



## Illegal Wildlife Trade (IWT) Challenge Fund Final Report

### IWT Challenge Fund Project Information

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Lead Partner	Yayasan IAR Indonesia
Project Partner (s)	KSDAE, Lancaster University (Jacob Phelps), ASLIQEWAN
IWTCF grant value	£ 238,1000
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Project website/blog/social media	<a href="http://www.internationalanimalrescue.or.id">www.internationalanimalrescue.or.id</a>
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### 1. Project summary

Wildlife trade threatens hundreds of species in Indonesia often with devastating economic, social, and environmental consequences. However, these arguments have often failed to attract broad buy-in and reforms to meaningfully address conservation threats. In contrast, the Covid-19 pandemic presents new policy windows for public and decision-maker engagement about the dual threats of zoonosis and biodiversity loss.

Wildlife trade presents significant zoonotic disease transmission risks (e.g., outbreak of salmonellosis, avian influenza, etc, including the new Covid-19 pandemic). Risks are highest in unregulated and illegal trade that lack veterinary checks and sanitary safety standard inspections. Threats are particularly acute at the large markets in most major cities, which meet the demand for pets and meat from wild-caught birds, reptiles, primates and other mammal species (Nijman et al. 2019). Public health, welfare and conservation standards are regularly disregarded in these markets.

Improving legal trade and marketplace standards is institutionally complex. Weak cross-agency collaboration, poor governance and management structures, lack of capacity and the absence of systematic market monitoring are major constraints to safe and sustainable trade (Janssen and Chng 2018). As such, improved governance of legal trade and markets is key to conservation and public health outcomes. Moreover, this confluence of issues and the explicit links to human wellbeing provide an opportunity to initiate discussions about wildlife governance that have historically been difficult because they were perceived narrowly as conservation issues.

Using the coronavirus pandemic as a high-profile policy window, YIARI has become to work with key stakeholders involved in the management and regulation of wildlife trade, health agencies, communities

in source habitats and traders in markets to formulate a joint strategy for improved governance of legal trade in accordance with the One Health paradigm, focussing on connections between people, animals, and the environment, whilst simultaneously building the capacity of the government to better monitor and enforce the regulations, and to reduce the threat of illegal wildlife trade.

Although the outcome of our Project is expected to benefit all species traded in animal markets, we have focused our monitoring on two protected bird species most commonly found in these markets (i.e., *Chloropsis sonnerati* and *Acridotheres melanopterus*) and two non-protected mammal species which are traded in large volumes (i.e., *Macaca fascicularis* and *Pteropus vampyrus*) in order to evaluate Project effectiveness and impact. Non-protected species will benefit directly from the improved governance of legal trade rules (e.g., business licences, quotas) and improved enforcement at marketplaces under a “One Health” approach. Protected species will benefit indirectly through increased government agency presence and control over markets, including the ability of market inspectors to identify protected species through the capacity building sessions.

The implementation of the One Health strategy is expected to benefit the general public through reduced risk of zoonotic disease transmission, with potential impacts on global health. Rural communities across Indonesia will be specially benefited due to their high vulnerability faced by the rapid depletion of their environment, close proximity to wildlife and lack of health facilities and infrastructure. For the past five years, YIARI has worked alongside these communities to develop sustainable livelihood activities, but also to sensitize about the risks imposed by environment and wildlife depletion to health and livelihoods. By the implementation of a One Health strategy with the engagement of multi-sectors, our Project is expected to largely benefit these social groups by safeguarding their future, health and livelihoods.

Throughout the implementation of this Project, we have made good progress towards understanding the animal markets conditions and governance, the zoonotic risks associated with the markets’ practices, the legal framework regarding the wildlife trade and zoonosis surveillance and prevention, as well as, through the engagement of stakeholders in improving the market’s control and conditions through the One Health concept in three large animal markets in DKI Jakarta and West Java provinces. The Situational Analysis is now published, and two market-based One Health strategies were co-formulated. The pilot implementation of the strategies in our three target markets met a mixture of results, discussed in more details below.

## **2. Project Partnerships**

### **- KSDAE (Directorate General of Nature Resources and Ecosystem Conservation)**

The project has benefited significantly from the strong partnership with KSDAE under Indonesia’s Ministry of Environment and Forestry, which has facilitated communication across various government. Regular engagement with KSDAE representatives in Jakarta, West Java, and West Kalimantan has been crucial for discussing key project objectives, particularly regarding zoonosis and capacity building. Notable collaborations included support from BKSDA Jakarta for awareness activities on protected species and the legal trade of wildlife at Pramuka and Jatinegara markets, support and participation by KSDAE officials in the two National Seminars on One Health, and outreach initiatives led by regional leaders in West Java. This ongoing collaboration has established KSDAE as an invaluable partner to our Project. The existing memorandum of understanding (MoU) further indicates a commitment to continued collaboration moving forward.

### **- Jacob Phelps (Conservation Governance Lab, Lancaster University)**

Jacob Phelps was instrumental in providing technical advice throughout the project. Initially, communication was conducted via email, Zoom, and WhatsApp, but since his move to Indonesia, in-person meetings have enhanced collaboration. Phelps has significantly contributed to the project’s communication strategy, stakeholder engagement, and progress reviews, especially concerning project indicators. He played a key role in the legal review publication, offering his extensive expertise in wildlife trade and law. His ability to identify alternative solutions to challenges has been invaluable. Phelps has expressed continued interest in the Project, indicating that coordination will persist beyond the current funding period.

### **- Association of Indonesian Wildlife, Aquatic, and Exotic Animal Veterinarians (ASLIQEWAN)**

ASLIQEWAN was a key partner in the Project, with regular and effective communication and coordination over the past year. Three project team members, Wendi, Yumni, and Nur Purba, who are also

ASLIQEWAN members, frequently engage with the association on specific project aspects. ASLIQEWAN members participated in the One Health National Seminars in Bandung and Pontianak, including one serving on the official committee. Regular discussions with Dr. Huda Darusman, ASLIQEWAN Chair and senior lecturer at IPB University, facilitated project implementation and potential future collaborations. ASLIQEWAN's respected status and extensive network provided valuable local support, and ongoing communication and coordination are expected to continue.

#### **- Indonesia One Health University Network (INDOHUN)**

Communication with INDOHUN was maintained throughout the project, and some collaborative activities occurred, such as through their support to FGD workshops, the National Seminars in Pontianak and Bandung, and the strategy preparation. Dr. Joko Pamungkas from INDOHUN was a speaker at the One Health Seminar in Bandung in October 2023. While INDOHUN was not suited for operational-level project implementation due to its broader scope, collaboration with INDOHUN for lobbying relevant policymakers is anticipated to continue after the termination of this project.

#### **- Padjadjaran University (UNPAD)**

We established collaborative working agreements with Padjadjaran University (UNPAD), specifically with the Veterinary Medicine Study Program (PSKH) and the Faculty of Knowledge and Communication (FIKOM). UNPAD PSKH led coordination meetings with stakeholders for the One Health strategy at Sukahaji Market, managed correspondence, and involved students in field activities. PSKH also led the One Health National Seminar in Bandung in October 2023 and was well-received by Sukahaji market management. Lecturers from PSKH, the Faculty of Medicine, and the Faculty of Communication supported the seminar as speakers, with Dr. Herlina Agustin from FIKOM giving a talk. UNPAD has proven to be a valuable partner and has agreed to continue collaborating in the follow-up activities at the Sukahaji Market after the end of this Project, with plans for the market become a long-term study site for veterinary and epidemiology students from UNPAD.

#### **- Universitas Muhammadiyah Jakarta**

Collaboration with Dr. Tria Patrianti—a communications lecturer at Universitas Muhammadiyah Jakarta and a former communications advisor for the local government—was initiated during the first year of this Project. Throughout the final project period, Dr. Tria provided valuable advice on scaling up the strategy and securing endorsement from the Jakarta local government. She also facilitated communication with the Commissioner of PD Pasar Jaya Jakarta, although no positive results have emerged yet. Dr. Tria emphasized patience, noting that new policy implementation and behavioural change can be slow due to bureaucratic processes. Given recent communication challenges with Jakarta market authorities, Dr. Tria's extensive experience is expected to be instrumental in developing a new communication strategy to engage government personnel for approving and endorsing a One Health Strategy. We anticipate that our communication with Dr. Tria will continue in some capacity moving forward.

#### **New Partnerships:**

##### **- Tanjungpura University**

During the project last year, we initiated a new collaboration with Tanjungpura University, the largest and most respected university in West Kalimantan. Building on an existing MoU, where Forestry and Biology students have previously collaborated with YIARI, this past year saw Tanjungpura University significantly contribute to One Health workshops and related activities in West Kalimantan. They hosted workshops on their campus and led a series of One Health events, including a Rabies Talkshow, Rabies Day Commemoration, and the One Health National Seminar, all supported by the university's Chancellor. Lecturers from various faculties—Medicine, Social Sciences, Government Sciences, Mathematics, and Natural Sciences—actively participated as committee members, resource persons, and moderators. Additionally, Tanjungpura University students were instrumental in organizing and running One Health activities in Pontianak from August to December 2023.

##### **- West Kalimantan Plantation and Livestock Service (Dinas Perkebunan dan Peternakan)**

YIARI first established communication with the Dinas Perkebunan dan Peternakan in West Kalimantan due to their crucial role in preventing zoonotic diseases in the province. Following initial discussions, both parties were eager to collaborate, leading to a working agreement (Perjanjian Kerjasama) under the existing MoU with the Governor of West Kalimantan since 2020. During the last Project's year, this collaboration saw the Service supporting rabies vaccination activities in Pontianak in October 2023 and

agreeing to work with YIARI on zoonosis mitigation and re-emerging disease activities. This partnership marks the first collaboration of its kind between the Service and an NGO in West Kalimantan. Given the existing MoU and the recent working agreement, we anticipate continued partnership activities beyond termination of the Project, particularly due to the agency's pivotal role in mitigating zoonotic disease spread.

For updates on the Stakeholder Working Groups and documentation of all project partnerships, please refer to [Annex 5. 1](#).

### 3. Project Achievements

#### 3.1 Outputs

##### **Output 1: Wildlife trade regulatory system and zoonotic disease risk in animal markets and along the supply chain in Indonesia are well-understood.**

This output was fully achieved. A comprehensive Situational Analysis report was completed (**Indicator 1.1, Annex 5. 2**), incorporating three different assessments: the animal markets assessment (**Annex 5. 3**), the legal review (**Annex 5. 4**), and the Zoonotic Disease Risk Assessment (**Annex 5. 5**) (**Indicator 1.2**). The Situational Analysis also includes the findings of YIARI's regular wildlife trade monitoring in animal markets, stakeholders' interviews, information gathered during the FGDs and from the available literature.

In addition, as a result of a collaboration with the Royal Veterinary College/ Zoological Society of London, a more specific and detailed DRA was written up (**Annex 5. 23**). A comprehensive investigation using the available literature was carried out to provide further hard evidence of zoonotic disease risks in bird markets. Macaques were chosen as the focus species as they are considered to be a high-risk species for zoonotic disease transmission and due to their regular presence in markets (despite being in violation of trade regulations). Long-tailed macaques are also one of this project's four focal species. This 200-page report will be used to help raise awareness on the risks involved in unregulated trade and provide evidence to back up future changes in policy and regulation.

##### **Output 2: Development of a national One Health framework focused on the wildlife trade through top-down and bottom-up multi-stakeholders' engagement and collaboration.**

This output was partially achieved. A series of FGD sessions with all stakeholders involved in the governance of our three target markets were completed (**Indicator 2.1**). Locally appropriated strategies for the target markets were drawn up and agreed upon by all the relevant stakeholders. Although the necessary content for a national One Health strategy has been compiled (**Annex 5. 2, Annex 5. 4, Annex 5. 5**) into a draft document (**Annex 5. 6**) and discussed with stakeholders, follow-up meetings for co-drafting of a draft national strategy was not achieved during this Project period (**Indicator 2.2**).

A total of eight Focus Group Discussions (FGDs) with 57 different agencies and departments in the environment, health, and agriculture sectors in the two target provinces (DKI Jakarta and West Java) was conducted (**Indicator 2.1, Annex 5. 7**). These FGDs resulted in the joint formulation of two locally-based One Health strategies (**Annex 5. 8**), which served the basis for implementation at the three target markets in the cities of Jakarta and Bandung. While these strategies already gained approval from the local level stakeholders involved in the FGDs, we continued our efforts to push for endorsement or support from higher level government stakeholders through the National Seminars, talk shows, communication, and meetings with stakeholders (discussed in more detail in the next section).

The FGDs yielded several significant results, facilitating a more cohesive and informed approach to managing zoonotic risks and the wildlife trade in Pramuka, Jatinegara, and Sukahaji animal markets. Through these discussions, a shared understanding among multi-sectoral stakeholders was established, clarifying their respective functions, responsibilities, and roles within these markets. This process involved **105 representatives from 57 relevant agencies**, who became more aware of the potential zoonotic risks associated with the markets and agreed to take an active role in the prevention of disease spread in the animal trade system. Before the FGDs, many stakeholders had never met and were unaware of each other's roles and responsibilities. The discussions provided a platform for participants to meet, communicate, and engage with one another.

Initially, the stakeholders were hesitant and suspicious of the motives behind the FGDs, and longstanding personal issues among participants led to some heated debates. However, as the FGDs progressed, there

were noticeable increases in trust and engagement among participants. Each stakeholder had the opportunity to discuss their perceived roles and learn about the roles of others. Participants felt more at ease and communicated more freely and openly. They actively participated in joint activities and tasks with enthusiasm, expressing a strong desire to ensure that concrete results emerged from these meetings.

The strategies developed during the FGDs consisted of realistic and achievable actions deemed implementable and sustainable by all participants. The goal was to encourage small-scale changes that stakeholders could carry out, rather than high-level, conceptual, or costly measures that might be less likely to be implemented. This process of co-developing locally appropriate strategies has the potential to be replicated across Indonesia.

Despite progress in developing locally-based One Health strategies, a fully collaborative draft national One Health strategy for wildlife trade has yet to be completed. This delay is largely due to challenges in engaging key government policymakers and stakeholders (**Indicator 2.2**). Efforts to involve national government officials included National Seminars held in Bandung and Pontianak. At the Bandung seminar, Drh. Tine Nurasih Kadaryati from the West Java Province Food and Livestock Security Service emphasized the importance of cross-disciplinary collaboration among stakeholders, such as markets, the Trade Service, the Food Security and Agriculture Service, and the community, to effectively prevent zoonotic disease transmission. Unfortunately, follow-up communications to advance this proposed collaboration and the national strategy have been slow.

Additionally, we faced communication barriers when market authorities PD Pasar Pramuka and Pasar Jaya in Jakarta, who had previously agreed to support our local strategy, abruptly ceased all contact. Despite repeated attempts to re-engage through various channels, we have yet to receive a response. We suspect that directives from their superiors may have influenced this sudden change. In Bandung, a planned meeting with the Mayor, facilitated through UNPAD contacts to discuss expanding the One Health market strategy citywide, was thwarted by the mayor's involvement in a bribery scandal<sup>1</sup>, resulting in a lost opportunity.

Despite these setbacks, we have made substantial progress in other areas. We now have a clearer understanding of the political landscape thanks to a comprehensive review of current policies and laws related to One Health and wildlife trade. This has enabled us to draft a strategy (**Annex 5. 6**). We have also built valuable new partnerships and alliances with experts, advocates, and communication specialists who can aid in future lobbying efforts. Our involvement in One Health-related networks has supported the development of influential documents, including a White Paper on integrating pandemic prevention measures through a One Health approach, produced by KSDAE, INDOUN, and Wildlife Conservation Society (**Annex 5. 17**). We also contributed to international strategies for mitigating disease risks from wildlife trade with the International Alliance against Health Risks in Wildlife Trade and a Global Report on animal markets and zoonotic disease risks<sup>2</sup>, featuring an Indonesian case study by YIARI<sup>3</sup>.

Moving forward, we believe the next step to achieving the endorsement for the project will be to approach the Ministry of Health and present the strong body of evidence highlighting the risks involved in wildlife trade to human health.

**Output 3: Improved capability, capacity and transparency amongst the two key government agencies responsible for the governance and enforcement of the wildlife markets regulations (KSDAE and GAKKUM under the Ministry of Environment and Forestry) to better regulate legal wildlife trade.**

This output has been achieved, although the workshops', focal regions and agencies involved needed to be tailored during the course of the Project to better achieve our aim. Two National Seminars were held in the provinces of West Kalimantan and West Java, targeting both provincial and national agencies involved in the management and governance of animal markets and health sectors (**Annex 5. 9**). These seminars aimed to build the capacity of these agencies in the One Health concept and to foster inter-agency collaborations at higher administrative levels (**Indicator 3.1**). Additionally, various other activities were conducted to promote the One Health concept in our target provinces. One national and three provincial-

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<sup>1</sup> <https://nasional.kompas.com/read/2023/04/16/01143281/wali-kota-bandung-yana-mulyana-jadi-tersangka-suap-rp-924-juta-proyek>

<sup>2</sup> <https://animal.law.harvard.edu/wp-content/uploads/Animal-Markets-and-Zoonotic-Disease-Risk-high-resolution.pdf>

<sup>3</sup> <https://animal.law.harvard.edu/wp-content/uploads/Indonesia-Live-with-Cover.pdf>



level capacity-building workshops were held, and collaborative efforts with key agencies such as the Directorate General of Environmental and Forestry Law Enforcement (GAKKUM), Directorate General of Natural Resources and Ecosystem Conservation (KSDAE), Financial Transaction Reports and Analysis Centre (PPATK), and regional Nature Conservation Agency (BKSDA) offices in Papua and Sumatra were successfully maintained throughout the course of this project (**Indicator 3.2**).

Two capacity building and strategy coordination workshops for national and provincial level agencies were held in the last year of the Project, one in Bandung, West Java, and one in Pontianak, West Kalimantan (**Indicator 3.1, Annex 5.9**). The seminars aimed to foster communication, coordination, and collaboration among stakeholders to develop effective strategies for zoonosis prevention and mitigation. They highlighted the importance of public health socialization, regulatory compliance, and the need for a unified data reporting system.

**In Bandung**, the event featured three keynote speakers and the presentations of six experts from related fields who discussed the current state of zoonosis, regulatory frameworks, public health strategies associated with focus on animal markets. A total of **82 representatives from 30 agencies** participated in the event. Key participants included representatives from governmental agencies such as the West Java Province Food and Livestock Security Service, the Bandung Health Department, the Ministry for Human Development and Culture, DKPP Bandung, BKSDA West Java, animal market authorities, the University of Padjadjaran (UNPAD), local associations and NGOs (**Annex 5.9 - National Seminar Bandung**).

After the presentations, participants were invited to discuss the topics and engage in knowledge sharing. The seminar concluded by emphasizing the importance of ongoing preventive actions and actionable recommendations, including enhancing public health education, improving animal welfare standards, and fostering multisectoral cooperation. These actions were intended to mitigate zoonotic risks and protect both human and animal populations, ultimately contributing to global health security and better controlled systems for the wildlife trade.

**In Pontianak**, the National Seminar marked the first and significant step forward in fostering communication and coordination among various national-level stakeholders to achieve a “Healthy West Kalimantan” through the One Health approach. A total of **168 people from 53 relevant agencies/departments and organizations** participated in the seminar. Key agencies included the West Kalimantan Regional Development Planning Agency, the Directorate General of Livestock and Animal Health of the Ministry of Agriculture, the Deputy for Improving the Quality of Health and Population Development of the Coordinating Ministry for Human Development and Culture, the Directorate of Prevention and Control of Infectious Diseases of Ministry of Health, the Directorate of Species and Genetic Biodiversity Conservation of Ministry of Environment and Forestry, the West Kalimantan Health Service, National Research and Innovation Agency (BRIN), West Kalimantan Quarantine, Customs and BKSDA, five regency government authorities, four National Park Authorities, representatives of the Indigenous Peoples of West Kalimantan, provincial doctors, pharmacists and veterinary associations, and the Indonesian Chamber of Commerce and Industry (**Annex 5.9 - National Seminar Pontianak**).

Following the presentations, discussions underscored the necessity of interdisciplinary collaboration and the integration of local cultural practices into health strategies that would lead to a reduction of wildlife hunting. One of the seminar's key outcomes was the mutual agreement among stakeholders on their roles and responsibilities in implementing One Health and their commitment to enhance coordination and implement policies. This included a much wider understanding of West Kalimantan's provincial policies by the stakeholders. Moreover, the seminar proceedings serve as a valuable reference for future initiatives and collaborative efforts in the region. Overall, the seminar provided a platform for stakeholders to align their efforts and share valuable insights, laying the groundwork for a cohesive and effective approach to zoonosis and new infectious disease prevention in West Kalimantan.

In addition to the National Seminars, several other activities were conducted to promote the One Health concept and enhance collaboration among stakeholders. A pre-event talk show and rabies vaccination campaign were held in Pontianak in collaboration with UNTAN prior the National Seminar (**Annex 5.10**). The talk show aimed to raise awareness among the scientific community, the general public, and governmental agencies about zoonosis prevention and garnered stakeholder engagement for the upcoming National Seminar. It featured the participation of experts from various fields and gathered 150 participants. Notably, the head of Farming and Animal Husbandry Services in West Kalimantan, the Head of Health Agency of West Kalimantan, The Dean of the medical faculty at the Tanjungpura University as well as a number of lecturers participated in the meeting. In conjunction with the talk show and part of a

national level government programme, a rabies vaccination campaign was also carried out in collaboration with the provincial Animal Husbandry Department. West Kalimantan is a known red-zone for rabies, where 16 people have died from rabies this year. Free rabies vaccination for dogs and cats was provided at the UNTAN campus (**Annex 5. 10**). This event signified an important step towards engaging multiple stakeholders around the One Health framework and continually enhancing their capacity in managing zoonotic disease risks. Moreover, in relation to the World Rabies Day, YIARI also collaborated with Padjadjaran University to produce a video on rabies awareness<sup>4</sup>.

Further efforts to promote the One Health concept among governmental and non-governmental stakeholders included a training workshop for environmental journalists in Jakarta with the Directorate General of Conservation and Natural Resources and Ecosystems (KSDAE) (**Annex 5. 10**). The goal was to enhance awareness both among the public and governmental sectors by increasing media exposure of related issues thereby contributing to our long-term project's mission. At this training, Wendi Prameswari from YIARI's Project Team gave a talk on zoonotic risks associated with wildlife trade. Additionally, a workshop in December 2022, held in collaboration with our project partners ASLIQEWAN, also promoted the One Health concept among 33 government and non-government stakeholders including Centre for Veterinary Research, Department of Animal Husbandry and National Narcotics Agency (**Annex 5. 10**).

During the project period, we successfully conducted one national and three provincial-level capacity-building workshops, and two on-the-job training/work collaborations with the MoEF's GAKKUM, KSDAE and BKSDA and other national and provincial agencies. These efforts have significantly enhanced the capacity and collaboration among stakeholders involved in wildlife trade regulation and zoonosis prevention (**Indicator 3.2**).

In particular, the workshop held in Entikong, at the Indonesian-Malaysia border in West Kalimantan, facilitated discussions among **48 stakeholders from 26 agencies** on their roles and responsibilities in preventing and controlling wildlife trade and zoonosis spread (**Annex 5. 11**). This workshop was instrumental in fostering a collaborative approach to tackling wildlife trafficking and zoonotic diseases. Following this workshop, YIARI's Wildlife Protection Unit (WPU) established a work collaboration with GAKKUM and the Sarawak Forestry Corporation from Malaysia to investigate and address the smuggling of wildlife across the Indonesia-Malaysia border.

In 2023, two training workshops were conducted for BKSDA West Papua and South Sumatra, which focussed on detecting and reducing wildlife smuggling, live animal evidence handling and processing, and case building following wildlife seizures (**Annex 5. 12**). One of the most significant issues identified by YIARI's WPU team during their collaborative work with law enforcement was the lack of capacity among BKSDA staff (under KSDAE) in managing seized wildlife, leading to poor health outcomes and high mortality rates among animals in captivity, which reduced their chances of successful release back to the wild. Additionally, there were instances of incorrect species and subspecies identification, potentially resulting in improper releases into unsuitable habitats. These workshops aimed to address these challenges by providing practical training and hands-on experience in proper wildlife handling, optimizing evidence handling during prosecutions, and improving animal welfare.

In **West Papua**, YIARI carried out a two-day training workshop in November 2023, followed by two days of informal training and discussions. Experts from the World Parrot Trust and Tasikoki Wildlife Rescue Centre assisted in the training, which enrolled **21 participants** from BKSDA West Papua and other local stakeholders, including the Sorong Class I Agricultural Quarantine Office, Indonesian Flora & Fauna Program Tanah Papua, and local university students. The training was well-received and appreciated by all participants. The Head of the BKSDA West Papua, Mr Johny Santoso, who attended the training, commented that he was fully aware of his team's lack of knowledge and technical skills in the handling of wildlife smuggling cases, and he was extremely appreciative of the support and training provided by YIARI and the other experts over the four days. We found BKSDA staff were highly motivated to improve their efficiency in processing, rehabilitating, and releasing seized wildlife. The trainers tailored their approach to suit the budget limitations of BKSDA, providing practical solutions such as foraging for local food sources. The hands-on approach of the trainers, who demonstrated tasks like cage cleaning and enrichment provision, led to immediately observable positive behavioural changes in the birds. Continuous communication between YIARI, BKSDA, and the experts ensured ongoing support and resource sharing, significantly enhancing the effectiveness of the training (**Annex 5. 12**).

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<sup>4</sup> <https://www.youtube.com/watch?v=SrRGi9mABLg&list=PL2uUBs3A6pFS9jllBe59jWsUV7z0U6gkY>

In **Sumatra**, YIARI organized two capacity-building workshops for BKSDA South Sumatra staff, wildlife veterinarians and animal handlers at rescue centres in Palembang and Bangka Island. Conducted in collaboration with The Aspinall Foundation Indonesia and Alobi, these workshops were held at the Pundi Kayu Siamang Wildlife Rehabilitation Centre in Palembang (July 5-6) and at the Alobi Wildlife Rescue Centre in Pangkal Pinang, Bangka Belitung Islands (July 8-9). The workshops engaged **18 participants** in interactive sessions, enabling hands-on experience and thorough discussions. Participants included representatives from the South Sumatra Agriculture Department, South Sumatran Quarantine Centre, Sumatran Rescue Alliance, and Kalaweit Foundation. During practical sessions, participants treated a gibbon with a gun pellet in its head and a slow loris with a tooth fracture. The workshops received positive feedback, with participants indicating the value of the content, speakers, and interactive discussions as highlights. They also expressed a desire for more frequent similar activities in the future. BKSDA South Sumatra endorsed these workshops on their social media, emphasizing their support for the training initiatives ([Annex 5. 12](#)).

Work collaboration and on-the-job training have been conducted with GAKKUM and the Financial Transaction Reports and Analysis Centre (PPATK) on an international case investigation to verify suspicions of financial transactions by illegal traders involved in money laundering. Additionally, we have built the National Police's capacity in intelligence collection techniques by performing data extraction and digital forensics. Throughout the project period, YIARI continuously collaborated with GAKKUM and KSDAE by carrying out investigations, assisting in law enforcement operations and animal rescue/translocations, to improve wildlife management and reduce the risk of infectious disease spread. YIARI also initiated and supported joint port and boat patrols led by BKSDA West Papua. These joint law enforcement operations resulted in significant seizures, including 33 port patrols and 18 ship patrols in 2023, leading to the confiscation of hundreds of wildlife, such as 244 reptiles seized in one operation at Sorong port ([Annex 5. 12](#)).

Overall, these activities have fostered collaboration, improved evidence handling and wildlife management, raised awareness about zoonotic disease risk, enhanced the prosecution and appeal processes for wildlife crimes, and significantly strengthened the governance and control of the wildlife trade, consequently improving animal welfare.

#### **Output 4: The trial implementation of the one-health strategy at three markets in DKI Jakarta (2 markets) and Bandung, West Java (1) and two forest-edge communities involved in the supply of wildlife.**

This output was partially achieved. Trial implementation of One Health measures in the target market in Bandung was achieved, while it was only partially successful in Jakarta's markets (**Indicator 4.1, Annex 5. 13**). One Health outreach activities were implemented in one small community of hunters in Bandung, West Java ([Annex 5. 16](#)) and across several forest-edge communities in West Kalimantan ([Annex 5. 15](#)). Not all of the visual materials for the campaign produced were able to be disseminated, but their distribution will occur after the conclusion of this project (**Indicator 4.2**).

A series of socialisation events were held at the three target markets with traders, market management staff and other related stakeholders (**Indicator 4.1, Annex 5. 13**). More details are provided below and in the timeline of events and activities carried out in the markets ([Annex 5. 14](#)). In Bandung the implementation was successful, and we had the approval of all related officials and traders. In Jakarta, while we were not able to achieve the same level of success in terms of approval from the relevant authorities, we were able to support, attend and monitor activities and socialisation efforts initiated by various independent agencies.

#### **Sukahaji Market, Bandung, West Java ([Annex 5. 13](#)):**

Prior socialisations were held in the Sujahaji market and coordination meetings were carried out in order to align the efforts of various stakeholders. From July 12-14, 2023, YIARI and Padjadjaran University's (UNPAD) Veterinary Medicine Study Program (PSKH) facilitated a series of discussions involving the Bandung City Health Department, Food Security and Agriculture Service, and other local bodies to plan and implement FGD strategies, socialisations and rabies vaccination activities at the Sukahaji Market. Further meetings in early January 2024 with the Environmental Service, the market authority (PD Pasar Juara), and the government-owned water company (*Perusahaan Daerah Air Minum*) focused on waste management and water monitoring activities, resulting in the commitment of support from these organisations for activities at the market.



As result, multiple socialisation events were held, including an Avian Influenza socialisation in April 2023, which successfully raised awareness among bird traders, and subsequent rabies socialization and vaccination events were held in July and December 2023, where a selection of wildlife species on sale were vaccinated, and health checks were conducted. Health checks for traders became a regular activity, with UNPAD's PSKH and the local clinic (*Puskemas Cetarip*) organizing free health checks in August and September 2023, reaching 136 traders and identifying health issues such as hypertension and hyperglycaemia. These checks were complemented by the distribution of cleaning tools and hygiene supplies, reinforcing the importance of maintaining clean and healthy living standards.

Efforts to promote awareness regarding legality and improve waste management were also carried out. In November 2023, a socialization event focused on protected animals and animal transport permits, which led to the proposal for a BBKSDA post at Sukahaji Market. Furthermore, trash bins were provided and a socialization event on waste separation was carried out in January 2024. The consistent distribution of hand washing soap and floor washing soap across all events made part of the ongoing effort to instil good hygiene practices among market stakeholders. Finally, One Health information boards were installed at the market and booklets were distributed to traders after socialisations.

### **Pramuka and Jatinegara Markets, Jakarta (Annex 5. 13):**

Meetings and coordination efforts were also a key component in the Jakarta's markets. In August 2023, YIARI facilitated a meeting with Mrs. Suharini Eliawati—head of DKI Jakarta Provincial Food Security, Maritime and Agriculture Service (DKPKP)—to present the FGD results and discuss follow-up plans. This meeting garnered support for future activities involving DKPKP at both Pramuka and Jatinegara markets. Additional coordination efforts included meetings with various health and community organizations, such as the Matraman and Palmeriam District Health Centers, and the East Jakarta Health Sub-Department, to plan and implement zoonosis prevention activities at the markets. These meetings, held in September 2023, aimed to align the efforts of different stakeholders to support health inspections and other preventive measures.

Unfortunately, following the successful development and agreement of the One Health strategy at the markets Jatinegara and Pramuka during the FGDs, we subsequently encountered an unexpected obstacle in the implementation of strategy in these markets. For some unknown reason, communication broke down between YIARI and the Market Management Authorities in Pramuka and Jatinegara markets. Calls were ignored, messages were not answered, and we were unable to get face-to-face meetings with previously responsive staff and managers. Multiple letters were sent by YIARI between August 2023 and January 2024 requesting discussions and support for the planned activities at the markets, but no response was received. To address this challenge, YIARI requested help from Mrs. Tria Patrianti, a communications lecturer at Muhammadiyah University Jakarta, to leverage her connections within the Jakarta Provincial Government and facilitate better communication with the market authorities. Her involvement aimed to bridge the communication gap and assist in the implementation of the One Health strategy at both markets after the termination of this project. Unfortunately, in the meantime, without the approval for activities from PD Pasar Jaya, YIARI were unable to directly carry out planned activities in the markets (under the name of YIARI).

Nevertheless, some other related activities still occurred in our two target markets. From mid-2023 through early 2024, four socialization activities took place at Pramuka and Jatinegara markets and in the District Office by BKSDA Jakarta to discuss the Minister of Environment and Forestry Regulation 106 regarding wild plants and animals. These events aimed to explain the regulations about protected wild animals and the necessary administrative processes for licensing and breeding. About 25 traders participated in the socialization event in June 2023 in Jatinegara market, receiving detailed information on compliance with these regulations. Similarly, in September 2023, a similar socialization session took place at Pramuka market, further reinforcing the guidelines for protected wild animals to 25 attendees. In November 2023 and January 2024, BKSDA Jakarta conducted follow-up socialisations and monitoring of wild animals at Pramuka Market, ensuring that traders were aware of the protected species regulations and monitoring their compliance. A follow-up activity with market managers from both Jakarta's markets and local village officers was carried out in June 2024 at the Palmeriam District Office by BKSDA Jakarta again. This event involved various stakeholders, including market managers and local village officers.

Furthermore, an Avian Influenza Examination Sampling at Jatinegara market was carried out in October 2023. This marked the first time such an activity had been conducted at the market, which involves several poultry-selling stalls. This event aimed to raise awareness about avian influenza transmission.

### **Outreach Activities in West Kalimantan (Annex 5. 15):**

In April 2024, a socialization event focused on zoonotic diseases and rabies was held at the village hall in Batu Lapis Village, Hulu Sungai District, West Kalimantan. The event attracted considerable enthusiasm from the community, with many residents eager to ask questions about diseases affecting their animals, particularly dogs and pigs. This session was particularly significant as it marked the first-ever rabies vaccination and zoonotic disease outreach programme in the Hulu Sungai District, which is known for its high level of wildlife poaching and wild meat consumption. Over 50 people participated in this event.

During the socialization event, it became evident that the community faced challenges in managing animal health and waste. Villagers often disposed of dead pets in the river, even when the animals had succumbed to illnesses. Additionally, several pig pens located along the riverbanks were found to be contributing to river pollution, with animal faeces directly entering the water. Despite these challenges, the community and the Head of Batu Lapis Village expressed a strong hope that the rabies vaccination programme could become a regular event. They believed that ongoing vaccinations would help protect both the community and their pets from rabies.

Following the socialization event, further health interventions were conducted in the following days. Thirty-two door-to-door socializations were carried out in Batu Lapis Village, during which 39 dogs were vaccinated for rabies and 50 dogs and cats were dewormed and treated for scabies. The majority of villagers, particularly those living in the upper reaches of the village, warmly welcomed the dog rabies vaccination programme and expressed their support for the initiative.

As part of YIARI's broader program in West Kalimantan, door-to-door socializations and the rabies vaccination programme were carried out across four other landscapes: Melawi District, Cempedak Island, Ketapang Regency, and Pontianak City. Overall, this programme provided an additional 549 rabies vaccinations between 2022 and 2023 and reached over 330 villagers through focus group discussions and door-to-door socializations. Data collection on the dog population was also conducted, aiming for better planning of rabies vaccinations with the Livestock and Fisheries Services.

The outreach increased public knowledge about the meaning and dangers of zoonosis, the threat of zoonosis from hunted wild animals, prevention measures, and dispelled myths regarding rabies vaccination in dogs. The public responded positively to the information, with many people beginning to understand the dangers of zoonoses and the importance of vaccination. The overall positive reception of our outreach program has helped us build trust with the communities, especially in Hulu Sungai District, where YIARI is just beginning to develop our holistic conservation programme to reduce wildlife hunting and protect the forest.

As part of the visual campaign, Illusi Pictures—a local media company—completed the creation of various materials, including a short documentary film, Instagram reels, comic books, comic strips, posters, and a photo story (Annex 5. 15 – Visual Campaign). So far, 60 posters and five comic books have been printed, with plans for additional prints through secured co-funding. Although distribution has been delayed due to the expanded scope of the campaign, which now includes a diverse array of materials and contents across several villages in three target regencies of West Kalimantan (i.e., Ketapang, Melawi, and Sintang), it is scheduled to commence in the upcoming months with co-funding support. The photo story and Instagram reels will be published on YIARI's social media platforms, which currently have over 52,300 followers and reached 3.5 million accounts this year. For the documentary film, we plan to organize screenings followed by FGDs. Posters will be displayed in schools, village offices, and other public spaces, accompanied by FGDs. For the comic books, we intend to conduct storytelling activities in village reading parks. In Ketapang, we aim to reach 850-1,000 people, including children, across nine villages. In Melawi, our target is 150 people in two villages, and in Sintang, we plan to reach an estimated 200 school children and 200 adults from two villages.

### **Outreach Activities in West Java (Annex 5. 16):**

In Bandung, an educational workshop was carried out for the organized hunting community, *Perbakin*. Approximately 40 people participated in this event, which was facilitated through a collaboration with the UNPAD and featured representatives from the medical, veterinary, and communication faculties. UNPAD, considered a neutral partner, played a key role in facilitating communication with illegal hunters, hunters' associations, and the local government. Despite their professionalism and legal status, the concept of zoonotic disease information was new to the participants. The information was well-received and is now

being integrated into their training and educational programs. The event was recorded and screened on the university's TV channel and is available online for a wider audience<sup>5</sup> (104 views).

### 3.2 Outcome

***A One Health approach improves regulation and enforcement of Indonesia's legal, wildlife trade, thus reducing loopholes that enable the dual risks of illegal wildlife trade and public health problems.***

While we have made significant progress towards our project's outcome, full enforcement of regulations and transformative changes within the Indonesian markets have not yet been observed, which has also been reflected in our indicators. Nevertheless, our project has fostered a deeper understanding of regulations, government roles, and the existing loopholes in Indonesia's wildlife trade. The collaboration of various partners to discuss the state of animal markets in Indonesia marks an important step in recognising the severe threats these markets pose to human health, welfare, and biodiversity.

We pioneered a new and novel approach in three of Indonesia's largest and most notorious wildlife markets and managed to engage market traders, and other related stakeholders, that were previously off-limits, and encourage them to meet, discuss and agree on a local One Health strategy that included stricter checks on legal documents for wildlife trade, quarantine procedures, and stronger efforts to reduce IWT in markets (due to the associated health risks). Prior to this, no other NGO or organisation had managed to achieve such a level of cooperation from market stakeholders in Indonesia.

Despite these advancements, enforcing regulations within the project timeframe proved challenging. We acknowledge that 2.5 years is a relatively short period to observe changes of this magnitude. Initially, we assumed that governmental stakeholders were fully aware of their roles and that a governance system was in place for these markets; however, our early interviews revealed that these markets were operating with irregularities in almost all domains, such as in trade, public health, animal health, and administration regulations. Therefore, our Project required more time than anticipated to develop a precise roadmap and engage all relevant stakeholders, many of whom had not previously performed their correct duties in the markets. Given this context, it was expected that changes in structures and procedures would take longer to materialize.

Initial interventions, successfully implemented towards the second quarter of the final project year, were a positive start. However, observable changes in the structures and behaviours of market staff and traders have not yet occurred. Considering the complex context, it is likely too soon to see such transformative changes. As interventions continue post-project, we anticipate that tangible changes may become evident in the coming months or years. However, it is currently uncertain whether these interventions will persist or lead to the desired changes in the wildlife markets. Continued efforts and engagement from all stakeholders will be crucial to achieving long-term success in regulating and improving the conditions within these markets.

***Indicator 0.1: The legal wildlife trade/market regulatory system in Indonesia and its interrelation with the One Health concept is investigated and documented in a report.***

This indicator was fully achieved. A comprehensive report on the legal wildlife trade regulatory system in Indonesia and its interrelation with the One Health concept with the focus on animal/traditional markets was published (**Indicator 0.1, Annex 5. 2**). The Situational Analysis and zoonotic diseases risk assessment (**Annex 5. 5**) offered crucial insights that significantly informed our project's direction and facilitated multi-agency collaboration to address zoonotic risks and the wildlife trade more effectively.

The market assessments revealed extensive data on species being sold, their origins, legal statuses, and overall conditions (**Annex 5. 3**). These assessments highlighted the presence of many protected species and poor welfare standards. Interviews with traders uncovered significant gaps in their knowledge regarding trade regulations and necessary permits. Observations pointed to poor biosecurity, inadequate sanitation, and improper waste disposal, all of which increase zoonotic risks.

We identified numerous bad practices contributing to increased zoonotic disease transmission risks. The mixing of different species and unhealthy conditions in overcrowded cages were common. These environments exacerbated the potential for disease spread. The markets were found to have inadequate

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<sup>5</sup> [https://www.youtube.com/watch?v=D-jiai\\_54II/](https://www.youtube.com/watch?v=D-jiai_54II/)

infrastructure to maintain health standards, including insufficient waste management and a lack of safe drinking water.

A detailed review of the legal framework highlighted ambiguities and weaknesses in enforcement, contributing to increased risks ([Annex 5. 4](#)). We identified ten agencies involved in wildlife trade governance but found poor communication and unclear responsibilities among them. The management authority and operations of the markets varied, with some under government control and others operating illegally. The lack of consistent standards for live animal markets led to suboptimal conditions and increased health risks.

Community and stakeholder engagement emerged as crucial. The analysis underscored the importance of involving a diverse range of stakeholders to foster realistic interventions. Recommendations were discussed and refined during focus group discussions, leading to the creation of two market-based One Health Strategies ([Annex 5. 8](#)).

**Indicator 0.2:** *By the end of Year 2, an increase by at least 50% of government and non-government monitoring activities in three animal markets in two provinces (DKI Jakarta and West Java).*

The government and non-government monitoring activities target was overachieved by 100% for both Jatinegara and Sukahaji markets. However, it was not achieved for Pramuka market, which presented a decrease of 25% in the monitoring score when compared to the baseline (**Indicator 0.2**). For a full report on the markets monitoring activities and scores, please refer to [Annex 5. 18](#).

In terms of animal health and welfare monitoring, inspections for Avian Influenza were carried out at Sukahaji and Pramuka markets by DKPKP Jakarta and DKPP/BRIN, respectively. Although there was no progress in checking animal health certificates and non-protected animal permits, BKSDA and PD Pasar Pramuka conducted monitoring at Pramuka market to ensure compliance with regulations concerning protected animals. Additionally, YIARI carried out consistent monthly monitoring activities in the three target markets from December 2021 to April 2024. This monitoring was crucial for tracking the presence and volumes of protected species for sale in the markets.

Monitoring of human health was actively conducted by local Puskesmas (health clinics). In Sukahaji market, Puskesmas Cetarip visited traders in August and September 2023 to check their health statuses. Additionally, environmental health assessments were performed at Pramuka market in 2023 by Puskesmas, based on a coordination meeting held in August 2023 between Puskesmas and YIARI. However, there was no available information regarding human health monitoring activities by Puskesmas at Jatinegara market. Puskesmas did not conduct monitoring related to biosecurity and sanitation at Sukahaji market.

Despite some challenges in specific monitoring areas, the average overall increase in government and non-government monitoring activities in the targeted animal markets exceeded our initial target of 50% target.

**Indicator 0.3:** *By the end of the Project [April 24], all 3 selected animal markets [Pramuka, Sukahaji, and Jatinegara] in the two provinces [DKI Jakarta and West Java] have successfully adopted at least 3 locally-appropriate measures of the One-Health co-formulated strategy.*

By the end of the project, the three selected animal markets made varying degrees of progress in adopting locally-appropriate measures of the One-Health co-formulated strategy (**Indicator 0.3**). Sukahaji Market made substantial progress in implementing the One Health strategy, surpassing the target by adopting 14 measures (467% of our initial target). Pramuka Market reached 200% of our target with 6 interventions, while Jatinegara Market fell short, achieving only 67% of the target, with 2 interventions. For detailed description of the interventions per category, please refer to [Annex 5. 19](#).

In terms of animal health and welfare, Sukahaji Market was particularly active. It implemented Avian Influenza and rabies socialization and vaccination interventions, totalling four events, and the installations of two signboards about animal health and one featuring protected species prohibited from sale. Furthermore, the market hosted a socialization event about Health Certificates, which was included in the One Health Booklet.

Regarding the wildlife trade permits and the illegal wildlife trade, socialisations were carried out in all the markets by BKSDA provincial offices, with one in Sukahaji market, one in Jatinegara market and three in Pramuka market, with an socialisation carried out in the Palmeriam District Office with both Jatinegara and



Pramuka traders and management. At Sukahaji Market, a booklet was also distributed with information about protected animals and permits.

In the domain of human and environmental health domain, Sukahaji Market hosted two events concerning human health and health behaviours with traders. One socialization event was carried out again at Sukahaji by *Dinas Lingkungan Hidup* about waste management, which included procedures for disposing of dead animals. The installation of twenty small information boards about hygiene and health behaviours occurred and three waste bins were provided within the market ([Annex 5. 13](#)).

End-of-Project Market Assessments were conducted at our three target markets in order to capture any change in One Health indicators in these markets. Three reports were produced, and a summary can be found in [Annex 5. 20](#). Although various positive interventions were carried out in the markets, measurable changes in general health and welfare of the animals, cleaning, sanitation and biosecurity could not yet be observed. The Sukahaji market, where most interventions took place, showed some minor behavioural changes among traders but failed to make significant improvements in animal welfare, market hygiene, and comprehensive biosecurity measures. No major changes were observed in Pramuka and Jatinegara markets either, indicating a need for more robust and sustained efforts to achieve the desired One-Health standards in these markets.

Some of the changes observed in the Sukahaji market including traders refraining from spitting and smoking while selling wildlife or eating near the stalls. While these are positive behavioural changes, they do not encompass the full scope of One Health measures intended. In general, the condition of the stalls remained poorly maintained. Although a few stalls were recorded as neat and clean, overall market hygiene did not significantly improve. While no rotting animal carcasses were found inside the kiosks, carcasses were still being discarded inappropriately in various corners near the kiosks or thrown into the communal rubbish bin in front of the stalls. Most kiosks had waste and drainage channels covered with cement or metal grating, which represents a step towards better biosecurity. However, this measure alone is insufficient for comprehensive market hygiene and biosecurity. Moreover, traders seem to make an effort to separate cages for different species, yet the welfare of the animals remained poor. Overcrowding in cages persisted, particularly for species such as munias, ducklings, quails, and iguanas. Cages remained consistently dirty, with faeces and urine mixed with the animals' food and water, leading to poor general welfare and higher risks of zoonotic diseases spread ([Annex 5. 20](#)).

**Indicator 0.4:** *By the end of the project [April 24], a 30% increase in the number of vendors in possession of the correct permits and licencing for trading.*

Due to the sensitivity of asking traders directly if they possess the correct permits to trade wildlife, surveyors obtained this information indirectly by inquiring about specific protected or imported species they were selling and whether certificates were required for those species ([Annex 5. 20](#)). Traders are required to have a business license, distribution permit, breeding certificate, certificate of the animal being sold, and other relevant documentation. Based on the qualitative data collected, we concluded there was no increase in traders' possession of the correct permits, certificates, and licensing by the end of this project (**Indicator 0.4**).

In the Sukahaji market, most traders did not have permits to trade animals, especially protected and imported species. Of the seven traders from whom permit information was gathered, only one claimed to possess certificates for a single species (Bali myna), and another had certificates for chicks identified as males. For example, the trader who had certificates for Balinese starlings did not have certificates for other starling species (e.g., black-winged myna and Indian pied mynas, and black collared starling), despite black collared starling being imported. Another trader had certificates for male magpie chicks but was selling many chicks whose sex was still unknown. The same trader also sold other young, protected birds but believed that these birds did not require registration, indicating a lack of distribution or marketing permits. According to another trader, transactions could be carried out directly, whether restocking, buying, or selling, without the market manager's permission, indicating that this trader lacked a distribution permit. In another instance, a trader claimed it was unnecessary to have permits for a bird, even though the bird was marked with a ring. Nonetheless, an incident involving the display of a protected Sunda leopard cat (*Prionailurus javanensis*) raised trader's suspicion and resulted in the subsequent concealment of the animal. This indicated awareness and fear of the illegality of selling protected species without the correct permits by the trader ([Annex 5. 20](#) – Sukahaji Market Final Assessment Report).

In Jatinegara market, based on informal conversations with several animal traders, they did not have documents related to business permits or legality letters for selling animals, including threatened species



and those listed under CITES. Some traders were aware that the animals they sell are protected but choose to ignore this fact by acquiring them explicitly from illegal sources as their prices are cheaper. Protected species in Jatinegara market were usually traded over night at the back of the market to minimise suspicion, and also avoid patrols and checks from the police ([Annex 5. 20 – Jatinegara Market Final Assessment Report](#)).

In the Pramuka market, informal chats and discussions with traders revealed that some claimed to have business permits, distribution permits, breeding certificates, and other documentation, but they could not provide proof for various reasons. Some traders admitted to not having these documents, while others did not understand the required documentation ([Annex 5. 20 – Pramuka Market Final Assessment Report](#)).

**Indicator 0.5:** *By the end of the Project [April 24], illegal trade in protected and unprotected wildlife has reduced by 50% in the 3 target markets.*

At the conclusion of the project, the overall illegal trade in protected and unprotected wildlife species in our three target markets did not significantly decrease (**Indicator 0.5**). Monitoring of threatened wildlife and our four target species was conducted monthly across our three target animal markets throughout the project, continuing for an additional two months post-project (December 2021 – June 2024) ([Annex 5. 21](#)).

Initially, wildlife trade baselines were calculated between December 2021 and April 2022 to meet the deadline for our first annual report. However, delays in project implementation and the benefit of extended monitoring for more robust analysis led us to recalculate the baselines over seven months (December 2021 to June 2022, T1). These were then compared to the same period at the end of the project (December 2023 to June 2024, T2). To account for seasonal variations in trade volumes (e.g., during Ramadan), the two periods were matched to the same months of the year.

The number of surveys conducted was consistent across both periods [20 surveys per period across all markets; 5-8 surveys per period per market]. Pramuka was the only market with an overall increase in the number of individual animals recorded across all monitored species by 172% (from 481 individuals in T1 to 1,307 in T2). Jatinegara market saw a reduction by 50% from 557 to 276 animals, and Sukahaji market by 22% from 830 to 649 animals.

Encounter Rate (ER) calculations (i.e., number of individuals recorded per survey) were conducted for all animal species monitored and for the four target species separately for each market. **A t-test on monthly ERs between T1 and T2 revealed no significant changes**, though there were differences in ER means. The mean ER for all species decreased in Jatinegara [T1: 80 to T2: 55] and Sukahaji [T1: 122 to T2: 93] but increased in Pramuka [T1: 80 to T2: 165]. Among the four target species, mean ERs decreased in Jatinegara and increased in Pramuka, while Sukahaji saw an increase for all species except flying foxes.

To investigate further whether there was any significant trend across the years in wildlife trade in the three target markets, we carried out a MANOVA test among the ERs for the past four years (2021, 2022, 2023 and 2024 until June). As YIARI has carried out wildlife trade monitoring in several markets across Indonesia prior the start of this Project, we had the complete dataset for the year 2021. Output of the MANOVA revealed some significant and relevant results, described below:

- The trade of all monitored species in Pramuka market increased up to 2023 and then decreased sharply in 2024—from an ER of 401 in 2023 to 54 in 2024 ( $F(3,31)=8.678$ ,  $p<0.001$ ).
- The trade in Greater green leafbird (*C. sonnerati*) in Jatinegara market followed an upward trend until 2023, then reduced significantly in 2024—from an ER of 4.42 in 2023 to 0.50 in 2024 ( $F(3,31)=4.789$ ,  $p=0.007$ ).
- The trade in *C. sonnerati* in Pramuka market mirrored the trend in Jatinegara, increasing until 2023 and then sharply decreasing in 2024—from an ER of 83.00 in 2023 to 3.25 in 2024 ( $F(3,31)=11.743$ ,  $p<0.001$ ).
- The trade in long tailed macaques (*M. fascicularis*) in Sukahaji market also followed a similar trend, increasing until 2023 and then sharply decreasing in 2024—from an ER of 5.00 in 2023 to 1.50 in 2024 ( $F(3,31)=16.243$ ,  $p<0.001$ ).
- Significant results were also found for Black winged myna (*A. melanopterus*) in Jatinegara market and flying-foxes (*Pteropus sp.*) in Sukahaji market, but post hoc analysis revealed significant results only for the initial years' increase in trend. Myna trade in Jatinegara market fluctuated significantly, from no trade in 2021 to an ER of 2.00 in 2022\*, reducing to 0.17 in 2023\*, and then increasing again to 1.25 in 2024. Trade in flying foxes in Sukahaji market jumped from an ER of 0.15 in 2021

to 2.67 in 2022\*, subsequently decreasing to 1.50 in 2023 and 1.00 in 2024. (\* indicates significant results in the post hoc analysis).

To compare our target markets with other markets across Indonesia that did not receive our interventions, we utilized YIARI's long-term wildlife trade monitoring database. This analysis covered 54 animal markets monitored from January 2021 to June 2024. The ER for all monitored wildlife species increased in 2023, rising from 43 in 2022 to 58, and subsequently decreased to 33 in 2024. This trend was similarly observed for our target wildlife species. While the data for 2024 is still incomplete, it suggests that the wildlife trade across Indonesia surged in 2023 for reasons still unknown and then declined in 2024, reaching 2022 levels or even lower. The same pattern—a rise in wildlife trade in 2023 followed by a decrease in 2024 below 2022 levels—was also observed in our three target markets. This indicates that the changes in trade volume in our target markets are likely following national trends rather than reflecting the impact of our interventions ([Annex 5. 21](#)).

### 3.3 Monitoring of assumptions

#### Outcome Assumptions:

**Assumption 1:** The COVID-19 global health crisis remains a prominent issue in the media and in the minds of the general public.

Comments: In early 2023, media reports continued to highlight a significant number of COVID-19 cases, and many individuals were still wearing masks. However, as cases declined globally alongside the reduced health risks attributed to widespread vaccination campaigns, the pandemic's momentum in the media diminished. Nonetheless, its health and economic impacts remain fresh in the public's consciousness.

**Assumption 2:** Local governments remain committed to tackle emergent zoonotic disease risks and the illegal wildlife trade.

Comments: The local governments appear to remain committed to tackle zoonotic disease risks and the illegal wildlife trade. Evidence of this can be seen through their engagement in the FGDs and the two National Seminars, in addition to several other meetings and events carried out with governmental partners. Seizures of protected and non-protected wildlife continued to be reported regularly in the media indicating that law enforcement is still occurring. There are some indications at the policy level that the issue of zoonosis risk has resulted in discussions regarding new legislation, however, progress remains slow with regards to tangible change.

**Assumption 3:** Sufficient trust is gained from non-government stakeholders to adopt the strategy.

Comments: Through a holistic and participative approach, YIARI has now gained the trust of numerous non-government stakeholders for the pilot implementation of the One Health strategy. Evidence of this can be seen witnessed from the stakeholder working groups in Jakarta and Bandung – where trader associations from all markets have been active throughout.

**Assumption 4:** Better management of the legal wildlife trade leads to a reduction of the illegal trade.

Comments: Although attempts have been made to improve legal trade and management strategies, and some socialisation events have occurred in both target locations, which is positive steps forward, this has not yet materialised into increased monitoring and enforcement of legal wildlife trade. More time is required for this assumption.

**Assumption 5:** One Health approach strategies are effective in reducing zoonotic disease transmission.

Comments: This assumption could not yet be properly assessed as implementation of the One Health strategies were not fully completed and it is still too early to evaluate any reduction in zoonotic diseases transmission. However, based on the positive responses and enthusiasm from various different stakeholders, we still believe this holds true.

#### Output Assumptions:

**Assumption 1:** There is sufficient support from key governmental institutions in order to provide internal standard procedures and data management information.

Comments: key governmental institutions have committed to increase transparency and inter-agency data sharing for the implementation of One Health approach. However, a lack of transparency in certain domains remains, such as the data and methodology supporting the annual issue of harvest quotas and

governance of non-protected species. While most agencies that have worked with us throughout this project have agreed with the need for improved standard procedures and data management, they often stated lack of capacity and resources as reasons slow progress in these areas.

**Assumption 2:** Key stakeholders are sufficiently aware about the risks to health from poorly managed, unregulated and illegal wildlife trade and engaged in the cause.

Comments: All key stakeholders related to animal markets management and monitoring are now aware of the risks to animal human and environment health that poorly managed and regulated markets pose.

**Assumption 3:** There is sufficient trust and willingness between stakeholders to use participatory processes to ensure equity.

Comments: Stakeholders have shown a great willingness and proactiveness for identifying issues and providing solutions during the FGD sessions, meetings, National Seminars and capacity-building sessions held.

**Assumption 4:** Appropriate staff selected for training.

Comments: Representatives chosen for the participation in the National Seminars and capacity-building workshops has been appropriate. Most are at the operational level, which was our target group.

**Assumption 5:** The issue of improved legal trade regulation is deemed a sufficient priority by both agencies (GAKKUM and KSDAE).

Comments: GAKKUM are aware of the fine line between the “legal” and illegal trade. KSDAE are aware too, but are also aware that substantial revenue can be made from the legal trade. GAKKUM view this issue as a priority, but synchronisation of efforts between them still needs to be improved. A change in structure within the MoEF is suspected later in the year with the new government, which could lead to better communication and coordination.

**Assumption 6:** There is sufficient commitment and engagement from agencies in receiving training.

Comments: From our experience, agencies remain keen in receive training and continue our work collaboration. This has been demonstrated in Entikong, Sorong and South Sumatra during the workshops and socialisation events.

**Assumption 7:** Judicial officials are sufficiently motivated to take part of the trainings.

Comments: No training with judicial officials was carried out during this project period.

**Assumption 8:** Knowledge on laws, regulations and wildlife crime generate increase in prosecutions and sentences severity.

Comments: No training with judicial officials was carried out during this project period.

**Assumption 9:** Local government officials (Dinas Pasar Provinsi) involved in the management of the four animal markets in the two provinces have agreed to trial the One Health strategy.

Comments: The local government representatives that attended the FGDs verbally agreed to implementing the One Health strategy in the three target markets.

**Assumption 10:** There is sufficient participation from all stakeholders in the formulation of the joint strategy.

Comments: Participation of stakeholders in the FGDs and in the join formulation of the One Health strategy has exceeded our expectations.

**Assumption 11:** There is sufficient interest and engagement of community members in the health education programme.

Comments: Yes. All communities that have received our One Health outreach programme have shown sufficient interest and engagement.

**Assumption 12:** Zoonotic Disease Risk Assessment yield relevant results and recommendations.

Comments: Yes. The Zoonotic DRA has yielded important results regarding the types of disease, high-risk taxa and measures for reducing transmission risks which were later socialized with the stakeholders and incorporated into the market-based One Health strategies.

**Assumption 13:** Capacity and resources are sufficient for carrying out proper health guidelines and community members are properly able to follow these guidelines.

Comments: Community members that received socialisation have been capable of understanding and carrying out simple health measures.

### **3.4 Impact: achievement of positive impact on illegal wildlife trade and poverty reduction**

***Legal wildlife trade in Indonesia becomes safe and traceable, providing strong incentives for sustainable wildlife management, and as a driver to improve livelihoods and reduce participation in illegal trade.***

Although we have not fully achieved our Project's Outcome and some of the Outputs, we believe some progress was made towards its long-term impact of making Indonesia's legal wildlife trade safe and traceable. The project's novel approach of leveraging the interconnectedness of human, animal, and environmental health through the One Health strategy has been successful in engaging market stakeholders. By focusing on creating a healthy market, strong economy, and prosperous society, rather than solely on IWT, the project facilitated open discussions and collaboration with traders and market management.

The focus group discussions and national seminars catalysed significant engagement from governmental agencies, resulting in key commitments to address zoonosis risks and the associated wildlife trade. For example, governmental agencies, in collaboration with academic institutions and international organizations, have committed to enhancing disease surveillance and reporting systems. The implementation of real-time data collection and analysis tools, such as SIZE, facilitates the prompt identification and response to potential zoonotic outbreaks. This advancement is vital for early detection and prevention of zoonotic diseases, which is a cornerstone of the One Health strategy promoted by the project. Moreover, we identified a notable commitment from government agencies to intensify the regulation and monitoring of animal markets, particularly in high-risk areas such as Jakarta and West Java. This includes mandatory health checks for animals, improved sanitary conditions, and education programs for market vendors about zoonotic risks. These measures are expected to significantly reduce the risk of disease transmission and improve overall market conditions at the long term, contributing to safer and more traceable wildlife trade.

Despite these advancements, the project acknowledges that full enforcement and transformative changes in the wildlife trade markets have not yet been observed. However, the progress made in engaging stakeholders and initiating regulatory improvements provides a strong foundation for future efforts. The co-development and endorsement of the locally-based One Health strategy by stakeholders indicate a promising future for the model's broader application, both nationally and in other regions.

## **4. Contribution to IWT Challenge Fund Programme Objectives**

### **4.1 Thematic focus**

While evidence of progress in reducing demand for IWT products and strengthening law enforcement is still forthcoming, some developments have been achieved in the realm of legal frameworks and deterrents within target markets. For instance, the project has been instrumental in elevating stakeholder awareness and engagement concerning wildlife trade regulations. Through a series of events held in DKI Jakarta, West Java, and West Kalimantan, stakeholders—including vendors, traders, and local government representatives—have gained a deeper understanding of their roles in regulatory enforcement. These engagements have sparked critical conversations about the existing regulatory systems and their shortcomings.

A notable example of this impact is observed at Sukahaji market in Bandung. Here, the Bandung City Food Security and Agriculture Service (DKPP) and other governmental agencies organized socialization events to inform traders about zoonotic diseases and wildlife trade regulations. These events also included health checks for market traders and staff, highlighting the intersection of animal and human health in regulatory discussions. Such initiatives have prompted dialogues among stakeholders about the need for enhanced monitoring and more robust legal frameworks.

Additionally, the project facilitated the development of a draft implementation plan and timeline for integrating One Health strategies into the target markets. The socialization events organized by BKSDA Jakarta at Jatinegara and Pramuka markets exemplify the project's contribution to improving regulatory understanding and compliance, although evidence of improvement in enforcement still needs to be gathered. This marked the first time such events were held for market staff and traders in the province. This increased awareness and stakeholder involvement are crucial steps toward strengthening legal frameworks.

## 4.2 Impact on species in focus

Unfortunately, no statistically significant changes in wildlife trade, including for the project's four target species were observed between the baseline and after the implementation of One Health measures. Despite this, some variations in trade volumes for these species were noted over the years, both in the target markets and across Indonesia.

For the black-winged myna (*C. sonnerati*), trade volumes increased during the first two years of the project (2022 and 2023) but dropped again in 2024, particularly in the target markets of Jatinegara and Pramuka in Jakarta. Across all 54 monitored animal markets, trade volumes of Black-winged myna fell by 45% in 2024 compared to 2022. However, in the combined data for our three target markets, the trade volume of Black-winged myna did not decrease, but rather doubled in the same period.

The trade in Greater green leafbirds (*A. melanopterus*) at Jatinegara market exhibited significant fluctuations—it surged in 2022, but fell sharply in 2023, contrary to the general increase in wildlife trade that year. Overall, trade volumes for Greater green leafbirds peaked in 2023 across all target markets together but reverted to near 2021 levels in 2024. This pattern was consistent with trends observed in other animal markets throughout Indonesia.

For long-tailed macaques (*M. fascicularis*), the trade volumes in the three target markets showed an increase in 2022 and 2023 but decreased by 28% in 2024 compared to the average ER registered in 2021. Similar trends were observed in other animal markets. Notably, in Sukahaji market, the trade in long-tailed macaques, which had risen in the early years of the project, saw a sharp decline in 2024. While it is challenging to directly link this reduction to our project's efforts, the project has made significant strides in highlighting the issues related to long-tailed macaques (and primates in general). For example, long-tailed macaques have been a focal point of numerous presentations during focus group discussions and seminars.

Trade in Flying-foxes (*Pteropus sp.*) fluctuated throughout the past three years across the three target markets, maintaining levels similar to those at the beginning of the project in 2022 through the end of the Project. This fluctuating trend was also observed in other animal markets in Indonesia, although trade volumes increased in 2023, contrary to the decline seen in the target markets in the same year.

We acknowledge that more time will be required to see the impacts of the strategy implementation in the market. With Sukahaji Market having received more frequent socialisation events, student and researcher visits, human health checks, dissemination of information booklets and the recent installation of signboards around the market (featuring among others species prohibited in trade), the impacts are more likely to be seen here first.

## 4.3 Project support to poverty reduction

The primary beneficiaries of our project included wildlife market stakeholders such as vendors, managers, cleaning staff, and visitors, as well as governmental agencies involved in wildlife management and regulation, and forest-edge communities. The illegal wildlife trade poses severe threats to biodiversity and ecosystems, which in turn affects the communities that depend on these natural resources. For many rural communities, wildlife represents a critical economic asset, and its depletion through illegal trade can significantly undermine potential income. Additionally, illegal and unsustainable wildlife trade hinders the efforts of developing nations to manage natural resources effectively, resulting in potential economic losses from sustainable development and tourism.

In Indonesia, wildlife markets play a significant role in facilitating the legal domestic trade of numerous species. However, the current legal trade system is often unregulated and unsustainable. Many small-



scale bird traders live below the poverty line, and a considerable amount of potential revenue is lost due to inefficient administration and poor governance. These issues represent major obstacles to achieving safe, sustainable, and economically viable trade practices.

Our project aimed to foster healthier markets, a stronger economy, and a more prosperous society. Although the implementation of One Health measures did not result in major observable changes in market sanitation or animal welfare in the short term, significant progress was made in raising awareness among stakeholders about health and zoonotic risks.

The project's holistic approach focused on enhancing the regulation and monitoring of wildlife trade, both legal and illegal, while simultaneously improving market health. This strategy was well-received by stakeholders due to their vested interests in better market conditions. Traders benefited from improved awareness of health risks, which is essential for reducing zoonotic disease transmission. While the changes of health conditions of the markets did not yet show dramatic improvements, the educational component of the project helped increase the stakeholders' understanding of biosecurity and health.

#### 4.4 Gender equality and social inclusion

Please quantify the proportion of women on the Project Board <sup>6</sup> .	50% (women = 4 staff members from a total of 8 staff in the Project Board).
Please quantify the proportion of project partners that are led by women, or which have a senior leadership team consisting of at least 50% women <sup>7</sup> .	At least 71% (n=5) of our Project partners are led by women or have a senior leadership team consisting of at least 50% women [i.e., KSDAE Director KKH; ASLIQEWAN; INDOHUN; Padjadjaran University; and Universitas Muhammadiyah Jakarta]

### 5. Monitoring and evaluation

In October 2021, before the project commenced, a Change Request was submitted and approved to make several adjustments to the project's logframe. These changes aimed to clarify some indicators, make them more realistic given the current socio-political situation, and ensure they were Specific, Measurable, Achievable, Relevant, and Time-bound (SMART). Adjustments to targets and assumptions were necessary due to changes in socio-political priorities within the Ministry of Environment and Forestry (MoEF) and its two general directorates, GAKKUM (Law Enforcement) and KSDAE (Natural Resources and Ecosystem Conservation). The government's diminishing focus on preventing zoonotic disease spillovers, partly due to reduced pressure to take responsibility in the wake of the COVID-19 pandemic, necessitated these adjustments.

In February 2023, another Change Request was submitted and approved, including updates to the logframe to adjust the timeline of the project's outcome and output indicators and activities based on the previously agreed project extension in 6 months; update the baselines for some indicators; and change and provide an update on the wet markets chosen for the One Health pilot strategy implementation, focusing on Pramuka, Sukahaji, and Jatinegara markets.

Initially, the project planned to implement the One Health strategy in four small animal markets in West Java and West Kalimantan. However, it became clear that these smaller markets were not appropriate for project implementation. Instead, two markets in Jakarta and one in Bandung were identified as higher priority due to their significant role in IWT and zoonotic disease risk. These markets—Jatinegara, Pramuka, and Sukahaji—are among the largest and most notorious in Southeast Asia, presenting complex governance structures and significant illegal trade elements.

Overall, our M&E system proved effective in measuring the project's impact. Detailed baseline and end-of-project markets surveys, along with monthly wildlife trade monitoring in animal markets, provided an unbiased and realistic evaluation of our project. Surveys were conducted by third parties, ensuring that the

<sup>6</sup> A Project Board has overall authority for the project, is accountable for its success or failure, and supports the senior project manager to successfully deliver the project.

<sup>7</sup> Partners that have formal governance role in the project, and a formal relationship with the project that may involve staff costs and/or budget management responsibilities.

results reflected the reality on the ground rather than simply reaffirming project activities' impact. These comprehensive evaluations, published in reports, were made accessible to all project partners and stakeholders, providing valuable materials for ongoing discussions on how to address persistent issues moving forward.

## **6. Actions taken in response to Annual Report reviews**

### Review 1:

1. Please clarify the formal partners involved e.g., ASLIQEWAN. If they are likely to manage any funds or play a critical role they should be seen as formal partners. IWT Challenge Fund managers can confirm if they would prefer this to be noted in a change request or not (assuming that if no funds are spent by ASILQEWAN then a formal change may not be required).

None of the partners listed managed any of the funds of the Project.

2. One Health stakeholder group. Given the challenges of forming a formal working group – have the team considered alternatives which allow for multi-stakeholder approaches but don't rely entirely on a formal arrangement (which may never be formed during the lifetime of this project)

We have overcome the challenges faced by forming a working group and have successfully engaged over 50 stakeholders in the development and implementation of the One Health approach in our three target markets. That said, some communication worked better among smaller groups or one-to-one via telephone or WhatsApp than in the main group. So, we adapted communication methods according to the preferences of each stakeholder.

### Review 2:

1. Please try to keep your report length to within the guidelines. An annual report should be a maximum of 20 pages. Your AR2 report exceeded this limit by 15 pages.

Noted. We made every effort to keep the report within the specified page limit. However, given the complex political nature of our work, we opted to provide comprehensive explanations to ensure clarity, rather than abbreviating content at the risk of losing important details. To maintain conciseness, we have included additional documents in the annexes.

2. In your project summary you highlight “weak cross-agency collaboration, poor governance and management structures, lack of capacity and the absence of systematic market monitoring are major constraints to safe and sustainable trade (Janssen and Chng 2018)”. – yet in your stakeholder updates (AR2 – Section 2) you seem to assume that these are functional – “the assistance and support from KSDAE (...) is vital in helping to facilitate and bridge communications between different government sectors” – how do you assess the situation to be?

Since the start of the Project, significant progress has been made in bringing stakeholders together to discuss and understand their roles in market governance, thereby enhancing multi-sector collaborations for better management and control of markets. Initially, cross-agency collaboration and market governance were indeed weak. However, the active involvement and support of KSDAE, the main authority under the Ministry of Forestry and Environment, have been instrumental in addressing these challenges. Their support has been key in ensuring that our project activities could be carried out smoothly, facilitating the proper engagement of governmental agencies and bridging communications between different sectors.

While the initial state of cross-agency collaboration and governance structures was poor, the project has worked diligently to improve these areas. Through continuous engagement and the facilitation provided by KSDAE and other partners, we have witnessed a gradual but significant improvement in stakeholder coordination and capacity.

3. Please indicate how activities in West Kalimantan and West Papua (Output 3) support and feed into the work on the island of Java, to make a cohesive whole. Does this geographical spread for different Outputs dilute or strengthen your efforts?

West Kalimantan, West Papua, and South Sumatra are critical regions for the capture and transport of numerous species, especially birds, which are then trafficked to animal markets in Java and internationally. By enhancing enforcement and monitoring in these areas, the supply of illegally traded wildlife can be

significantly curtailed, thereby disrupting the overall trade networks that feed into Java's major animal markets, which serve as hubs for trafficked wildlife across Indonesia.

While initial efforts may seem to have a diluted impact on reducing wildlife trade in specific large markets in Bandung and Jakarta, they are expected to yield substantial long-term benefits. For instance, West Papua is a significant source of trafficked parrots and cockatoos, which have seen a surge in trade over the past three years, becoming one of the most commonly traded taxa in animal markets and online platforms. These species are known vectors for several zoonotic diseases. By combatting trafficking at the source in West Papua, the spread of zoonoses to other provinces is prevented, thereby mitigating potential environmental and health crises at their destinations.

In West Kalimantan, our strategy has shifted from focusing solely on animal markets to addressing more pressing issues identified through our system dynamics approach, such as wildlife hunting, consumption, and cross-border smuggling. Consequently, authorities in the province have engaged in discussions about the One Health concept, aiming to better control and improve governance over these aspects of the wildlife trade. This integrated approach ensures that our efforts in West Kalimantan and West Papua effectively support and enhance our work on Java.

4. Could there be a mapping exercise done between the existing One Health national strategy (mentioned at the top of page 12) and the one suggested in this project.

A similar exercise was already carried out with KSDAE, WCS and INDOHUN, supported by YIARI, where the existing regulations and government strategies were mapped out, evaluated and a white paper was produced to provide recommendations to the current policies. However, this was a very high-level document and, while it did mention the need for market regulation improvements, it did not provide much detail. Our next goal will be to build on this, using the evidence we have collected, and produce more recommendations for laws and regulations that will be more specific to markets.

5. Because of the great number of stakeholders and initiatives at local and national level, identifying clear attribution between the project activities and its hoped impact is going to be difficult. The M&E framework should try to explore, in a reasonable way, the level of attribution project activities are having on the aimed impact.

Most of our M&E efforts have focused on measuring the impact of our approach on a small scale at the pilot implementation in our three target markets. This has included regular monitoring of wildlife trade volumes, species diversity, and the incidence of zoonotic diseases. These metrics have provided a direct measure of our project's local impact. However, our project is multifaceted and likely impacted many aspects not captured by our current M&E framework.

Given the project's completion and the complexity of accurately attributing impacts due to the involvement of numerous stakeholders and initiatives, we acknowledge that there are limitations in our existing M&E framework. To address this, we attempted to explore the level of attribution of our project activities to the intended impacts through maintained active engagement with several stakeholders. Feedback and insights gathered from these interactions have offered qualitative evidence of the broader effects of our interventions.

6. Please make sure you disaggregate all your stakeholder information so that there is a greater understanding of who is partaking in this project. Currently information is not provided consistently. 42% of representatives at the FGDs were women. Also as men and women experiences and the barriers they face are different, you should describe how your interventions will impact or benefit men and women.

Attendance lists in organized events such as workshops, training sessions and meetings has assisted in gender disaggregation and is provided in reports and documentation of each event in our annexes. We have described how our interventions have impacted differently men and women in section 4.3 (Project support to poverty reduction).

## **7. Lessons learnt**

As mentioned in the previous annual report, we encountered a number of challenges while implementing the One Health strategy at Pramuka and Jatinegara markets in Jakarta. These challenges encompassed issues related to the markets' legal status and their complex governance and administrative structures. Furthermore, challenges faced in each market was different and, therefore, required different approaches.

At the Jatinegara market, the primary challenge revolved around its legal status. Jatinegara is a market that operates outside of the jurisdiction of the government's market authority and is situated on land that is not designated for a traditional market or bird market. Therefore, for all intents and purposes, it is an illegal market. It is located on a public road and partly on land owned by the Indonesian Rail Company. Local residents that live close to this market, complain that the market hinders their access. However, the Jatinegara market is partially managed by the Laskar Merah Putih (LMP) community organization with alleged links to organised crime. Despite local residents complaining about the illegal status of Jatinegara market, the backing from LMP community means that the government has not been able to intervene and relocate the market. Furthermore, any proposed capacity building or assistance provided by YIARI or other government agencies causes anger from local residents, who argue that the market should not be there in the first place and these traders should not be assisted.

The situation with Jatinegara has proven to be even more complicated than we initially expected, due to the involvement many different groups with vested interests. From the project's perspective, progress was made in engaging some of the key stakeholders (traders and vendors), although we were never able to unravel the entirety of the complex "management structure" that is present there.

The situation in Pramuka was slightly better in terms of legality and also the presence of an official management structure. Our initial successes in engaging all stakeholders, however, lost momentum when communication broke down with PD Pasar Jaya for reasons unbeknownst to us. We believe they received orders from higher up to refrain from further engagement in this project (or with YIARI).

Moving forward, we see that for Jakarta markets we will have to lobby higher up chain of command in the government in order to initiate any meaningful change in these markets. That said, some positive changes have been observed since our FGDs and the joint-development of the One Health strategy. Agencies have taken their own initiative to carry out different events and activities at the markets of Jatinegara and Pramuka. We were able to support and monitor these events, which featured members of the FGDs, and involved addressing various issues that were raised during FGDs and included in the strategy. These included education about permits for legal trade, health checks of animal and what animals can and cannot be traded. We deemed these to be positive changes and the first steps towards increasing monitoring and regulation of these markets.

By contrast, the implementation of the strategy worked well in Bandung's Sukahaji market (although is still a work in progress). We believe this was down to the management structure at the market and the support from the market's manager. From the beginning, the head of the PD Pasar Juara (Sukahaji), Mr Septi, knew that the market needed improvements from a health perspective and to be cleaned up. Coincidentally, Mr Septi had been drafted in to be the manager of the Sukahaji market due to his success in a previous position. Mr Septi was open and honest from the beginning. He had also been given the authority to make executive decisions regarding the strategy implementation. This was the key difference between Sukahaji market and Pramuka Market in Jakarta. In Jakarta, while the management authority for Pramuka had attended all workshops and FGDs, they were not in the position to authorise themselves, and had to request authorisation from above. As the people higher up in the management chain had not attended the workshops, we believe they did not fully understand the need for socialisations and other activities in the markets.

Collaborating with Universities (especially UNPAD) has proven to be extremely effective. We have had access to many students of veterinary medicine, communications and biology who have assisted in the project's implementation in Bandung – in terms of seminar preparation, coordination with stakeholders, activities in the markets, assisting with health checks and carrying out research in the markets. University students were perceived as neutral and were not seen as a threat by market traders and other stakeholders. Students are now able to regularly visit the markets with questionnaires, clip boards and cameras without any hostility. The traders have become used to having researchers present and also to being asked questions. This is a big step forward and has enabled us to be able to collect much valuable data openly.

## **8. Risk Management**

No risks have been identified during the course of the Project.

## 9. Sustainability and legacy

Our project profile within Indonesia has been elevated through high-profile events, workshops, and seminars that engaged a broad spectrum of stakeholders. These activities generated considerable interest and built capacity among local authorities and market operators. Evidence of increasing interest and capacity resulting from the project includes successful implementation of some measures of the approved One Health strategy, especially in Sukahaji market, leading to initial steps towards improved regulatory frameworks, and enhanced collaboration among various governmental agencies, including the Ministry of Environment and Forestry, Agriculture Ministry, veterinary associations, and local governments. For example, through the project's various activities, stakeholders reached a level of awareness and understanding where they could identify zoonotic risks themselves and propose their own solutions.

Furthermore, by encouraging stakeholders to independently adopt the One Health measures outlined in our locally-based strategies, we have observed several agencies taking initiative in the target markets, both with and without our support. This represents the first instance of such activities being implemented in these markets, marking a significant shift in the agencies' operational plans. Additionally, enhancing the capacity of national, provincial, and local agencies through National Seminars, capacity-building sessions, and collaborative efforts has strengthened the sustainability of the practices promoted throughout the project, ensuring their continuation beyond its conclusion.

While there has not yet been a significant impact on national policy, the groundwork has been laid for future policy developments. The project's findings and recommendations have been shared with hundreds of stakeholders and made accessible to policymakers. There is growing recognition of the need for a multi-sector approach to managing wildlife trade and preventing zoonotic diseases. This recognition is expected to influence future policy decisions at regional and national levels, contributing to the project's long-term legacy.

We have since secured funding to continue this project's activities in Sukahaji market and have already made plans to continue working with UNPAD. We are currently evaluating whether to continue in Jatinegara due to the complexity of the legal situation that might be above our means. In Pramuka, we plan to maintain communication and collaboration through the working groups we have formed and the contacts we have made with key stakeholders. The continuation of the work in Pramuka will require approval from higher up in PD Pasar Jaya, so we will continue to work on a communication strategy with Dr Tria, to approach the governor or Jakarta. Our main project staff will continue and have already signed new contracts.

## 10. IWT Challenge Fund Identity

This project was a new and unique project for YIARI. While there was extensive overlap in the work that we had been doing previously (working to reduce IWT, providing capacity building to veterinarians, providing training on biosecurity and disease risk mitigation when working with primates), this project, under the umbrella of the One Health concept brought all these different aspects together. Since implementing this project, we have seen it go from strength to strength, and the One Health approach has since been applied and integrated into all other YIARI programmes.

Due to the nature of our work in dealing with illegal trade and approaching market traders that have long been suspicious of NGOs working to reduce and regulate IWT, as well as, in dealing with sensitive government officials, we have often hidden our exact intentions and focussed on the more neutral One Health approach. For that reason, we have not publicised the IWTCF logo during our FGDs, meetings and market implementation to avoid additional suspicion. While the IWTCF was probably not so well known among the people we were working with, as IWT features in the name features, we decided it would be safer to not mention this in some situations.

Nevertheless, specific mentions of the IWTCF, Biodiversity Challenge Fund and UK International Development logos/mentions are as follows:

- IWT Challenge Fund and the UK Government were acknowledged in our Situational Analysis document, which has been distributed among key stakeholders throughout the course of this year ([Annex 5. 2](#)).
- Signboards in Bandung's Sukahaji Market providing information on protected wildlife that should not be sold and other aspects of the One Health Strategy featured the logos UK International



Development and Biodiversity Challenge Funds ([Annex 5. 13](#) – Sukahaji market – Singboard&Booklets<sup>8</sup>).

- During the two national seminars that took place in Bandung and Pontianak in 2023, Biodiversity Challenge Fund was acknowledged as supporters of the project and the seminars ([Annex 5. 9](#)).
- The Pocket Guide Book produced and disseminated to market traders and other stakeholders in Sukajai featured the logos of UK International Development and Biodiversity Challenge Funds ([Annex 5. 13](#) – Sukahaji market – Singboard&Booklets<sup>8</sup>).
- A short video warning people of the dangers of hunting and consumption of wild animals features the logos UK International Development and Biodiversity Challenge Funds<sup>9</sup> ([Annex 5. 15](#)).
- A mid-length educational video highlighting the dangers of hunting and wild meat consumption features the logos UK International Development and Biodiversity Challenge Funds<sup>10</sup> ([Annex 5. 15](#)).
- A comic strip created and produced for education towards younger generations living in forest edge, hunting communities was produced and features the logos of Biodiversity Challenge Fund and UK International Development<sup>11</sup> ([Annex 5. 15](#)).
- A Poster for display in forest edge communities and various socialisation events warning people of the dangers of hunting and wild meat consumption features the logos Biodiversity Challenge Fund and UK International Development<sup>12</sup> ([Annex 5. 15](#)).
- IWT Challenge Fund will be acknowledged on the upcoming publications of the Disease Risk Assessment and the Legal Review (to be published in Media Konservasi).

## 11. Safeguarding

Has your Safeguarding Policy been updated in the past 12 months?	Yes. YIARI has incorporated a Fire Danger Rating into our Standard Operational Procedures (SOP) and displayed a sign at the staff entrance. This announcement raises staff awareness about fire risks. Additionally, regular meetings are now held to report incidents in the field and discuss solutions.
Have any concerns been investigated in the past 12 months	Yes, there has been an increase in the number of staff members stung by bees. To address this, the team is now providing special personal protective equipment and antihistamines to field teams working in high-risk areas.
Does your project have a Safeguarding focal point?	Yes. <i>Rikardus</i> [REDACTED]
Has the focal point attended any formal training in the last 12 months?	Yes, Rikardus has completed Health, Safety, Security and Environment National Standard Certification (HSSE).

<sup>8</sup> <https://www.dropbox.com/scl/fo/kyzmrcobv8u93pkad6ez9/ANyUSAU8oCK8XIFEjf8QgVg?rlkey=dee56x8si34n0xefqpydiywn&dl=0>

<sup>9</sup> <https://www.dropbox.com/s/vu0m09szki86e9t/VIDEO%20REELS-20240731T224812Z-001.zip?dl=0>

<sup>10</sup> <https://www.dropbox.com/scl/fi/na9ueybh2gr36vjyrf11/SADAR-ZOONONIS-FINAL.mp4?rlkey=4c6605d7h4f9rhqbpzrvnmnw4&dl=0>

<sup>11</sup> <https://www.dropbox.com/scl/fi/djz32y1r0k1rfqlf4hq5o/COMIC-STRIP.zip?rlkey=faf2935mfkwjlg5mc7uaih0li&dl=0>

<sup>12</sup> <https://www.dropbox.com/scl/fi/uj93embkp4g159my5cs3o/Poster.pdf?rlkey=w1ngy12l9c8vk4pmc4ld5sndl&dl=0>

What proportion (and number) of project staff have received formal training on Safeguarding?	<p>Past: 70% [~140 staff members] Planned: 100% [~60 staff members]</p> <p>On February 26, 2024, another safeguarding training was held with project staff in Lampung and Ketapang on Fire Fighting &amp; Incident Management with the participation of 40 staff members.</p>
<p>Has there been any lessons learnt or challenges on Safeguarding in the past 12 months? Please ensure no sensitive data is included within responses.</p> <p>Commitment of Project Leaders with safeguarding policies is essential to improve Health and Safety culture among staff members.</p>	

## 12. Finance and administration

### 12.1 Project expenditure

Project spend (indicative) since last Annual Report	2023/24 Grant (£)	2023/24 Total actual IWTCF Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Others (see below)				
<b>TOTAL</b>	<b>128,847</b>	<b>136,610</b>	<b>6%</b>	

Staff employed (Name and position)	Cost (£)
Karmele Llano Sanchez (Project leader)	
Richard Moore (Project coordinator Bogor)	
Gail Campbell Smith (Project coordinator Ketapang)	
Wendi Prameswari (Veterinarian/zoonosis specialist)	
Silvana Sita (Data analyst)	
Saiful Amin Zay (Wildlife trade expert) (Head of WPU Division)	
Nur Purba Priambada (Conservation expert and field coordinator)	
Yumny Ghassani (Communications expert)	
Jacob Phelps (Consultant Analyst)	
<b>TOTAL</b>	<b>£ 30.341</b>

Capital items – description	Capital items – cost (£)
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<b>TOTAL</b>	0
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<b>Other items – description</b>	<b>Other items – cost (£)</b>
Field Equipment (Drone repair, Aircraft Propeller & Gimbal Camera Module Dji Mini SE) Field Equipment (General supplies, Lens Filter for Production Film) Field Consumables (battery, lamp, SSD)	
<b>TOTAL</b>	£ 631

## 12.2 Additional funds or in-kind contributions secured

<b>Source of funding for project lifetime</b>	<b>Total (£)</b>
Capacity building workshops for Indonesian government officials (Oak Foundation)	£52,949
<b>TOTAL</b>	<b>£52,949</b>

<b>Source of funding for additional work after project lifetime</b>	<b>Total (£)</b>
Continuation of One Health Approach to reduce hunting and trade (Spanish Government)	
Continuation of One Health Approach to reduce hunting and trade (Anonymous Donor)	
<b>TOTAL</b>	<b>129,000</b>

## 12.3 Value for Money

We believe this project has offered good value for money due to its comprehensive approach to addressing the interconnected issues of wildlife trade, zoonotic disease transmission, and biodiversity loss in Indonesia. Our almost entirely local team, consisting of a diverse range of experts in the different related fields ensured that most of the work could be carried out in-house and has saved on costly external consultant fees. We have also leveraged YIARI's existing networks, partners and contacts (such as those with ASLIQEWAN, INDOHUN and KSDAE) to acquire the knowledge and experience of experts at no or little extra cost.

We have utilised our working agreements and partnerships with local universities in order to benefit both parties mutually. By engaging local students and encouraging them to assist and participate in FGDs, seminars and socialisation events in markets, we have managed to keep operational costs down, while providing valuable experience to the students from departments of veterinary science, communication and knowledge, and biology.

We utilised the network of local informants and market monitors that our Wildlife Protection Team use to survey markets in order to keep down travel costs and to avoid the need to train new staff to carry out these events.

Throughout this project we have placed much of our focus on capacity building of local stakeholders. By attempting to improve governance structures, enhancing cross-agency collaboration, and building capacity for monitoring and enforcement are critical for ensuring the sustainability of wildlife trade regulations. For the One Health strategy implementation in the markets, we avoided simply paying for additional staff, infrastructure changes (supplying water pipes or drainage areas), or for new equipment. Instead, we focussed our efforts on education, socialisation and capacity building of market stakeholders. This we believe will ensure sustainability of the project in the future. If we were seen to support infrastructure developments for example, the market authorities who should be overseeing these costs, may instead build a reliance on external financial support.

## Annex 1 Project's original (or most recently approved) logframe, including indicators, means of verification and assumptions.

Project Summary	Measurable Indicators	Means of Verification	Important Assumptions
<p><b>Impact:</b> Legal wildlife trade in Indonesia becomes safe and traceable, providing strong incentives for sustainable wildlife management, and as a driver to improve livelihoods and reduce participation in illegal trade.</p> <p>(Max 30 words)</p>			
<p><b>Outcome:</b> (Max 30 words)</p> <p>A One Health approach improves regulation and enforcement of Indonesia's legal, wildlife trade, thus reducing loopholes that enable the dual risks of illegal wildlife trade and public health problems.</p>	<p><b>0.1</b> The legal wildlife trade/market regulatory system in Indonesia and its interrelation with the One Health concept is investigated and documented in a report.<sup>13</sup></p> <p><b>0.2</b> By the end of Year 2, an increase by at least 50% of government and non-government monitoring activities in three animal markets in two provinces (DKI Jakarta and West Java). Activities will include checks on safety and sanitation, wildlife on sale (species, volume, origins, protected status), and the legality of trade (trade permits and business licenses)<sup>14</sup>.</p> <p><b>0.3</b> By the end of the Project [April 24], all 3 selected animal markets [Pramuka, Sukahaji, and Jatinegara] in the two provinces [DKI Jakarta and West Java] have successfully adopted at least 3 locally-appropriate measures of the One-Health co-formulated strategy. This could include: testing and screening activities for animals; general health of</p>	<p><b>0.1</b> Situational analysis produced by YIARI. One Health strategy plan produced in collaboration with multi-stakeholders and endorsed by the government.</p> <p><b>0.2</b> Market surveys and communications with government partners and other stakeholders.</p> <p><b>0.3</b> Communication with local government partners. Interviews with market vendors and other stakeholders.</p>	<p>The Covid-19 global health crisis remains a prominent issue in the media and in the minds of the general public.</p> <p>Local governments remain committed to tackle emergent zoonotic disease risks and the illegal wildlife trade.</p> <p>Sufficient trust is gained from non-government stakeholders to adopt the strategy</p> <p>Better management of the legal wildlife trade leads to a reduction of the illegal trade.</p> <p>One Health approach strategies are effective in reducing zoonotic disease transmission</p>

<sup>13</sup> Baseline: No zo

onotic disease risk management plan with focus on legal wildlife trade in Indonesia currently exist.

<sup>14</sup> Baseline: Very low or non-existent governmental monitoring of these markets. Baselines were calculated based on 8 monitoring indicators of animal health, animal conservation, human/environmental health and administrative [Pramuka: 4; Jatinegara:1; Sukahaji:2].

	<p>the animals and stress level; vaccinations; animal welfare (cage size, number per cage, mixing of species); cleaning and sanitisation activities; biosecurity; SOPs; improved mechanisms for communication between traders and other stakeholders; and better access to information (signboards, information packs, etc).<sup>15</sup></p> <p><b>0.4</b> By the end of the project [April 24], a 30% increase in the number of vendors in possession of the correct permits and licencing for trading.<sup>16</sup></p> <p><b>0.5</b> By the end of the Project [April 24], illegal trade in protected and unprotected wildlife has reduced by 50% in the 3 target markets.<sup>17</sup></p>	<p><b>0.4</b> Communication with local government partners through inspections of business licences and via interviews with vendors.</p> <p><b>0.5</b> Trade surveys of animal markets carried out by WPU/YIARI, and communication with law enforcement partners.</p>	
<p><b>Outputs:</b></p> <p><b>1.</b> Wildlife trade regulatory system and zoonotic disease risk in animal markets and along the supply chain in Indonesia are well-understood.</p>	<p><b>1.1</b> By Q1 of Year 2[Feb 23], situational analysis report is produced covering a review of legislation and governance of the legal trade regulations in the two selected provinces, and the roles of each key stakeholder.<sup>18</sup></p> <p><b>1.2</b> By Q1 of Year 2 [Feb 23], zoonotic disease risk assessment related to wildlife trade activities in animal markets</p>	<p><b>1.1</b> One situational analysis report produced. White paper written with recommendations to improve the current governance situation.</p>	<p>There is sufficient support from key governmental institutions in order to provide internal standard procedures and data management information.</p>

<sup>15</sup> Baseline: 1. Testing and screening activities for animals – none; 2. Vaccinations – vaccination for rabies (monkeys) and avian influenza were offered in Pramuka in 2019; 3. General health of the animals and stress level – animals are in poor condition and highly stressed; 4. Animal welfare – Poor welfare was observed with dirty cages, mixed species, overcrowding, visibly sick and dead animals in the cages; 5. Cleaning and sanitisation activities – daily, but ineffective cleaning procedures; 6. Biosecurity – handwashing places are present, but not in operation. Masks and gloves are rarely worn).

<sup>16</sup> Baseline: In Java, only 30% (n= 36) claimed to have the correct permits (however, no proof was provided apart from one document that was false and one that was inappropriate). More specifically: Jatinegara market - 0% all traders admitted they did not have permits; Pramuka – 80% claimed to possess permits (n=10); Sukahaji – 10% traders claimed to have permits (2 of the traders revealed fake or incorrect permits).

<sup>17</sup> Baseline (Encounter Rate (ER): # individuals per market survey): *C. sonnerati* = 4.1; *A. melanopterus* = 7.0; *P. vampyrus* = 6.9; *M. fascicularis* = 18.4.

<sup>18</sup> Baseline: No synthetic resources exists on the legislation and governance of legal wildlife trade in domestic markets.



	and along the supply chain is completed. <sup>19</sup>	<b>1.2</b> One zoonotic disease risk report based on findings from the market review and hunting practices.	
<b>2.</b> Development of a national One Health framework focused on the wildlife trade through top-down and bottom-up multi-stakeholders engagement and collaboration.	<b>2.1</b> From Q1 of Year 1 to Q2 of Year 2 [May 23], eight Focus Groups Discussions will be held with government partners, NGOs, market vendors, community members, etc to collaborative problem framing, One Health strategy co-formulation, and encourage convergence between stakeholders. <sup>20</sup>  <b>2.2</b> By Q3 of Y2 [Aug 23], joint formulation of a draft national One Health strategy for wildlife trade, focused on animal markets. Baseline: No national strategy for wildlife trade exists.	<b>2.1</b> Monthly meetings, attendance lists and transcripts from each focus group discussion including reports of progress, barriers, and planning.  <b>2.2</b> White paper	Key stakeholders are sufficiently aware about the risks to health from poorly managed, unregulated and illegal wildlife trade and engaged in the cause.  There is sufficient trust and willingness between stakeholders to use participatory processes to ensure equity.
<b>3.</b> Improved capability, capacity and transparency amongst the two key government agencies responsible for the governance and enforcement of the wildlife markets regulations (KSDAE and GAKKUM under the Ministry of Environment and Forestry) to better regulate legal wildlife trade.	<b>3.1</b> By Q4 of Year 2 [Nov 23], one capacity building workshop (30 staff per session) held in each DKI Jakarta and West Java provinces targeting provincial-level agencies involved in animal market management and governance (e.g., Quarantine staff, Public Health Office (Dinas Kesehatan), Department of Animal Husbandry (Dinas Perternakan) and the Provincial Market Office (Dinas Pasar Provinsi). <sup>21</sup>  <b>3.2</b> At end of the Project [April 24], three capacity building workshops for national level agencies (GAKKUM and KSDAE) (30 staff per session) to increase	<b>3.1</b> Workshop reports, attendance list, pre- and post-training tests and evaluations. Performance of government agencies after the workshop via communication with partners and market surveys.  <b>3.2</b> Training session reports, attendance list, pre- and post-training	Appropriate staff selected for training.  The issue of improved legal trade regulation is deemed a sufficient priority by both agencies.  There is sufficient commitment and engagement from agencies in receiving training.  Judicial officials are sufficiently motivated to take part of the trainings  Knowledge on laws, regulations and wildlife crime generate increase in prosecutions and sentences severity.

<sup>19</sup> Baseline: No detailed site-based assessment for risks in animal markets and the wildlife trade in Indonesia.

<sup>20</sup> Baseline: From March 2020 to March 2021, six Focus Group Discussions and webinars were held in Medan, Bogor, Pontianak, Manokwari, Jayapura and Tomohon City to raise the prospect of developing and strengthening a One Health approach.

<sup>21</sup> Baseline: No capacity building has been done with these stakeholders on management of wildlife markets.

	capacity of officers responsible for the management, regulation and enforcement of legal trade are held. <sup>22</sup>	tests and evaluations. Performance monitoring of staff following the training.	
<p><b>4.</b> The trial implementation of the one-health strategy at three markets in DKI Jakarta (2) West Java (1) and two forest-edge communities involved in the supply of wildlife.</p>	<p><b>4.1</b> By Q4 of Year 2 [Nov 23], socialisation of the One Health strategy to key stakeholders at the 3 target markets (vendors, traders, suppliers, cleaners, and inspectors) and other stakeholders has occurred through a series of focus group discussions and meetings. <sup>23</sup></p> <p><b>4.2</b> By Q2 Y3 [April 24], at least 60% of community members in the two target forest-edge communities received socialisation and are educated on community health and zoonotic diseases transmission. <sup>24</sup></p>	<p><b>4.1</b> FGDs, meeting minutes and participant's lists. Reports of joint visits and training sessions.</p> <p><b>4.2</b> Community education reports, final Project Report.</p>	<p>Local government officials (Dinas Pasar Provinsi) involved in the management of the four animal markets in the two provinces have agreed to trial the One Health strategy.</p> <p>There is sufficient participation from all stakeholders in the formulation of the joint strategy.</p> <p>There is sufficient interest and engagement of community members in the health education programme.</p> <p>Zoonotic Disease Risk Assessment yield relevant results and recommendations.</p> <p>Capacity and resources are sufficient for carrying out proper health guidelines and community members are properly capacitated to follow these guidelines.</p>

<sup>22</sup> Baseline: Three workshops have been held by YIARI with a focus on the illegal trade in West Kalimantan, West Java and North Sumatra. No workshops have been held with GAKKUM and KSDAE with a focus on the legal trade.

<sup>23</sup> Baseline: No market has adopted a One Health strategy to better regulate market trade of wildlife but some socialization of the One Health concept has been carried out in 6 cities around Indonesia during a series of FGDs with participants including local government representatives, health officials, veterinarians and wildlife traders.

<sup>24</sup> Baseline: Preliminary hunting and trade assessments have been carried out in Ciwidey, West Java, but not with regards to zoonosis risk and no socialization and education activities have been carried out. In west Kalimantan, surveys of zoonosis risks in hunters were carried out in September 2020 in Manjau and Laman Satong. Some socialization and education activities have been carried out.

**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)

- 1.1 Conduct situational analysis of legal wildlife trade and market governance systems in the two provinces including: a review of legislation, management structures, the regulatory system for managing legal trade (trade permits, harvest and export quotas, quarantine, breeding licences, frequency of inspections), and a to model and map the governance network structure.
- 1.2 Carry out surveys by YIARI's experienced Wildlife Protection Unit field team of selected markets (n =3) in the two provinces for collection of trade data.
- 1.4 Assessment of hunters (species harvested, volumes, permits and methods) and zoonotic disease risk through semi-structured interviews with members of two forest-edge communities (Sandai, West Kalimantan and Ciwidey, West Java) involved in the supply of wildlife to markets.
- 1.5 Zoonotic Disease Risk Assessment of Indonesian animal markets – desktop study including (Greatorex et al., 2016): 1. potential for wildlife and human contact; 2. potential for traded wildlife to carry a zoonotic pathogen; 3. opportunities for pathogen transmission from infected wildlife to humans or via intermediary species (based on observed biosafety practices or lack thereof in markets); 4. potential for human spread of a disease from markets to wider populations (based on market location and origin of market visitors); and 5. severity of the disease (pathogenicity, morbidity, mortality).
- 1.6 Develop a risk management plan to recommend potential preventive measures and protocols for animal markets.
- 2.1 Establish a stakeholder working group including members of local governments, academic institutions, market vendors, wildlife traders and breeders, community members and NGOs to inform development of the strategy.
- 2.2 Carry out a series of FGD and webinars with the stakeholder working group to co-formulate the One Health strategy for Indonesian animal markets and along the wildlife trade chain.
- 2.3 Joint formulation of a national One Health framework for wildlife trade in cooperation with government partners.
- 3.1 Hold two capacity building workshop (one in each province) for provincial-level agencies involved in animal market management and governance, such as Quarantine, Public Health Office (Dinas Kesehatan), Department of Animal Husbandry (Dinas Perternakan) and the Provincial Market Office (Dinas Pasar Provinsi) to increase capacity, motivation and integrity. Each workshop will be held for approx. 30 participants.
- 3.2 Carry out three capacity building workshops for national level agencies (GAKKUM and KSDAE) – with 30 participants per session - to increase capacity of officers responsible for the management, regulation and enforcement of legal trade.
- 4.1 Through the collaborative working group, use the national framework to co-formulate suitable, local pilot strategies for three large priority markets (i.e. two in Jakarta DKI: Pramuka, and Jatinegara and one in West Java, Bandung: Sukahaji) that will ensure long-term commitment from key stakeholders. This will serve to demonstrate how the framework can be operationalized at the local level.
- 4.2 Communication and engagement of traders in animal markets through a series of socialization activities at the three target animal markets involving different stakeholders.
- 4.3 Assist in the inspection and monitoring of the target animal markets, reassuring that trader and market staff comply with the strategy provisions, and there are appropriate responses from regulatory governmental agencies. This will be enabled by frequent presence in the target markets, continuous data collection and communications with traders and government.
- 4.4 Carry out community outreach and health education in the two target communities in collaboration with universities (e.g. One Health Collaborating Center – OHCC under INDOHUN) and local NGOs in the Health sector (e.g. ASRI).

## Annex 2 Report of progress and achievements against final project logframe for the life of the project

Project summary	Measurable Indicators	Progress and Achievements
<p><b>Impact</b></p> <p>Legal wildlife trade in Indonesia becomes safe and traceable, providing strong incentives for sustainable wildlife management, and as a driver to improve livelihoods and reduce participation in illegal trade.</p>		<p>In-depth understanding of the wildlife trade, governance system and legislations regarding the trade of wildlife and zoonotic disease risks in animal markets across Indonesia.</p> <p>Coordination amongst multi-government sectors at the national, provincial and local level in two provinces in Indonesia for the management and control of animal markets and zoonosis.</p> <p>Increased monitoring and implementation of One Health measures in three large animal markets in West Java and Jakarta.</p>
<p><b>Outcome</b></p> <p>A One Health approach improves regulation and enforcement of Indonesia's legal, wildlife trade, thus reducing loopholes that enable the dual risks of illegal wildlife trade and public health problems.</p>	<p><b>0.1</b> The legal wildlife trade/market regulatory system in Indonesia and its interrelation with the One Health concept is investigated and documented in a report.</p> <p><b>0.2</b> By the end of Year 2, an increase by at least 50% of government and non-government monitoring activities in three animal markets in two provinces (DKI Jakarta and West Java). Activities will include checks on safety and sanitation, wildlife on sale (species, volume, origins, protected status), and the legality of trade (trade permits and business licenses).</p> <p><b>0.3</b> By the end of the Project [April 24], all 3 selected animal markets [Pramuka, Sukahaji, and Jatinegara] in the two provinces [DKI Jakarta and West Java] have successfully adopted at least 3 locally-appropriate measures of the One-Health co-formulated</p>	<p><b>0.1</b> Achieved.</p> <p>The Situational Analysis is completed and compiled into a report (<a href="#">Annex 5. 2</a>).</p> <p>A review of relevant legislations governing the wildlife trade and zoonoses surveillance and prevention was compiled into a separate report and the results were integrated into the situational analysis (<a href="#">Annex 5. 4</a><b>Error! Reference source not found.</b>).</p> <p><b>0.2</b> Partially achieved.</p> <p>Despite some challenges in specific monitoring areas, the average overall increase in government and non-government monitoring activities in the targeted animal markets was 58%, exceeding our initial target (<a href="#">Annex 5. 18</a>).</p> <p>Market monitoring score increased by 100% for both Sukahaji [baseline score 2 and final score 4] and Jatinegara [baseline score 1 and final score 2] markets and decreased by 25% for Pramuka market [baseline score 4 and final score 3].</p> <p><b>0.3</b> Partially achieved.</p> <p>Although 22 One Health interventions were implemented across the three target markets, overreaching our initial target for Sukahaji and Pramuka markets [14 and 6 interventions respectively], our target was not met for</p>

	<p>strategy. This could include: testing and screening activities for animals; general health of the animals and stress level; vaccinations; animal welfare (cage size, number per cage, mixing of species); cleaning and sanitisation activities; biosecurity; SOPs; improved mechanisms for communication between traders and other stakeholders; and better access to information (signboards, information packs, etc).</p> <p><b>0.4</b> By the end of the project [April 24], a 30% increase in the number of vendors in possession of the correct permits and licencing for trading.</p> <p><b>0.5</b> By the end of the Project [April 24], illegal trade in protected and unprotected wildlife has reduced by 50% in the 3 target markets.</p>	<p>Jatinegara market [2 interventions]. Target interventions and monitoring indicators can be found in <a href="#">Annex 5. 19</a>.</p> <p>Despite advancement in implementing One Health measures in our three target markets, significant improvements in animal welfare, market hygiene, and biosecurity could not yet been observed at the end of this Project period. Minor behavioural changes among traders, such as better personal habits, were noted, but overall conditions, including overcrowding and poor sanitation in animal cages, remained largely unchanged across the markets.</p> <p><b>0.4</b> Not achieved. There was no change in the possession of correct permits and licenses by wildlife traders (<a href="#">Annex 5. 20</a>).</p> <p>In the Sukahaji market, most traders lacked permits, with only one out of seven traders having a certificate for a single species. Similarly, informal conversations in the Jatinegara market revealed that traders did not possess the necessary documents, often selling protected species illegally. In the Pramuka market, some traders claimed to have permits but could not provide proof, indicating a lack of proper documentation across all markets.</p> <p><b>0.5</b> Not achieved. Illegal wildlife trade in the target markets did not significantly decrease (<a href="#">Annex 5. 21</a>).</p> <p>Monthly trade monitoring from December 2021 to June 2024 showed a statistically significant difference between the beginning of the project and after One Health measures were implemented. MANOVA tests across calendar years revealed that while some markets saw increases in trade up to 2023, there was a significant decrease for some markets and species in 2024. However, these changes in trade volumes appeared to follow national trends rather than being a direct result of the project's interventions.</p>
<p><b>Output 1.</b> Wildlife trade regulatory system and zoonotic disease risk in animal markets and along the supply chain in Indonesia are well-understood.</p>	<p><b>1.1</b> By Q1 of Year 2 [Feb 23], situational analysis report is produced covering a review of legislation and governance of the legal trade regulations in the two selected provinces, and the roles of each key stakeholder.</p>	<p><b>1.1</b> Achieved.</p> <p>Situational Analysis report published (<a href="#">Annex 5. 2</a>).</p>



	<p><b>1.2</b> By Q1 of Year 2 [Feb 23], zoonotic disease risk assessment related to wildlife trade activities in animal markets and along the supply chain is completed.</p>	<p><b>1.2</b> Achieved.</p> <p>Zoonotic Disease Risk Assessment produced (<a href="#">Annex 5. 5</a>). Extended DRA with focus on long tailed macaques also published (<a href="#">Annex 5. 23</a>).</p>
<p><b>Activity 1.1</b> Conduct situational analysis of legal wildlife trade and market governance systems in the two provinces including: a review of legislation, management structures, and the regulatory system for managing legal trade (trade permits, harvest and export quotas, quarantine, breeding licences, frequency of inspections) to model and map the governance network structure.</p>		<p>The Situational Analysis with the focus on animal markets comprises three main studies:</p> <ul style="list-style-type: none"> <li>- The assessment of the three target markets [Pramuka, Jatinegara and Sukahaji] regarding animal health and welfare, biosecurity and sanitation and wildlife trade legality (<a href="#">Annex 5. 3</a>).</li> <li>- Disease Risk Assessment based on literature review and the markets conditions and common practices.</li> <li>- Legal review covering the regulations and governance of the wildlife trade, zoonotic disease transmission management and prevention.</li> </ul>
<p><b>Activity 1.2</b> Carry out surveys by YIARI's experienced Wildlife Protection Unit field team of selected markets (n =3) in the two provinces for collection of trade data.</p>		<p>Assessments of the four target markets completed [DKI Jakarta: Jatinegara and Pramuka; West Java: Sukahaji and West Kalimantan: Peniti, Mempawah] (<a href="#">Annex 5. 3</a>) and results compiled into the Situational Analysis report.</p> <p>Regular monthly monitoring of the three target markets has continued. In the past 12 months, the three target markets were surveyed 34 times for protected wildlife, including the four target species (<a href="#">Annex 5. 21</a>).</p>
<p><b>Activity 1.3</b> Assessment of hunters (species harvested, volumes, permits and methods) and zoonotic disease risk through semi-structured interviews with members of two forest-edge communities (Sandai, West Kalimantan and Ciwidey, West Java) involved in the supply of wildlife to markets.</p>		<p>Assessment of hunters is concluded (<a href="#">Annex 5. 22</a>). A total of 25 hunters (13 in West Java and 12 in West Kalimantan) were interviewed. Results of the assessment show that hunting, wildlife consumption and trade are still a common practice in these forest-edge communities and that they possess very little knowledge on zoonotic diseases. Outreach strategies have been drawn up based on the findings.</p>
<p><b>Activity 1.4</b> Zoonotic Disease Risk Assessment of Indonesian animal markets – desktop study including (Greatorex et al., 2016): 1. potential for wildlife and human contact; 2. potential for traded wildlife to carry a zoonotic pathogen; 3. opportunities for pathogen transmission from infected wildlife to humans or via intermediary species (based on observed biosafety practices or lack thereof in markets); 4. potential for human spread of a disease from markets to wider populations (based on market location and origin of market visitors); and 5. severity of the disease (pathogenicity, morbidity, mortality).</p>		<p>Zoonotic Disease Risk Assessment completed. The assessment provided insights on: 1. High risk taxa and types of zoonosis; 2. Market practices that increase zoonotic diseases transmission risks between animals to animals and animals to humans; 3. Transmission routes and practices to avoid them.</p>

<p><b>Activity 1.5</b> Develop a risk management plan to recommend potential preventive measures and protocols for animal markets.</p>	<p>Based on the Zoonotic Disease Risk Assessment and the Animal Markets Assessments, preventive measures have been proposed and discussed with stakeholders during the FGD sessions. These recommendations have been incorporated in the Situational Analysis report and in the market-based One Health strategies.</p>				
<p><b>Output 2.</b> Development of a national One Health framework focused on the wildlife trade through top-down and bottom-up multi-stakeholders engagement and collaboration.</p>	<table border="1"> <tr> <td data-bbox="618 300 1104 592"> <p><b>2.1</b> From Q1 of Year 1 to Q2 of Year 2 [May 23], eight Focus Groups Discussions will be held with government partners, NGOs, market vendors, community members, etc to collaborative problem framing, One Health strategy co-formulation, and encourage convergence between stakeholders.</p> </td> <td data-bbox="1104 300 2013 592"> <p><b>2.1</b> Achieved.</p> <p>Eight FGD sessions [4 in Jakarta and 4 in Bandung] concluded enrolling a total of 105 stakeholders from 57 different agencies (<a href="#">Annex 5. 7</a>). Two market-based One Health strategies co-formulated and agreed upon all stakeholders from the two provinces as result of the FGDs (<a href="#">Annex 5. 8</a>).</p> </td> </tr> <tr> <td data-bbox="618 592 1104 831"> <p><b>2.2</b> By Q3 of Y2 [Aug 23], joint formulation of a draft national One Health strategy for wildlife trade, focused on animal markets. Baseline: No national strategy for wildlife trade exists.</p> </td> <td data-bbox="1104 592 2013 831"> <p><b>2.2</b> Not achieved.</p> <p>Although a draft of the National One Health strategy was created (<a href="#">Annex 5. 6</a>) and elements were discussed with stakeholders at two National Seminars held in West Java and West Kalimantan, stakeholders were not yet prepared for the joint formulation and agreement on a National strategy.</p> </td> </tr> </table>	<p><b>2.1</b> From Q1 of Year 1 to Q2 of Year 2 [May 23], eight Focus Groups Discussions will be held with government partners, NGOs, market vendors, community members, etc to collaborative problem framing, One Health strategy co-formulation, and encourage convergence between stakeholders.</p>	<p><b>2.1</b> Achieved.</p> <p>Eight FGD sessions [4 in Jakarta and 4 in Bandung] concluded enrolling a total of 105 stakeholders from 57 different agencies (<a href="#">Annex 5. 7</a>). Two market-based One Health strategies co-formulated and agreed upon all stakeholders from the two provinces as result of the FGDs (<a href="#">Annex 5. 8</a>).</p>	<p><b>2.2</b> By Q3 of Y2 [Aug 23], joint formulation of a draft national One Health strategy for wildlife trade, focused on animal markets. Baseline: No national strategy for wildlife trade exists.</p>	<p><b>2.2</b> Not achieved.</p> <p>Although a draft of the National One Health strategy was created (<a href="#">Annex 5. 6</a>) and elements were discussed with stakeholders at two National Seminars held in West Java and West Kalimantan, stakeholders were not yet prepared for the joint formulation and agreement on a National strategy.</p>
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<p><b>Activity 2.1</b> Establish a stakeholder working group including members of local governments, academic institutions, market vendors, wildlife traders and breeders, community members and NGOs to inform development of the strategy.</p>	<p>Two working groups established for the implementation of the pilot One Health strategies in the three target markets with 57 key agencies and departments involved in the management and regulation of legal wildlife trade, human and animal health, zoonotic disease control and market management (<a href="#">Annex 5. 1 – Stakeholder Working Group Update</a>).</p>				
<p><b>Activity 2.2.</b> Carry out a series of FGD and webinars with the stakeholder working group to co-formulate the One Health strategy for Indonesian animal markets and along the wildlife trade chain.</p>	<p>Eight FGD sessions held in Bandung, West Java, and Jakarta, DKI Jakarta with the participation of 105 people.</p> <p>In Jakarta, 37 different agencies and departments were represented at the FGDs. In Bandung, 20 different agencies and departments were represented.</p>				
<p><b>Activity 2.3.</b> Joint formulation of a national One Health framework for wildlife trade in cooperation with government partners.</p>	<p>Not completed, although initial discussions began at the two National Seminars held in Bandung, West Java, and Pontianak, West Kalimantan.</p>				
<p><b>Output 3.</b> Improved capability, capacity and transparency amongst the two key government agencies responsible for the governance and enforcement of the wildlife markets regulations (KSDAE and GAKKUM</p>	<table border="1"> <tr> <td data-bbox="618 1268 1104 1458"> <p><b>3.1</b> By Q4 of Year 2 [Nov 23], one capacity building workshop (30 staff per session) held in each DKI Jakarta and West Java provinces targeting provincial-level agencies involved in animal market management and</p> </td> <td data-bbox="1104 1268 2013 1458"> <p><b>3.1</b> Achieved.</p> <p>Two National Seminar with both national and provincial-level agencies held: one in Bandung, West Java, with 82 representatives from 30</p> </td> </tr> </table>	<p><b>3.1</b> By Q4 of Year 2 [Nov 23], one capacity building workshop (30 staff per session) held in each DKI Jakarta and West Java provinces targeting provincial-level agencies involved in animal market management and</p>	<p><b>3.1</b> Achieved.</p> <p>Two National Seminar with both national and provincial-level agencies held: one in Bandung, West Java, with 82 representatives from 30</p>		
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<p>under the Ministry of Environment and Forestry) to better regulate legal wildlife trade.</p>	<p>governance (e.g., Quarantine staff, Public Health Office (Dinas Kesehatan), Department of Animal Husbandry (Dinas Perternakan) and the Provincial Market Office (Dinas Pasar Provinsi).</p> <p><b>3.2</b> At end of the Project [April 24], three capacity building workshops for national level agencies (GAKKUM and KSDAE) (30 staff per session) to increase capacity of officers responsible for the management, regulation and enforcement of legal trade are held.</p>	<p>agencies, and another in Pontianak, West Kalimantan, with 168 participants from 53 agencies and organizations (<a href="#">Annex 5. 9</a>).</p> <p>Additional activities included a talk show and rabies vaccination campaign in Pontianak, and workshops aimed at promoting One Health and improving stakeholder awareness and collaboration.</p> <p><b>3.2</b> Achieved.</p> <p>Four capacity-building workshops were conducted at the national and provincial levels, including one in Entikong at the Malaysian border with 48 stakeholders from 26 agencies (including KSDAE), focusing on wildlife trade and zoonosis control. In 2023, three additional workshops provided practical training to BKSDA staff (under KSDAE) in West Papua and South Sumatra on wildlife handling and evidence processing (<a href="#">Annex 5. 12</a>).</p> <p>Additionally, work collaborations with GAKKUM, KSDAE, and international partners led to significant law enforcement achievements, including numerous wildlife seizures and improved management practices.</p> <p>These efforts enhanced stakeholder collaboration, evidence handling, and overall governance of wildlife trade, significantly benefiting animal welfare.</p>
<p><b>Activity 3.1.</b> Hold two capacity building workshop (one in each province) for provincial-level agencies involved in animal market management and governance, such as Quarantine, Public Health Office (Dinas Kesehatan), Department of Animal Husbandry (Dinas Perternakan) and the Provincial Market Office (Dinas Pasar Provinsi) to increase capacity, motivation and integrity. Each workshop will be held for approx. 30 participants.</p>		<p>Completed. Two major capacity-building and strategy coordination seminars held.</p> <p>In Bandung, West Java, participants included the West Java Province Food and Livestock Security Service, Bandung Health Department, BKSDA West Java, and University of Padjadjaran. Discussions included zoonosis prevention, regulatory frameworks, and public health strategies.</p> <p>In Pontianak, West Kalimantan, participants included the West Kalimantan Regional Development Planning Agency, Directorate General of Livestock and Animal Health, Ministry of Health, and BKSDA, focused on the One Health approach. Topics discussed included addressing zoonotic disease control, animal traffic issues, and local policy challenges.</p>
<p><b>Activity 3.2.</b> Carry out three capacity building workshops for national level agencies (GAKKUM and KSDAE) – with 30 participants per session - to increase capacity of officers responsible for the management, regulation and enforcement of legal trade.</p>		<p>Completed.</p> <p>One capacity building workshop with 48 representatives from 26 national, provincial, and local levels agencies from multi-sectorial agencies held in Entikong on transborder wildlife trade, wildlife management and zoonotic</p>

	<p>disease risks and prevention. A total of 48 representatives participated in the workshop.</p> <p>A two-day training workshop in West Papua with experts from the World Parrot Trust and Tasikoki Wildlife Rescue Centre, enhancing wildlife handling skills for 20 participants from BKSDA West Papua and other local stakeholders. The workshop focused on practical techniques such as cage cleaning and enrichment, resulting in improved animal welfare and staff capabilities.</p> <p>Two capacity-building workshops in South Sumatra, at Punti Kayu Siamang Wildlife Rehabilitation Centre and Alobi Wildlife Rescue Centre, involving 18 participants from various organizations. The workshops provided hands-on experience in wildlife care, including the treatment of injured animals and were positively received, with participants seeking more frequent training opportunities.</p> <p>Additionally, YIARI collaborated with the Financial Transaction Reports and Analysis Centre (PPATK) and GAKKUM to investigate financial transactions linked to illegal wildlife trade, enhancing the National Police's capabilities in data extraction and digital forensics.</p> <p>Regular collaboration with GAKKUM and KSDAE for IWT monitoring, investigations, joint patrols and law enforcement operations.</p>	
<p><b>Output 4.</b> The trial implementation of the one-health strategy at four markets in West Java (3) and West Kalimantan (1) and two forest-edge communities involved in the supply of wildlife.</p>	<p><b>4.1</b> By Q4 of Year 2 [Nov 23], socialisation of the One Health strategy to key stakeholders at the 3 target markets (vendors, traders, suppliers, cleaners, and inspectors) and other stakeholders has occurred through a series of focus group discussions and meetings.</p> <p><b>4.2</b> By Q2 Y3 [April 24], at least 60% of community members in the two target forest-edge communities received socialisation and are educated on community health and zoonotic diseases transmission.</p>	<p><b>4.1</b> Achieved. A series of socialisations were carried out at the three target markets. Overall, 14 socializations events were carried out (8 in Sukahaji market and 6 with traders at Pramuka and Jatinegara markets). Whereas socialisations in Sukahaji market focused more on zoonosis and health measures, socialisations in Jakarta's markets were mainly carried out by BKSDA on protected species and wildlife trade licensing (<a href="#">Annex 5. 13</a>).</p> <p><b>4.2</b> Partially achieved. An estimated 520 people reached in different locations in West Kalimantan and in with a hunting community in Bandung, West Java. (<a href="#">Annex 5. 15</a> and <a href="#">Annex 5. 16</a>)</p>
<p><b>Activity 4.1.</b> Through the collaborative working group, use the national framework to co-formulate suitable, local pilot strategies for three large priority markets (i.e. two in Jakarta DKI: Pramuka, and Jatinegara and one in West Java, Bandung: Sukahaji) that will ensure long-term commitment from key</p>	<p>Two One Health strategies for the two provinces (West Java and DKI Jakarta) have already been developed and agreed upon by all key stakeholders from the three target markets (Pramuka and Jatinegara markets in Jakarta and Sukahaji market in West Java).</p>	

<p>stakeholders. This will serve to demonstrate how the framework can be operationalized at the local level.</p>	
<p><b>Activity 4.2.</b> Communication and engagement of traders in animal markets through a series of socialization activities at the three target animal markets involving different stakeholders.</p>	<p>At Sukahaji Market, eight socialization events and health activities, including rabies vaccinations and Avian Influenza awareness, were successfully conducted in coordination with local stakeholders. Two health checks for traders identified issues like hypertension, and efforts to improve waste management and hygiene practices were implemented.</p> <p>At Pramuka and Jatinegara markets, six socialization events with traders were held to promote awareness of regulations regarding protected wild animals, wildlife trade licensing and zoonosis prevention. Despite challenges in communication with market authorities, activities such as Avian Influenza sampling and follow-up monitoring were carried out during this Project period.</p>
<p><b>Activity 4.3</b> Assist in the inspection and monitoring of the target animal markets, reassuring that trader and market staff comply with the strategy provisions, and there are appropriate responses from regulatory governmental agencies. This will be enabled by frequent presence in the target markets, continuous data collection and communications with traders and government.</p>	<p>YIARI has continued to carry out monthly market monitoring.</p> <p>Through the Working Groups and communication channels, YIARI has coordinated activities and assisted partners to plan and carry out the agreed activities in the One Health Strategy Plan.</p>
<p><b>Activity 4.4</b> Carry out community outreach and health education in the two target communities in collaboration with universities (e.g. One Health Collaborating Center – OHCC under INDOHUN) and local NGOs in the Health sector (e.g. ASRI).</p>	<p>In West Kalimantan, a socialization event held in Batu Lapis village, Hulu Sungai district saw about 50 participants engaging in discussions about zoonotic diseases and rabies, marking the district's first outreach program on these issues. YIARI's broader program across West Kalimantan included door-to-door socializations and rabies vaccinations, providing 549 vaccinations and reaching over 330 villagers. Visual materials were produced for the campaign, including a documentary, comic books and posters, and are set to be distributed across three Regencies with plans to enhance awareness of about 1,350 people.</p> <p>In West Java, a workshop for the Perbakin hunting community in Bandung involved 40 participants. The workshop introduced zoonotic disease information, which was later integrated in the training program.</p>

## Annex 3 Standard Indicators

**Table 2 Publications**

<b>Title</b>	<b>Type</b> (e.g. journals, manual, CDs)	<b>Detail</b> (authors, year)	<b>Gender of Lead Author</b>	<b>Nationality of Lead Author</b>	<b>Publishers</b> (name, city)	<b>Available from</b> (e.g. weblink or publisher if not available online)
Animal Markets and Zoonotic Disease Risks	Report	Ann Linder, M.S., J.D. (Harvard Law School), Dr. Bonnie Nadzam (Harvard Law School), Dr. Dale Jamieson (New York University), Dr. Kristen Stilt (Harvard Law School), and Valerie McCarthy (Harvard Law School). 2024.	Woman	UK	Brooks McCormick Jr, Animal Law & Policy Program, Harvard Law School and Senter for Envionmental & Animal Protection New York University	<a href="https://www.harvard.edu">Animal Markets and Zoonotic Diseases in the United States (harvard.edu)</a>
Animal Markets and Zoonotic Disease in Indonesia	Report	Magdalena S. Svensson (Oxford Brookes University, England), Silvana Sita, Briitha Mahanani, and Farabby As slam Pareke. 2024	Woman	UK	Brooks McCormick Jr, Animal Law & Policy Program, Harvard Law School and Senter for Envionmental & Animal Protection New York University	<a href="https://www.harvard.edu">Animal Markets and Zoonotic Diseases in the United States (harvard.edu)</a>



## Checklist for submission

	Check
<b>Is the report less than 10MB?</b> If so, please email to <a href="mailto:BCF-Reports@niras.com">BCF-Reports@niras.com</a> putting the project number in the Subject line.	Yes
<b>Is your report more than 10MB?</b> If so, please discuss with <a href="mailto:BCF-Reports@niras.com">BCF-Reports@niras.com</a> about the best way to deliver the report, putting the project number in the Subject line.	N/A
If you are submitting photos for publicity purposes, <b>do these meet the outlined requirements (see section 10)?</b>	N/A
<b>Have you included means of verification?</b> You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Yes
<b>Do you have hard copies of material you need to submit with the report?</b> If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	No
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see section 13)?	N/A
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	