations have been actively engaged in project activities implementation to promote long-term sustainability and the potential for scaling.

In year 2, we supported local governments in drafting the Aquatic Animals Conservation Bill of Rajapur municipality and Geruwa Rural Municipality and Sustainable Riverbed Sand, Stone and Gravel Mining Protocol of Lamki Chuha Municipality, Tikapur Municipality and Janaki Rural Municipality based on the request from the respective municipalities. These government policies, once approved by the respective municipal offices, will create an enabling environment for aquatic biodiversity conservation and ensure sustainability and scale-up of project impacts, laying the groundwork for our exit strategy. In addition, the project supported draft Community River Stretch Management Plans once approved by the respective municipal offices, will create a foundation for implementing management plans and conserving and managing river stretches in coming days.

To ensure the sustainability of the Fish Sanctuary, WWF Nepal has been continuously coordinating with the Ministry of Agriculture and Livestock Development and seeking their suggestions and feedback. This project is expected to serve as a model for scaling up inclusive and sustainable fisheries management practices nationwide. Lessons learned will be widely disseminated among municipalities, and endorsement and adoption of the Otter Conservation Action Plan will pave the way for future conservation efforts and budget allocations.

We will engage partners to encourage public-private sector participation in business development for long-term economic viability.

12. Darwin Initiative identity

This project represents the first of its kind in Nepal, focussing on otter conservation and livelihood improvement for river- dependent communities, making the funding from the Darwin Initiative widely recognised and appreciated by a diverse range of stakeholders. Coverage of the subsequent project activities in multiple different newspapers and TV channels further emphasised the UK Government's contribution under the Darwin Initiative (Annex 4.12.1). We also highlighted the major event on our WWF Nepal website: World Otters Day Celebrated in Nepal | WWF

The Darwin initiative logo has been displayed alongside those of the Government of Nepal, WWF and partners logos, in accordance with BCF's branding guidelines, when promoting all project activities. For example, on posters (Annex 4.12.1.a, 4.12.1.b, 4.12.1.c), hoarding boards (Annex 4.12.1.d, 4.12.1.e). The municipal offices of the project site, DFO-Kailali and DFO-Bardia, Bardia

National Park, MoITFE- Sudurpaschim and MoITFE Lumbini and local CSOs and media are well aware about the project interventions and support from the Darwin Initiative.

Additionally, the project has continued to update a Flickr account to share activities and expand reach, (https://www.flickr.com/photos/200372897@N04/albums/) and has created a UK webpage (Otters in the Karnali | WWF) thereby enhancing effectiveness and visibility.

Similarly, Dr. Nicole Duplaix, Chair of the IUCN Otter Specialist Group has shared the project findings during the 16th International Otter Congress held in Peru, on behalf of Mr. Sanjan Thapa, Otter expert of SMCRF- one of the implementing partners of the project (Annex 4.12.1.f).

13. Safeguarding

[redacted]

[redacted]

14. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2024 – 31 March 2025)

Project spend (indicative) since last Annual Report	2024/25 Grant (£)	2024/25 Total Darwin Costs (£) DRAFT*	Variance %	Comments (please explain significant variances)
Staff costs (see below)	[redacted]			
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Others (see below)				
TOTAL	**£218,120**	**£218,120**		

**Please note, expenditures are currently indicative figures. We are still in the process of finalising expenditures with project partners.*

Table 2: Project mobilised or matched funding during the reporting period (1 April 2024 – 31 March 2025)

	Secured to date	Expected by end of project	Sources
Matched funding leveraged by the	[redacted]	[redacted]	WWF UK, WWF US, WWF Germany

partners to deliver the project (£)			
Total additional finance mobilised for new activities occurring outside of the project, building on evidence, best practices and the project (£)			

15. Other comments on progress not covered elsewhere

N/A

16. OPTIONAL: Outstanding achievements or progress of your project so far (300-400 words maximum). This section may be used for publicity purposes.

I agree for the Biodiversity Challenge Funds to edit and use the following for various promotional purposes (please leave this line in to indicate your agreement to use any material you provide here).

Our project has made remarkable strides in promoting biodiversity conservation and sustainable practices within local communities, with a strong emphasis on Gender Equality and Social Inclusion (GESI) sensitization. One of the most significant achievements is the drafting of the Aquatic Animal Conservation Act for the two local governments i.e., Geruwa Rural Municipality and Rajapur Municipality, which aims to establish a legal framework for the protection of aquatic species and their habitats. This initiative is a crucial step towards ensuring sustainable management of our river and safeguarding biodiversity. In addition, the Potential Fish Sanctuary site was identified and also drafted a Management Plan. This sanctuary will serve as a critical habitat and refuge for various fish species, promoting their recovery and enhancing native fisheries. The Management Plan outlines strategies for monitoring and protecting this vital ecosystem, ensuring its long-term sustainability.

River Aggregate Extraction Protocol has been drafted, which provides guidelines for responsible extraction practices. This protocol is designed to minimize environmental impact and promote the conservation of river ecosystems, addressing a significant threat to biodiversity in our region.

Importantly, we have supported 141 river-dependent households in diversifying their livelihood opportunities in year 2 (total 208 in the last two years), already surpassing the total project target of 200 households to increase their annual income, contributing to poverty reduction.

Community engagement efforts have been equally impactful through the celebration of World River Day, Earth Hour and World Water Day with over 200 participants in a river cleaning campaign. These events not only raised awareness about the importance of healthy and clean waterways but also united communities together for a common cause. Furthermore, we marked World Otters Day with a pledge to conserve otters, highlighting the importance of this keystone species in maintaining healthy freshwater ecosystems.

• Annex 1: Report of progress and achievements against logframe for Financial Year 2024-2025

Project summary	Progress and Achievements April 2024 - March 2025	Actions required/planned for next period
Impact: The ecological integrity of the Lower Karnali Watershed is safeguarded to sustain freshwater biodiversity, smooth coated otter populations and improve the resilience of local livelihoods.	Baseline data has been collected, impact will be determined by the end of the project upon comparison of the data and results. Evaluation will be done at the end of the project.	
Outcome: *By 2026, improved river management and enhanced wellbeing of 200 river dependent households through diversified livelihoods, result in increased fish abundance and otter occupancy in the Lower Karnali Watershed.*		
Outcome indicator 0.1. By 2026, 200 river dependent households in 15 pilot sites report an improvement in wellbeing in relation to:an increase in income levels by 15% due to livelihood interventions financial resilience due to diversification of income sources increased participation and influence over river governance and fisheries management decisions (in comparison to the year 1 baseline) Baseline: Average annual income per household = 124,489 NPR (£750) (141,015NPR female, 96,245 male) Average number of different income sources per household=2.5	Wellbeing survey conducted in year 1. However, due to a flaw in the design and timing of the questionnaires relating to Participation and Influence questions, we updated the questions in year 2 and collected historic perceptions of participation and influence prior to engagement in project activities. Data as per Solstice dashboard for Participation and influence: https://share.solstice.world/v3/dashboard_link/2bead755370846acb30016c9c1ef88dc?share=d7a39cf29e18404bbe4bf9f5674ac327 <u>Fisheries management</u> Out of 151 respondents, only 30 responded that they were aware of meetings related to fisheries management 2 years back. Zero respondents were invited to any meetings 2 years back. 99% of respondents thought there was a need for a community-based plan for fisheries management 2 years back. <u>River aggregate Mining</u> Out of 151 respondents, only 8 respondents were invited to meetings related to fisheries management and 4 respondents responded that other family members were invited 2 years back. Satisfaction with level of participation and influence (of those involved) was reported at 7.14% always/mostly satisfied; 32.14% sometimes satisfied and 5.36% rarely/never satisfied. 100% of respondents thought there was a need for local level protocol/guideline/plan 2 years back.	.

Outcome indicator 0.2. By 2026, 15 Community River-Stretch Management Groups (covering at least 10 km and one fish sanctuary) are implementing and measuring the effectiveness of sustainable river management plans.	15 Community River-Stretch Management Groups are regularly monitoring their respective river stretches. During year 2, a total of 346 monitoring events were conducted covering around 28.2 KM.	River monitoring will continue in year 3.
Outcome indicator 0.3. By 2026, 5% increase in Otter occupancy in river stretch covered by CRSMGs compared to the baseline [current understanding is 21% occupancy over a stretch of 8 km in western channel of Karnali river - Kathariya 2022; and 44% occupancy over a stretch of 12 km in eastern channel of Karnali/Geruwa river - Thapa 2019]. Baseline:Sign surveys and camera traps carried out with involvement of community members estimated the otter sign occupancy of 24.13%.	The findings of the assessment conducted in year 1 were referred to during the preparation of sustainable river stretch management plans and National otter conservation action plan.	The endline will be done by the end of the year 3.
Outcome indicator 0.4. By end 2026, identified priority threats/drivers (declining prey, unregulated aggregates extraction, illegal and unsustainable fishing) to otters and other freshwater species are each reduced by 10% (compared to year 1 baselines). Baseline: The threat ranking was 2.20 for illegal and destructive fishing and 2.22 for unregulated aggregates extraction. The overall threat ranking for all the identified threats is 2.34.	The findings of the threat assessment conducted in year 1 were referred to during the preparation of sustainable river stretch management plans and National otter conservation action plan.	The endline will be done by the end of the year 3.
Outcome indicator 0.5 By end 2026, fish abundance within the river stretch covered by CRSMGs will be increased by 10% (in comparison with the year 1 baseline). Baseline: Fish diversity and abundance assessment showed fish mean abundance of 5.54 in December and 8.3 in February and fish diversity index of 1.67 in December and 1.78 in February in lower Karnali region.	The fish hotspots and potential fish sanctuary identified by the fish diversity and abundance assessment (Activity 1.4) supported in selecting the sites for designation of fish sanctuary.	The endline will be done by the end of the year 3.
Output 1. By 2026, river dependent communities and local governments demonstrate river stretch co-management covering at least 10 kms of the Karnali River and one fish sanctuary, enhancing sustainable fishing practices and inclusive decision-making processes.		
Output indicator 1.1. Formal arrangements with 15 community groups (consisting of approximately 25 individuals) for co-management of river stretch in place by year 2 (from a baseline of 0), with equal representation of men and women involved in decision-making, ownership and financing (baseline 2022: no formal arrangements in place)	Based on the identification of the river stretches and adjoining hotspots, fifteen community river stretch management groups (consisting of 25 individuals) were formed and registered in respective ward offices of local governments *(Annex 4.3.2a and 4.3.2b)*. 2 events of training on leadership and sustainable fishing were conducted with active participation of 50 CRSMG members from two CRSMGs. To cultivate leadership skills, improve decision-making abilities, and promote sustainable fishing practices, ten two-day training events on	Leadership training planned for remaining CRSMGs.

	leadership and sustainable fishing were organised. 252 participants (221 female;31 male) from the remaining 13 CRSMGs.	
Output indicator 1.2. 15 sustainable river stretch management plans incorporating sustainable fishery guidelines, informed by the fish abundance and otter occupancy baseline assessments, finalised by CRSMGs and local governments by year 3 (baseline 2022: no management plans in place)	15 river stretch management plans developed incorporating sustainable fishing guidelines, informed by the fish abundance and otter occupancy baseline assessments, in coordination with local government (environment focal point, representatives of municipal environmental committees), and community groups (Community Forest and buffer zone community forest user groups, water users group) of Bardiya and Kailali districts.	The river stretch management plans will be endorsed in year 3.
Output indicator 1.3. By 2025, 50 % CRSMGs members have adopted sustainable fishing practices to support implementation of management plans and sustainable fishing guidance in comparison with the year 1 baseline with year 3 endline (disaggregated by gender) Practices: 26% (11.7% female, 50.9% male); 69% (81.9% female, 45.5% male) and 5% (6.4% female, 3.6% male) of the respondents practised sustainable fishing practices “to great extent”, “to some extent” and “not at all”, respectively. Data as per Solstice dashboard: https://share.solstice.world/v3/dashboard_link/6be12673a60649f5b9ab182ba0764d2e?share=566cd7ae81f34943b1a124508c4f1e59	Forty-four Otter Champions (16-Male, 28-Female) , representing 15 CRSMGs were provided refresher training on Otter identification and importance, sustainable fishing. 63 community-based awareness campaigns were conducted with 2427 participants (1778-Female, 649-Male) by Otter champions from 15 CRSMGs. Although various activities such as capacity building, awareness and campaigns, river monitoring, etc. have been ongoing to ensure adoption of sustainable fishing practices, this indicator won't actually be measured until the end of year 3.	The support will be continued for group management and implementation of sustainable fishing practices. The endline KAP survey will be conducted by the end of Year 3.
Output indicator 1.4. Each community group conducts monitoring of their respective river stretch twice a month for 3 years (except during July-Sept- i.e., monsoon season) (baseline 2022: no monitoring being conducted)	The fifteen CRSMGs (insured) have conducted monitoring of their respective river stretches twice a month (except during July-Sept- i.e., monsoon season) using the field gears supported in year 1.	Continued monitoring to control the illegal activities.
Output indicator 1.5. By 2026, Nepal’s first Fish Sanctuary designated with its management plan	The stretch from Sattighat to Arnauha was identified as the most suitable location for establishing a fish sanctuary. A draft Fish Sanctuary Management Plan has been developed for this site.	After FPIC from the local and indigenous people living nearby, the two sites will be designated as Fish Sanctuary with its management plan through approval from the local government in year 3.

Output 2. By 2026, 200 Sonaha/Tharu households (at least 50% women as direct participants) living in and around the lower Karnali increase their annual income by 15% through market oriented vocational training to enhance their technical skills followed by material support for establishment of micro-enterprises.		
Output indicator 2.1. Increase in annual income of 200 Sonaha/Tharu households by 15% due to livelihoods focused interventions by the end of Year 3 (disaggregated by gender and disability status) (baseline to be collected at project outset) Baseline 2023 = Annual Average Income per person 124,489 NPR (ranging from low 5,000 to high 770,000) Female: Annual Average Income per person 141,015NPR (ranging from low 5,000 to high 720,000) Male: Annual Average Income per person 96,245NPR (ranging from low 6,000 to high 770,000) With disability in HH: Annual Average Income Per Person 141,583NPR (ranging from low 20,000 to high 555,000) With no disability in HH: Annual Average Income Per Person 122,992NPR (ranging from low 5,000 to high 770,000)	In Year 2, 141 beneficiaries (108 additional) received livelihood support through the project. Out of 208 beneficiaries supported till now, 73.5% of the beneficiaries have already started engaging in income generating activities and 48.5% beneficiaries have already generated collective income of £37,257 (NPR. 63,60099), with an individual income ranging from £1 to £4323.	The endline survey will be conducted by the end of year 3.
Output indicator 2.2. By end of year 2, 100 women have enhanced their skills in On-farm (e.g. Fish/shrimp farming, fruit & vegetable farming, betel leaf farming, livestock rearing) or Off-farm (e.g. catering/hospitality, traditional fishing gears, traditional handicrafts, tailoring, mechanics) activities to diversify and increase household incomes (baseline to be collected at project outset)community savings and credit groups; membership disaggregated by gender)	An additional 72 women received skill development training in on-farm activities (such as vegetable, pig, and goat farming) and off-farm activities (including tailoring and grass/fibre-based handicraft production). By Year 2, 130 women (58 in year 1) have enhanced their skills in On-farm or Off-farm activities surpassing our target of 100 women.	Required women will receive refresher skills-based training.
Output indicator 2.3. By end of year 2, at least 2 local community cooperatives established (baseline 2022: no multi-purpose cooperatives exist with Sonaha/Tharu members, will be built on existing community savings and credit groups; membership disaggregated by gender)	To strengthen the institutional capacity of the three cooperatives supported in year 1, a three-day business plan development workshop was successfully conducted with engagement of 21 cooperative representatives (15 female and 6 male). As a result, each cooperative developed a 3-year business plan to guide them toward commercial viability and sustainability. A three-day cooperative leadership training was provided to 23 participants (3 male and 20 female) from the same cooperatives, aimed at enhancing leadership skills and awareness among cooperative representatives.	Capacity building of the cooperative staff (needs based) will continue

Output indicator 2.4. By end of year 2, at least 100 share members have increased access to cooperatives and secured loans (disaggregated by gender)	A 5-day financial literacy training programme was provided to 12 cooperative board members and staff to strengthen their financial decision-making skills. Following the training, the cooperative representatives conducted 9 financial literacy campaigns at the community level, reaching 202 participants (46 men and 156 women) to promote financial awareness and decision-making skills among local residents. To date, 29 skilled CRSMG members have secured loans totaling Nrs. 1,040,000 to establish, expand their enterprise from the partner cooperatives at a subsidized interest rate, while 170 CRSMG members have become share members. We would like to suggest a change in this indicator. Proposed indicator: “100 beneficiaries become members of cooperatives by year 2, with at least 50 taking loans for enterprise establishment or scale-up by year 3.” Justification for the proposed change: The total seed money for loan disbursement provided by the project in three cooperatives amounts to NPR 2,068,000 – in GBP 12165 (exchange rate 170). The Loan range available from the seed money to share members is (NPR 30,000-35,000) GBP 206. So, loans can be disbursed only to 59 share members.	Cooperative Literacy campaigns will continue, and skilled beneficiaries will be supported to secure loans to establish/ or, expand their enterprises.
Output indicator 2.5. By end of year 3, 20 micro-enterprises established by the targeted HHs (disaggregated by gender and disability status of entrepreneurs)	A three-day business counselling event was conducted targeting 21 participants (11 male and 10 female) to enhance their foundational business knowledge, particularly in pricing, marketing, and entrepreneurship. Two interaction meetings with participation from 40 participants (15 male and 25 female) including local wholesalers, betel leaf retailers, the Chairperson of the Haat Bazaar Management Committee, and local farmers were held to facilitate better market access for farmers' vegetable products. Three events of Entrepreneurship Development Training provided to 77 participants (18 male and 59 female) with the objective of enhancing knowledge on enterprise management, risk handling, and business registration processes. A learning visit event was organized for 34 participants (9 male and 25 female) with the aim of exposing selected entrepreneurs to practical	Entrepreneurship development training, business literacy training registration and other business development services will continue.

	examples of successful businesses, innovative technologies, and effective marketing strategies. During this period, 3 micro-enterprises were registered (1-Female, 2-Male).	
Output 3. By 2026, government officials (municipalities, division forest office, park authorities) have improved capacity to monitor and control river aggregates extraction and destructive fishing practices, in order to better protect fish spawning sites and otter habitats		
Output indicator 3.1. Increased knowledge and understanding of 48 government officials on the impacts of uncontrolled aggregates extraction and destructive fishing practices on fish stocks, Otter habitat and prey, and on standard processes of Initial Environmental Examination	27 government officials (Male-20, Female-7) were provided training on otter and prey base species conservation, destructive fishing, and Initial Environmental Examination (IEE). Pre-test and post-test surveys were done before and after the training respectively. The training has increased knowledge of officials by 35% with average pre-test score at 43% and post-test score at 78%.	Continue training to further strengthen the capacity and knowledge of the government officials
Output indicator 3.2. Standard protocol and monitoring mechanism of river aggregates extraction developed and endorsed by local government to regulate unsustainable aggregates extraction in high conservation value areas (including otter habitats and fish spawning sites) (Baseline 2022: No protocols or mechanisms exist)	Draft protocols for regulating river aggregate extraction developed for Lamki Chuha, Janaki, and Tikapur municipalities through consultation with concerned government and community stakeholders. The draft protocols were shared during a dedicated workshop and submitted (Annex 4.3.6, 4.3.6.a,4.3.6.b) with the respective municipalities.	Endorsement of the protocol will be done in Year 3.
Output indicator 3.3. Number of cases reported with regards to destructive fishing and unsustainable aggregate extraction decreased by 50 % in the river stretch covered by CRSMGs by the end of year 3 (in comparison to year 1 baseline) (Baseline: 230 cases reported from 120 monitoring events during Dec 2023-March 2024).	No. of cases reported in Year 2 is 267 from 346 monitoring events (April 2024-March 2025). The regular river monitoring by the CRSMGs members reported 0.77 cases per monitoring event in year 2 compared to the 1.9 cases per monitoring event in year 1 showing a significant decrease in illegal and destructive fishing practices and unsustainable river aggregates mining.	The cases reported will be tracked regularly.
Output indicator 3.4. 45 law enforcement agency (Nepal Police) officials have increased understanding on how to tackle illegal activities related to the Aquatic animal protection act (2017).	32 (Male- 25, Female-7) law enforcement agency officials (Nepal Police and Armed Police Force) oriented on Aquatic Animal Protection Act (2017). Pre-test and post-test surveys were done before and after the training respectively. The training has increased knowledge of officials by 29% with average pre-test score at 38% and post-test score at 67%.	Continue training to further strengthen the capacity and knowledge of the law enforcement agency

Output 4. By 2026, endorsed national otter conservation action plan is adopted by all relevant stakeholders (federal, provincial and local governments, conservation organisations, and local communities) underpinned by robust scientific research and evidence-based approaches.		
Output indicator 4.1. Baseline study on otter occupancy, prey species diversity and abundance and threat assessment completed by the end of Year 1 Baseline: Otter sign occupancy of 24.13% Fish mean abundance of 5.54 in December and 8.3 in February and fish diversity index of 1.67 in December and 1.78 in February in lower Karnali region. The threat ranking was 2.20 for illegal and destructive fishing and 2.22 for unregulated aggregates extraction. The overall threat ranking for all the identified threats is 2.34	Complete. The findings of the baseline study were considered during preparation of sustainable river stretch management plans, river aggregate extraction protocols, National otter conservation action plan as well as selection of sites for fish sanctuary declaration.	The endline will be conducted by the end of year 3.
Output indicator 4.2. By year 3, Otter Conservation Action Plan incorporating smooth-coated otter conservation needs is prepared in consultation with all relevant stakeholders, ensuring active participation of marginalised river dependent communities.	Six community consultations regarding the otter conservation action plan have been completed covering Shuklaphanta National Park in the western Nepal to Koshi Tappu Wildlife Reserve in eastern Nepal. Altogether 203 participants (131 male and 72 female) attended the meeting. The drafting of the Otter Conservation Action Plan of Nepal initiated.	The draft action plan will be shared with otter experts and DNPWC and DoFSC officials for their review. The final action plan will be prepared after incorporating the comments from the reviewers in year 3.
Output indicator 4.3. By year 3, Otter Conservation Action plan formally endorsed by relevant stakeholders and published	Not yet done.	The endorsement process will be initiated after the finalisation of Otter Conservation Action Plan in year 3.

Output indicator 4.4. By end Year 3, at least one research article submitted to a peer-reviewed journal	Three university graduates received support to conduct research on otter distribution and ecology, and to prepare manuscripts for submission to peer-reviewed journals for publication	Manuscripts will be prepared in year 3 based on the research which will be submitted to peer-reviewed journals for publication.

- **Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed)**

Project summary	SMART Indicators	Means of verification	Important Assumptions
Impact: The ecological integrity of the Lower Karnali Watershed is safeguarded to sustain freshwater biodiversity, smooth coated otter populations and improve the resilience of local livelihoods.			
Outcome: By 2026, improved river management and enhanced wellbeing of 200 river dependent households through diversified livelihoods, result in increased fish abundance and otter occupancy in the Lower Karnali Watershed.	Human wellbeing O.1 By 2026, 200 river dependent households in 15 pilot sites report an improvement in wellbeing in relation to:an increase in income levels by 15% due to livelihood interventions financial resilience due to diversification of income sources increased participation and influence over river governance and fisheries management decisions (in comparison to the year 1 baseline) Improved river management O.2 By 2026, 15 Community River-Stretch Management Groups (covering at least 10 km and one fish sanctuary) are implementing and measuring the effectiveness of sustainable river management plans. Increased otter occupancy O.3 By 2026, 5% increase in Otter occupancy in river stretch covered by CRSMGs compared to the baseline [current understanding is 21% occupancy over a stretch of 8 km in western channel of Karnali river - Kathariya 2022; and 44% occupancy over a stretch of 12 km in eastern channel of Karnali/Geruwa river - Thapa 2019]. Reduction in threats/drivers to otters O.4 By end 2026, identified priority threats/drivers (declining prey, unregulated aggregates extraction, illegal and unsustainable fishing) to otters and other freshwater species	O.1 Baseline and endline reports on GESI Assessment Report (Year1 and Year3), Baseline and endline community surveys to cover: income, diversification of income sources, participation and influence (year 1 & Year 3) O.2 Group registration certificate and 6 Monthly reports collected from CRSMGs O.3 Otter occupancy survey Report (Year 1 and Year 3) O.4 a. Threat Assessment Report (Year 1 and Year 3)	River dependent communities around the Lower Karnali Watershed perceive potential for more resilient and equitable benefits from river stretch co-management models, increasing likelihood of involvement. The introduction of community stretch co-management and sustainable fishery practices are sufficient for the fishery and/or key fish species to partially recover in the time period, or at all. Reduction of threats/drivers leads to an increase in otter occupancy; otter populations can increase and disperse within the lifetime of this project. Conservation interventions will occur quickly enough for fish populations to react within the lifetime of the project, resulting in positive changes in fish abundance - while visible changes in fish stocks will take longer than the project to materialise.

	are each reduced by 10% (compared to year 1 baselines). <u>Increased fish diversity and abundance</u> O.5 By end 2026, fish abundance within the river stretch covered by CRSMGs will be increased by 10% (in comparison with the year 1 baseline).	O.4 b. CRSMG reports on incidents of unsustainable fishing and aggregates extraction (see Output 3.3) O.5 Fish survey reports (Year 1 and Year 3)	
Output 1: By 2026, river dependent communities and local governments demonstrate river stretch co-management covering at least 10 kms of the Karnali river and one fish sanctuary, enhancing sustainable fishing practices and inclusive decision making processes.	1.1 Formal arrangements with 15 10 community groups (consisting of approximately 25 individuals) for co-management of river stretch in place by year 2 (from a baseline of 0), with equal representation of men and women involved in decision-making, ownership and financing (baseline 2022: no formal arrangements in place) 1.2 15 sustainable river stretch management plans incorporating sustainable fishery guidelines, informed by the fish abundance and otter occupancy baseline assessments, finalised by CRSMGs and local governments by year 3 (baseline 2022: no management plans in place) 1.3 By 2025, 50 % CRSMGs members have adopted sustainable fishing practices to support implementation of management plans and sustainable fishing guidance in comparison with the year 1 baseline with year 3 endline (disaggregated by gender) 1.4 Each community group conducts monitoring of their respective river stretch twice a month for 3 years (except during July-Sept- i.e., monsoon season) (baseline 2022: no monitoring being conducted) 1.5 By 2026, Nepal's first Fish Sanctuary designated with its management plan	1.1 Municipalities' Meeting Minutes and Group registration certificate 1.2 Community River Stretch Management Groups (CRSMG) reports; River Stretch Management Plan 1.3.a KAP Assessment Report (included in baseline and endline) 1.3.b Periodic monitoring report (incorporating anecdotal data, digital photos) by lead and implementing partners 1.4 Field Monitoring Reports by CRSMGs 1.5 Local government's official records of fish sanctuary designation	The government continues to allow the registration of community groups and does not make any legislative changes impacting on the registration. Communities and local governments can reach a consensus and agreement on river co-management plans Community groups formed for co-management of river stretches are significantly inclusive and capable of delivering the results. Increased knowledge and understanding among CRSMGs members will encourage them to adopt more sustainable fishing practices CRSMG members are continuously willing and able to monitor river Government is supportive and committed of declaring Nepal's first fish sanctuary
Output 2: By 2026, 200 Sonaha/Tharu households (at least 50% women as direct	2.1 Increase in annual income of 200 Sonaha/Tharu households by 15% due to livelihoods focused interventions by the end of	2.1 Income survey (as part of baseline and endline community survey) Year 1 & Year 3	70% HHs provided with skill-based training are successful in running their enterprise and earn sufficient income to sustain their livelihood.

beneficiaries) living in and around the lower Karnali increase their annual income by 15% through market oriented vocational training to enhance their technical skills followed by material support for establishment of micro-enterprises.	Year 3 (disaggregated by gender and disability status) (baseline to be collected at project outset) 2.2 By end of year 2, 100 women have enhanced their skills in On-farm (e.g. Fish/shrimp farming, fruit & vegetable farming, betel leaf farming, livestock rearing) or Off-farm (e.g. catering/hospitality, traditional fishing gears, traditional handicrafts, tailoring, mechanics) activities to diversify and increase household incomes (baseline to be collected at project outset) 2.3 By end of year 2, at least 2 local community cooperatives established (baseline 2022: no multi-purpose cooperatives exist with Sonaha/Tharu members, will be built on existing community savings and credit groups; membership disaggregated by gender) 2.4 By end of year 2, at least 100 share members have increased access to cooperatives and secured loans (disaggregated by gender) 2.5 By end of year 3, 20 micro-enterprises established by the targeted HHs (disaggregated by gender and disability status of entrepreneurs)	2.2 Training completion report 2.3 Periodic Progress Report prepared by participating cooperatives and Technical Project Report 2.4 Periodic Progress Report prepared by participating cooperatives (that includes loan disbursements for share members) 2.5 Project monitoring and technical progress reports	The governance of the cooperatives is effective and they are capable of using the seed money wisely Selection of a range of livelihood activities based on local partners' experience in market development in the area, potential opportunities, resources available and product/service marketability means that viable livelihoods can be derived from on- and off-farm activities and enterprises.
Output 3: By 2026, government officials (municipalities, division forest office,park authorities) have improved capacity to monitor and control river aggregates extraction and destructive fishing practices, in order to better protect fish spawning sites and otter habitats.	3.1 Increased knowledge and understanding of 48 government officials on the impacts of uncontrolled aggregates extraction and destructive fishing practices on fish stocks, Otter habitat and prey, and on standard processes of Initial Environmental Examination 3.2 Standard protocol and monitoring mechanism of river aggregates extraction developed and endorsed by local government to regulate unsustainable aggregates extraction in high conservation value areas (including otter habitats and fish spawning sites) (Baseline 2022: No protocols or mechanisms exist)	3.1 Pre- and Post-training assessments 3.2 Local government endorsed protocol 3.3 Field Monitoring Reports by CRSMGs	Government prioritises protocol developed for river aggregates extraction for implementation. Protocols are adopted by local governments once endorsed. Government officials have sufficient capacity to enforce fishing/illegal extraction regulations. Monitoring activities do not pose any risks to CRSMGs members and their family members.

	3.3 Number of cases reported with regards to destructive fishing and unsustainable aggregate extraction decreased by 50 % in the river stretch covered by CRSMGs by the end of year 3 (in comparison to year 1 baseline) 3.4 45 law enforcement agency (Nepal Police) officials have increased understanding on how to tackle illegal activities related to the Aquatic animal protection act (2017).	3.4 Pre- and post training assessments	
Output 4: By 2026, endorsed national otter conservation action plan is adopted by all relevant stakeholders underpinned by robust scientific research and evidence based approaches.	4.1 Baseline study on otter occupancy, prey species diversity and abundance and threat assessment completed by the end of Year 1 4.2 By year 3, Otter Conservation Action Plan incorporating smooth-coated otter conservation needs is prepared in consultation with all relevant stakeholders, ensuring active participation of marginalised river dependent communities 4.3 By year 3, Otter Conservation Action plan formally endorsed by relevant stakeholders and published 4.4 By end Year 3, at least one research article submitted to a peer-reviewed journal	4.1 Otter Occupancy survey report; Fish diversity and abundance assessment reports 4.2 Consultation documents; minutes of meetings 4.3 Published plan 4.4 Journal article	All the relevant stakeholders from government and community continue to be supportive of developing the Otter conservation action plan. All relevant stakeholders (federal, provincial and local governments, conservation organisations, and local communities) commit to implementing the action plan, and support the necessary actions beyond the lifetime of the project.

Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

River stretch co-management

Output 1. By 2026, river dependent communities and local governments demonstrate river stretch co-management covering at least 10 kms of the Karnali river and one fish sanctuary, enhancing sustainable fishing practices and inclusive decision making processes.

Activity 1.1. Identify river stretch and adjoining hotspot areas (identified in Output 4) to be managed by the community, while considering climate impacts.

Activity 1.2. Support the formation and registration of 15 community river stretch management groups (CRSMGs) ensuring equal representation of men and women, in coordination with the local government

Activity 1.3. Train 30 community members (2 from each CRSMG) on sustainable fishing practices and river monitoring to support the implementation of river management plans.

Activity 1.4. Conduct fish diversity and abundance assessments with local community representatives from the CRGMGs along the designated river stretch

Activity 1.5. Draft 15 river stretch management plans incorporating sustainable fishing guidelines in coordination with local government and community groups and submit to local governments for approval/endorsement.

Activity 1.6. Support CRSMGs to conduct regular monitoring of their designated river stretch to control illegal activities in the river with the local government and law enforcement agencies.

Activity 1.7. Support 15 CRSMGs to organise awareness raising programmes, install hoarding boards and develop IEC materials and implement youth-led campaigns related to sustainable fishing practices and Otter conservation

Activity 1.8. Based on hotspots identified in Output 4, conduct feasibility assessments and stakeholder consultations with CRSMGs on the potential of establishing a fish sanctuary

Activity 1.9 Develop a fish sanctuary management plan for the agreed site; and create a management committee and submit the plan for approval to the local government.

Activity 1.10 Support for leadership/sustainable fishing training of CRSMG members

Activity 1.11 Support a multi-stakeholder learning exchange visit to socialise key stakeholders (CRSMGs, partners and government stakeholders) on community based fishery management

Diversifying, culturally appropriate livelihood options

Output 2. By 2026, 200 Sonaha/Tharu households (at least 50% women as direct beneficiaries) living in and around the lower Karnali increase their annual income by 15% through market oriented vocational training to enhance their technical skills followed by material support for establishment of micro-enterprises.

Activity 2.1. Identify and prioritise most vulnerable households through vulnerability mapping and select beneficiaries.

Activity 2.2. Support Sonaha/Tharu community through On farm trainings (fish/shrimp farming -45, seasonal and off seasonal vegetable, fruits farming-30, betel leaf farming-10, livestock /poultry rearing-15).

Activity 2.3. Support Sonaha/Tharu community through Off farm trainings (small restaurant opening -10, traditional fishing gears, jewellery making, handicraft making -20, tailoring -15, repair mechanics (motorcycle, AC, mobile, auto rickshaw)- 15).

Activity 2.4. Provide input /material support (seeds, breeds, tools, seed money) to facilitate enterprise establishment

Activity 2.5. Support Sonaha/Tharu community through Skill development trainings (Long term certified course for employment creation (electric auto rickshaw/ car vehicle driving, masonry, plastering training *etc.- 40).

Activity 2.6. Training on product development diversification, packaging and labelling to add value to the existing products especially for betel leaf and fish products.

Activity 2.7. Support market linkages to facilitate enterprise development through participation in trade fairs, promotion via online platforms, cooperative, business counselling, stakeholders and market actors interaction.

Activity 2.8. Support the establishment/reformation of two local community cooperatives for sustainable access to finance and to ensure sustainability of project initiative.

Institutional capacity building

Output 3. By 2026, government officials (municipalities, division forest office,park authorities) have improved capacity to monitor and control river aggregates extraction and destructive fishing practices, in order to better protect fish spawning sites and otter habitats.

Activity 3.1. Provide training to government officials on otter and their prey base conservation, the consequences of destructive fishing practices and ensure standard processes of Initial Environmental Examination (IEE) are followed.

Activity 3.2. Develop a standard protocol and monitoring mechanism to regulate river aggregates extraction in Otter hotspot areas identified in Output 4 and advocate for endorsement by the local government.

Activity 3.3. Conduct training workshops on the Aquatic Animal Protection Act (2017) for 45 law enforcement agency (Nepal Police) officials on illegal activities related to aquatic biodiversity.

Activity 3.4. Support the Division Forest Office (Kailali and Bardia) and Bardia National Park to conduct regular river patrolling to control river aggregates extraction and destructive fishing practices.

Enabling conditions to scale and safeguard otters

Output 4. By 2026, endorsed otter conservation action plan is adopted by all relevant stakeholders underpinned by robust scientific research and evidence based approaches.

Activity 4.1 Prepare otter identification manual in Nepali language and a smooth-coated otter monitoring protocol for use by all relevant stakeholders.

Activity 4.2. Train 20 local community members on otter identification and monitoring protocols drafted by WWF.

Activity 4.3. Conduct sign surveys and camera traps (at hotspot sites) for Otter occupancy along the potential habitat (rivers, wetlands and riparian zones) by otter experts mobilising trained CRSMGs members.

Activity 4.4. Engage 4 university graduates to conduct and publish research on Otter ecology- food habit and habitat use.

Activity 4.5. Conduct threat assessment of otters using absolute threat rank system to inform the development of strategies for the species and its habitat protection.

Activity 4.6. Draft National Otter Conservation Action Plan of Nepal.

Activity 4.7. Engage Otter experts and DNPWC and DoFSC officials in reviewing draft plan, finalise plan as per DNPWC standard format and get government's endorsement of the Conservation action plan.

Annex 3: Standard Indicators

Table 1 Project Standard Indicators

Please see the Standard Indicator guidance for more information on how to report in this section, including appropriate disaggregation.

DI Indicator number	Name of indicator	If this links directly to a project indicator(s), please note the indicator number here	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
DI-C02	Number of new conservation or species stock assessments published.	Ind O.3, O.4 and O.5	Assessment	Type of assessment	1-Otter Occupancy survey, 1-Fish diversity assessment and 3-Threat assessment	0		3	6
DI-B07	Number of people participating in community-based management groups and/or Payment for Ecosystem Service schemes.	Ind O 1.1	People	Gender	375 (120-Male, 255-Female)	375 (120-Male, 255-Female)		375	375
DI-B02	Number of new/improved species management plans available and endorsed	Ind O 4.3 and O 1.5	Plan	Species	0	0		0	2
DI-D16	Number of households reporting improved livelihoods	Ind O 2.1	HHs	None	24	77		101	200
DI-A10	Proportion sustainable livelihood enterprise established that are functioning at project end (at least a year after establishment)	Ind O 2.5	Enterprise	None	0	3			20
DI-B12	Number of policies developed or formally contributed to by projects and being implemented by appropriate authorities.	Ind O 3.2	Policy	None	0	0		0	6
DI-A01	Number of people from key national and local stakeholders completing structured and relevant training.	Ind O 3.4	People	Gender	32 (Male-19, Female-13)	32 (Male-25, Female-7)		32	45
DI-C18	Number of papers published in peer reviewed journals.	Ind O 4.4	Number	None	0	0		0	1

■ Table 2 Publications

Title	Type (e.g. journals, best practice manual, blog post, online videos, podcasts, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
Protecting Smooth-coated Otters in Nepal	Article	Aashish Kapali and Rajesh Sada, 2024	M	Nepalese	Darwin Initiative	https://www.darwininitiative.org.uk/news/2024/09/17/protecting-smooth-coated-otters-in-nepal/
Darwin Initiative Funds a Three-Year Project in Nepal	Newsletter	Sanjan Thapa, 2024	M	Nepalese	Himalayan Otter Network	https://www.himalayanotternetwork.org/wp-content/uploads/2025/01/Himalayan-Otter-Network-Newsletter-July-2024.pdf

- **Checklist for submission**

	Check
Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the **correct template** (checking fund, scheme, type of report (i.e. Annual or Final), and year) and **deleted the blue guidance text** before submission?	✓
Is the report less than 10MB? If so, please email to BCF-Reports@niras.com putting the project number in the Subject line.	
Is your report more than 10MB? If so, please consider the best way to submit. One zipped file, or a download option, is recommended. We can work with most online options and will be in touch if we have a problem accessing material. If unsure, please discuss with BCF-Reports@niras.com about the best way to deliver the report, putting the project number in the Subject line.	
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	✓
Have you provided an updated risk register? If you have an existing risk register you should provide an updated version alongside your report. If your project was funded prior to this being a requirement, you are encouraged to develop a risk register.	✓
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see Section 16)?	
Have you involved your partners in preparation of the report and named the main contributors	✓
Have you completed the Project Expenditure table fully?	✓
Do not include claim forms or other communications with this report.	