Appendix 2: Full Project Proposal

(1) Summary page

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| **Project Classification (check all that applies)** | |
| □ Culture and Tourism  □ Human Resources Development  □ Agriculture and Rural Development  □ Infrastructure  □ Information and Communication Technology (ICT)  ⮽ Environment  □ Non-traditional Security Challenges | |
| **Project Title** | |
| Building a portal of ecosystems and biodiversity information for biodiversity conservation and sustainable development for the Mekong Delta | |
| **Brief Description of the Project** | |
|  | |
| **Country / Region** | |
| Vietnam and Cambodia | |
| **Budget** | |
| Total budget (USD): 800,000.  Total budget requested from MKCF (USD): 800,000.  Total contribution if any including from third parties (USD): | |
| **Proponent** | |
| Name | LUU, Hong Truong (Dr. for.) |
| Address | Southern Institute of Ecology (SIE)  Institute of Applied Materials Science (IAMS)  Vietnam Academy of Science and Technology (VAST)  Address: 1D, TL 29 Street, Thanh Loc Ward, District 12, Ho Chi Minh City, Vietnam  Tel.: +84-28-2250 8464  Fax: +84-28-2250 8463  http://sie.vast.vn |
| **Date of Submission** | 11/08/2022 |

1. **Full Proposal Format**



**Mekong-ROK Cooperation Fund (MKCF)**

**Project Proposal**

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| **Project Information** | | | |
| 1.1. Project Title | Building a portal of ecosystems and biodiversity information for biodiversity conservation and sustainable development for the Mekong Delta | | |
| 1.2. Country (s) / Region | Vietnam, Cambodia | | |
| 1.3. Date of Submission | 11 August 2022 | | |
| 1.4. Proponent Contact Details | | | |
| Contact person, position Organization  Email address Telephone number  Mailing address | * Luu Hong Truong, Director * Southern Institute of Ecology * hongtruongluu@gmail.com/lhtruong@sie.vast.vn * +84-965 61 00 31 * 1D, TL 29 Street, Thanh Loc Ward, District 12, Ho Chi Minh City, Vietnam | | |
| 1.5. Project Area (check all that applies) | | | |
| □ Culture and Tourism  □ Human Resources Development  □ Agriculture and Rural Development  □ Infrastructure  □ Information and Communication Technology (ICT)  ⮽ Environment  □ Non-traditional Security Challenges | | | |
| **Project Milestone** | | | |
| Estimated implementation start date Estimated implementation end date Project duration | | 01/01/2023 30/06/2025  2 year(s) 6 month(s) | |
| **Description of Financial Elements** | | | |
| Project cost (USD) | Contribution (USD) if any | | Total Project Cost (USD) |
| 800,000 |  | | 800,000 |
| **General description of organization (***with the maximum length of 250 words)* | | | |
| *Briefly describe the legal status, vision, mission, programs, and relevant experiences to proposed project*  The Southern Institute of Ecology (SIE) was formerly known as the SIERES Group in the 1990s and Center for Biodiversity and Development (since 2006). SIE was established as a member institute of the Vietnam Academy of Science and Technology (VAST) in August 2012. Since early 2022, SIE operates administratively under the Institute of Applied Materials Sciences (IAMS) of VAST.  Being one of VAST’s leading members in term of scientific publication, SIE is currently recognized as a leading institution in the field of integrated biodiversity conservation and sustainable development in southern Vietnam.  The functions and duties of SIE was most recently amended with Registration Certificate No. A-1044 dated 27 January 2022 issued by Ministry of Science and Technology. SIE is eligible for studies, applications and services on natural and human ecology, environment, natural resources, taxonomy, biodiversity, climate change and databases. Its work covers ecological structures and functions at multiple levels (landscape, ecosystem, community, population and individual) with special foci on monitoring and sustainable use, management, conservation and restoration of ecosystems and biological resources. Its key activities also include implementing consultation, review, awareness education, training, international cooperation and other scientific and technological services on the above fields. For the last decade, SIE scientists have databased biodiversity for a number of provinces, national parks and nature reserves in Vietnam (with more than 20,000 specimens and 500,000 colorful photos of plants, fungi, mammals, birds, reptiles, amphibians, insects and aquatic species). Its online portal to spread biodiversity information is under construction and will be available soon.  Over the last two decades, SIE has been cooperating with different national and international organizations in scientific research and environment assessment/monitoring in the Mekong basin, for example: Mekong River Commission (MRC), Vietnam National Mekong Committee, World Wide Fund for Nature (WWF), International Union for Conservation of Nature (IUCN), etc. | | | |
| **Project background and justification** *(with the maximum length of 300 words)* | | | |
| *Briefly describe the reasons behind selection of project idea and how is it relevant to the identified priority sector (s) of MKCF and its significance in enhancing regional cooperation among the Mekong countries and RoK*  The 62,520-km2 Mekong Delta is known to harbor one of the world’s most diverse river ecosystems and biodiversity that sustain the socio-economic development for more than 27 million people in Vietnam and Cambodia but has been being severely threatened by different factors, including the climate change, sea level rise, unsustainable exploitation of natural resources, upstream dam constructions, etc. Although general information on the delta’s ecosystems and biodiversity is known from various reports, most of information available are based on unpublished and old printed materials such as books and technical reports, many of which are presently out of date and cannot reflect the present status in the delta. In fact, nobody can confidentially say about how many species of plants and animals actually exist and where they are exactly distributed in the delta. As no baseline database is available, monitoring changes in ecosystems and their biodiversity is challenged if not said impossible. This causes uncertainties, bias and debates in studying ecosystems and biodiversity, predicting and monitoring impacts and changes and proposing anticipating measures, as mentioned in different regional and national efforts, in which the PI of this proposal has took part. Therefore, a reliable database of ecosystems and biodiversity in the Mekong Delta is an urgent need for the region’s sustainable socio-economic development and biodiversity conservation planning.  Given this context, this proposed project is aimed to revise all available information on the delta’s natural ecosystems and associating biodiversity, verify and update them based on fieldwork, and provide them in form of a web-based updated consensus system (hereafter called Ecobank Mekong) freely available to those concerned following international standards (e.g. the online Global Biodiversity Information Facility at https://www.gbif.org or Ecobank Network initiated by the National Institute of Ecology of Korea at https://nie-ecobank.kr). | | | |
| **Problems (to be addressed)** *(with the maximum length of 300 words)* | | | |
| Briefly describe the problem (s) and how the project intends to address the problem (s).  The ecosystems in the Mekong delta play a vital role for global biodiversity and local communities’ livelihoods (Buckton et al. 1999; Baltzer et al. 2001; Buckton & Safford 2004; Baran et al. 2008). However, these ecosystems remain under critical threats and are being lost and degraded faster than any other biome (Mackay & Russell 2011). Especially, the wetland areas are reduced under the pressure of exploitation and use of natural resources, causing degradation of biodiversity, and posing many species at high risks. The species richness and abundance have been reduced due to local communities' hunting and poaching pressure. However, little has been known about how changes have been and the present status is. Prediction for future changes face challenges due to lack of baseline data.  This proposed project will create a WebGIS-based database following international standards of biodiversity information that provides up-to-date information on the ecosystems and associating biodiversity in the Mekong Delta to all concerned worldwide. This can help the management organizations easily know about the status of and effectively manage their local biodiversity information. As result, the authorities will have a modern tool to manage their biodiversity information, including application for their conservation and development programs, promotion of their biodiversity value through internet and exchange of biodiversity information with national and international organizations. The online database can also help enhance awareness and involvement of the public, including the private sector, in biodiversity conservation. Research, education and conservation organizations and scientists can access to know about the status of the delta’s ecosystems and associating biodiversity and use the information to support their activities. In return, their feedbacks and contributions are expected to enrich and therefore help complete the database. | | | |
| **Project Objective (***with the maximum length of 300 words)* | | | |
| Briefly describe the Overall objective, Specific objectives, and outputs the project intended to reach in contribution to (1) national (2) regional priorities and (3) consistency to the MKCF Priorities?  The overall goal of this proposed project is to support the Mekong Delta’s sustainable socio-economic development and biodiversity conservation planning through providing an open consensus database of natural ecosystems and associating biodiversity.  The specific objectives are:   1. Assessment of current status of biodiversity (ecosystem and species levels) to support sustainable socio-economic development and biodiversity conservation planning in the Mekong region; 2. Providing an updated standardized database of natural ecosystems and associating biodiversity to support assessing ecosystems and biodiversity and monitoring changes in the Mekong Delta; 3. Building a modern WebGIS-based portal and apps to promote awareness and wide usage of the built database.   The following outputs are expected:   * Digital databases: including all information on ecosystems and associating biodiversity collected for the Mekong Delta. These include the most up-to-date data that best illustrate and help us understand the current status of the natural environment and can be used for sustainable planning and management of ecosystems and biological resources, including socio-economic development and conservation planning and monitoring impacts to/changes in ecosystems and biodiversity in the Mekong Delta and its wider basin. * WebGIS-based portal: This is a Website, namely Ecobank Mekong, integrated with the above collected biodiversity databases for wide sharing to those concerned, such as the public, international and national agencies, research and education institutions, individual scientists, etc. A report on the current status of ecosystems and biodiversity in the Mekong Delta will be published and made available on the Ecobank Mekong for those concerned.   Therefore, the project is expected to directly address the Environment issues, which is one of the MKCF’s priorities, namely:   * Cooperation in sustainable management of natural resources; * Climate change mitigation and adaptation measures. | | | |
| **Project Description (***with the maximum length of 300 words)* | | | |
| *Describe the main activities (Refer to (3) Indicative Work Plan*  *Provide information on how the activities are linked to objectives that the project intends to achieve*  The project is planned to conduct the following 4 key component of activities:  Component 1: Data collection and revision. This activity aims to provide a most up-to-date understanding about the existing information on the ecosystems and biodiversity in the Mekong Delta, thanks to which we can find out gaps and determine which locations and groups of biodiversity to be surveyed in the next component in order to supplement information for as complete a database of the delta as possible.  Component 2: Field surveys. Surveys will focus of key ecosystems and groups of biodiversity to fulfill the gaps of information determined in the previous component and provide new information. It is also to verify the reported data and make as many records of species as possible for the database to be built. Photos to illustrate the recorded species will be taken. Specimens will be collected too.  Component 3: Building a Database and a WebGIS-based portal for database management and usage. A WebGIS-based portal with mobile apps and using tools (all in English) will be built following international protocols, which will include results from Components 1 and 2 and be made available online for open access.  Component 4: Workshops, training and information dissemination. Workshops will be organized for exchanged expertise, technical discussions and training for partners and stakeholders. Dissemination of results from the project (including announcing the launch of Ecobank Mekong) to the public and those concerned will be done in a final workshop which is participated by all stakeholders, such as the donor, national and international organizations, NGOs, etc. Mass media will be invited to promote the Ecobank Mekong to the wide public.  Results from Components 1 and 2 will be synthetized and analyzed to address the Objectives 1 and 2. Meanwhile, combination of all components and activities will address Objective 3 and the overall goal of the project. | | | |
| **Regional nature of the project** *(with the maximum length of 300 words)* | | | |
| *Describe how the problem or issue affects more than one Mekong country and requires regional actions and how it will be addressed in the project*  Although 70% of the Mekong delta’s area is located in Vietnam and the rest (30%) in Cambodia (Tran, 2016), both parts are distinguished only by an artificial national boundary. There is no natural barrier to separate the Mekong River and its delta in Cambodia and Vietnam. As a rather flat unit which is separated from the Mekong River’s upper part at Phnom Penh, the delta naturally shares a common eco-region and common threats. Therefore, the status and changes in natural ecosystems and associating biodiversity must be considered to treat as common issues of Cambodia and Vietnam. At present, the lack of sound information on the delta’s natural ecosystems and biodiversity exists as a common problem in both countries. Furthermore, as the Mekong Delta’s well-known diverse ecosystems and biodiversity are sensitive to human and natural impacts that occur at any part of the river, their changes and anticipating measures should not be considered within an individual country and must be put into the context of not only both countries but also the whole Mekong River basin which covers six countries (China, Myanmar, Laos, Thailand, Cambodia and Viet Nam). Therefore, this project, which is to address environmental issues in the delta, should be considered as an international affair common for at least Cambodia and Vietnam. As such, the database system of ecological and biodiverse information to be built in this project is obviously helpful for environment protection and planning for both countries and the whole basin. In addition, the involvement of Korean partners, who have got considerable experience in similar projects, is hoped to provide more mutual benefits for all Mekong partners, including building capacity, to deal with their common problems in the future. | | | |
| **Target beneficiaries and Project Coverage (***with the maximum length of 300 words)* | | | |
| *Briefly describe whom the proposed project will directly and indirectly benefit. Geographical coverage of the project.*  The project will provide an up-to-date scientifically sound database of ecosystems and key groups of biodiversity which are crucial for governmental authorities, research and education institutions, national and international conservation organizations (including NGOs), local people and other stakeholders in management, planning, awareness improvement, conservation and sustainable use of natural resources in the Mekong Delta. The database will serve as a foundation for assessing, monitoring and predicting ecosystems, biodiversity and their changes and proposing anticipating measures in corresponds to different impacts. Besides, they can be used for ecotourism. The approach and results of the project may be extended to the whole Mekong River basin or replicated for other areas.    Figure 1. The project area (Mekong Delta). Source: Olson & Cihacek (2020).  This project will focus on the 62,520-km2 Mekong Delta in Cambodia and Vietnam (Figure 1) - the world's third largest delta which is classified as a distinctive biounit (Biological zone 05) in the Indo-Malayan Realm (MacKinnon, 1997). According to a conservation assessment of terrestrial ecoregions of the Indo-Pacific by WWF (Wikramanayake et al., 2002), the flooded forests and wetland grasslands of the delta is considered as a critical area of biodiversity of the world, which includes three ecoregions: Tonle Sap–Mekong Peat Swamp Forests, Tonle Sap Freshwater Swamp Forests and Indochina Mangroves. It covers a wide range of valuable wetland ecosystems, swamp riverine forests, seasonally flooded grassland, marshes, small pools, mangrove and mudflat in the estuaries, and mangroves along the coast (SIE, 2014). They play an important role for hundreds of species of fish, migratory and non-migrants birds, reptiles, amphibians and other species, including endangered species. Besides, there exist several small but highly endemic terrestrial habitats of karst and sandstone (Vermeulen et al., 2019). Ecosystem products and services provided by wetlands of the Mekong River Delta are enormous, sustaining the socio-economic development for more than 27 million people in Vietnam and Cambodia. | | | |
| **Value Added for the MKCF Involvement/ Potential (***with the maximum length of 200 words)* | | | |
| *Please specify why the MKCF involvement is critical for the project and the potential of the project to contribute to the achievement of the Fund’s objectives*  Viet Nam and Cambodia agencies with limited budget cannot fund this project although we have tried to seek several national potential funding sources. The MKCF appears to be the most suitable donor as this international proposed project matches exactly one of its seven priorities, namely Environment. It is not only to help solve critical existing environmental issues in the region but also promote cooperation between Mekong countries in sustainable management of natural resources and partially in climate change mitigation and adaptation measures in term of biodiversity. Furthermore, this project help enhance the capacity of the two countries in scientific research and application thanks to the participation of experienced partners from Korea; this obviously promotes cooperation between Korea and Mekong countries. | | | |
| **Project Sustainability (***with the maximum length of 200 words)* | | | |
| *Explain how the project sustainability will be ensured in the long run, after the project is implemented with support from the MKCF*  The database portal to be built will be hosted and disseminated online (and updated later) by SIE and copied to key international biodiversity systems such as Global Biodiversity Information Facility and Ecobank Korea. Its standardized design allows linking to Mekong River Commission, national Mekong committees or other national agencies when needed. As such, the results from the project are maintained and accessible at different international agencies specialized in biodiversity information.  This project is part of SIE’s long-term working plan. For years, SIE has accumulated a considerable amount of biodiversity information toward making a national online portal like Ecobank to disseminate biodiversity information to the public. This project will allow it making a complete system for the Mekong Delta that can be extended to a nation-wide Ecobank for Vietnam in the future. Basic research facility and personnel resource is available at SIE thanks to full support by the Vietnam Academy of Science and Technology – a national governmental scientific institution; this will help ensure the results from the project to be inherited and developed further in the long run.  The success of this project will help call for other supports from other donors to maintain and develop it further. | | | |
| **Management Arrangements (***with the maximum length of 300 words)* | | | |
| *Describe the project management structure of the project, coordination mechanism with the Mekong country partners, relevant stakeholders, MKCF secretariat and MoFA.*  *Describe briefly the human resource inputs i.e. full-time project staff, part time staff, Experts and consultant’s*  *bio and roles and responsibilities (refer to ToR and CV format at appendix 5 and 6)*  The project will be led and coordinated by Southern Institute of Ecology (SIE) based in Ho Chi Minh City. Two staffs of SIE are assigned for management and coordination of this project. SIE will be responsible for regular contacts, administrative communication and reports to the MKCF secretariat, MoFA, Vietnamese governmental agencies and partners. SIE will assign more staffs to lead and conduct activities of Component 1, 2 and 4 and partially Component 3.  The key partners and their roles are:   1. Vietnam National Mekong Committee: supporting all activities, especially involved in Components 1 and 4. 2. Hochiminh City Space Technology Application Center (STAC, Vietnam National Space Center, Vietnam Academy of Science and Technology): mainly responsible for Component 3 and partially for Component 1 and 4. 3. Ecobank Network (National Institute of Ecology - NIE, Korea): technical advisor for all activities, especially for Component 3. 4. School of Applied Biosciences (College of Agriculture and Life Sciences, Korea): technical advisor for Component 3. 5. Ministry of Environment (Cambodia): facilitating, advising, assigning/introducing Cambodian experts and issuing permits (if necessary) for activities related to Cambodia. 6. Cambodian National Mekong Commission: facilitating and advising for activities related to Cambodia.   Communication among the partners will be done through emails, online platforms and workshops.  Full-time project staff   1. Project Manager: Luu Hong Truong (Dr. for.), SIE (IAMS). TOR No. 1. 2. Project Coordinator: Tran Van Bang (MSc), SIE (IAMS). TOR No. 2.   Key experts   1. WebGIS team leader: Tran Thai Binh (PhD), STAC. TOR No. 3. 2. Ecobank advising expert: Kidong Kim (PhD), Ecobank Network (NIE). TOR No. 4. 3. Ecobank verifying expert: Sanghun Lee (PhD), Ecobank Network (NIE). TOR No. 5.   Other consultants will be assigned or recruited following the TORs in Appendix 6. | | | |

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| **Outcomes, Outputs, Activities and Inputs at Project level** | | | | | |
| Expected Result | Indicator | Means of Verification | Target | | Remarks |
| Mid-term | Final |
| Project outcomes | | | | | |
| Digital databases of ecosystems and biodiversity in the Mekong Delta | - Including all key ecosystems;  - Including all groups of biodiversity: phytoplankton, zooplankton, higher plants, fungi, mammals, birds, reptiles, amphibians, insects, fishes and benthos;  - Databases following GBIF standards;  - In spreadsheet file like MS Excess; | Verified and accepted by experts and the project team. | 30 December 2023 | 30 December 2024 |  |
| WebGIS-based portal | - Online;  - Data following GBIF standards;  - Maps following OGC standards;  - User-friendly interface;  - Visualizing tools;  - Import and export tools;  - Links to GBIF and/or Ecobank Network. | - Technical report and running of the portal and app verified and accepted by experts and the project team;  - User feedbacks. | 30 December 2023 | 30 April 2025 |  |
| App | - Running in Android and iOS.  - Available on Google and Apple stores | - Technical report and Runnings of the portal and app verified and accepted by experts and the project team;  - User feedbacks. | 30 November 2023 | 30 April 2025 |  |
| Report and publication | Documents | - Scientific publications on peer-reviewed journals;  - Technical reports/manual verified and accepted by experts and the project team. | 30 December 2023 | 30 April 2025 |  |
| Project outputs (that contribute to outcomes) | | | | | |
| 1. Reports of data collection and revision | Comprehensive revision of published or unpublished maps and data available on ecosystems and all groups of biodiversity in the Mekong Delta, including distribution maps, gap analysis and checklists of reported species with available information needed for databases. | Verified and accepted by experts and the project team. | 30 June 2023 | 31 July 2023 |  |
| 1. Reports of field surveys | - Indicating activities, methods and results of field surveys of all surveyed sites;  - Reflecting the present status of surveyed ecosystems and associating groups of biodiversity;  - Analysis of changes in ecosystems and biodiversity if related information is available;  - Including up-to-date checklists of species with information needed for databases | Verified and accepted by experts and the project team | 30 December 2023 | 30 December 2024 |  |
| 1. Database and WebGIS-based portal built | - Demonstration of the portal and app;  - Actual operation of the portal and app;  - Technical report: System design and construction of WebGIS-based portal:  + Containing all technical aspects of the portal;  + Including original coding for the portal and apps;  + Including User guide;  + Minutes of test running. | - Technical report and running of the portal and app verified and accepted by experts and the project team;  - User feedbacks. | 30 December 2023 | 30 April 2025 |  |
| 1. Workshops | - Minutes of workshops;  - Training materials | Verified and accepted by the project team | 30 June 2023 | 30 May 2025 |  |
| 1. Report and publication | Documents | - Scientific publications on peer-reviewed journals;  - Technical reports/manual verified and accepted by experts and the project team. | 30 December 2023 | 30 June 2025 |  |
| Activities | Description | | | | |
| 1. Component 1: Data collection and revision | Published or unpublished maps and data on ecosystems and associating biodiversity of the Mekong Delta will be thoroughly collected, analyzed, cleaned and systemized following most update biologically and ecologically scientific knowledge. This work is done in the first 6 months of the project. | | | | |
| 1. Component 2: Field surveys | This is to verify existing information, collect supplemental data and assess the current status of natural ecosystems and associating biodiversity in the delta, aiming at the following key groups of biodiversity: phytoplankton, zooplankton, higher plants, fungi, mammals, birds, reptiles, amphibians, insects, fishes and benthos. Transects and plots will be employed to record species. Photos of recorded species will be taken. Specimens will be collected to ascertain their existence. This component will be done in Cambodia in the first year of the project and in Vietnam in the second year.  Survey locations are selected to represent the key ecologically sensitive areas of national, regional or international significance, including designated (and potentially designated) Ramsar sites, protected areas, important bird areas and other hotspots. Regarding this, within the delta there are three ecoregions with 14 protected wetlands and one mountainous area of high biodiversity in Vietnam (Tran, 2016) and two areas of potential Ramsar sites (the Bassac Mash in Kandal Province and the Boeung Prek Lapouv in Takeo Province). Besides, a special karst system with extremely high biodiversity exists in the delta, spreading Cambodia and Vietnam. While Component 1 will try to collect information on all of these, Component 2 will survey six key locations of these sites, i.e. two locations per one ecoregion. These six are subject to discuss and select for field surveys during the kick-off meeting where most of experienced experts on the delta’s biodiversity will be present. There will be two field surveys (one in rainy season and another one in the dry season) at each selected location in two years (2023 – 2024). | | | | |
| 1. Component 3: Building a Database and a WebGIS-based portal for database management and usage | All the information collected above will be databased following GBIF protocols using MS Excess. The database will be integrated into a system to integrate and exchange geographic information via the internet (WebGIS-based portal, which will be designed with three components: database, application server, and user interface. PostgreSQL will be used as a database management system. For application server, Apache and TomCat are two systems that will be used for the server to handle web activity. GeoServer will be used to provide an online map service. Web browser such as Google Chrome, Internet Explorer, Mozilla Firefox, etc. will be used for user interface. JavaScript and open-sources library "Mapbox GL JS" will be used to build user interface functions such as chart display, map display and zoom, object's information display. Along with the WebGIS-based portal, mobile apps and using tools (all in English) will be built for exploiting the database. Therefore, the database is easily accessible using personal computers or mobile devices.  The system and app will be demonstrated for assessment and feebback from experts and users and then corrected before officially launched. | | | | |
| 1. Component 4: Workshops, training and information dissemination | There will be three workshops. Workshop 1 is a kick-off meeting to make all partners get a thorough understanding of the project, gap analysis, methodology and assignments.  The second is a training workshop on using the database portal (Ecobank Mekong) built from Component 3. Trainees are representatives from the project partners, research and education institutions, conservation organizations, governmental agencies, etc.  Lastly, a scientific workshop is to disseminate results from the project (including announcing the launch of Ecobank Mekong) to the public, with participation of the donor, national and international organizations, scientists, mass media and other stakeholders. | | | | |

Monitoring and Evaluation (M&E) Framework

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| **HIERARCHY OF RESULTS** | **RESULT STATEMENT(S)** | **OBJECTIVELY VERIFIABLE INDICATORS (OVIs)** | **DEFINITION** | **BASELINE** | **TARGET** | **DATA SOURCE / MEANS OF VERIFICATION** | **FREQUENCY** | **RESPONSIBLE** | **REPORTING** |
| How is it calculated? | What is the current value? | What is the target value? | How will it be measured? | How often will it be measured? | Who will measure it? | Where will it be reported? |
| **Impacts** | Providing an open-access WebGIS-based portal of natural ecosystems and associating biodiversity in the Mekong Delta (Ecobank Mekong) to support sustainable socio-economic development and biodiversity conservation planning. | - Website launched and linked to other international platforms of biodiversity information;  - Number of access to the website. | Number of biodiversity conservation planning that use data from the project | 0 | 1 | Conservation planning of protected areas | End of the project | Project manager | Local protected areas, province |
| **Outcomes** | Update current status of biodiversity value and provide an open consensus database of natural ecosystems and associating biodiversity | Report on biodiversity status of Mekong delta and its databases | Number of report and digital database | 0 | 2 | Reviewing past data and update current data | End of the project | Project manager and coordinator | Final report |
| **Outputs** | Reports of data collection and revision | Report on past status of biodiversity value and management in Mekong Delta | Number of reports | 0 | 1 | List of literatures that collected and report | End of 2023 | Project team | Activities reports |
| Reports of field surveys | Report on current status of biodiversity data for each field of study and sites | Number of reports | 0 | 18 | Field data and quality of report | Every year | Project team | Activities reports |
| Digital databases | A standardized structure with integrated information of biodiversity | Number of databases | 0 | 1 | Existing data and collected data through the project | End of the project | Project coordinators | Activities reports |
| Web-GIS-based platform | A online, open sources platform | number of platforms | 0 | 1 | An online toolbox and platform, easy using by local authorities | End of the project | Project coordinators | Activities reports |
| Workshops | Minutes of workshops; Training materials | Number of workshops minutes; training materials, papers | 0 | 2 | Submit to MOK | Every year | Project coordinators | Activities reports |
| Report and publication | Documents | Number of report and publication | 0 | 4 | Verified and accepted by the project team | Every year | Project teams | Final report |

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# Appendix 3: [proposal package] Indicative budget

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| **BUDGET PROPOSAL** | | | | |  | |
| **Project Title : Building a portal of ecosystems and biodiversity information for biodiversity conservation and sustainable development for the Mekong Delta** | | | | | | |
| **Implementing Agency : Southern Institute of Ecology** | | | | | | |
| **Duration / Period : 2023 - 2025** | | | | | | |
| **Budget Item** | **Description** | **3 years** | | | |
| **Component 4: Workshops, training and information dissemination: 4.1. Component 1: Data collection and revision: 1.1 - 1.10 Component 2: Field surveys: 2.1 - 2.19 Component 3: Building a Database and a WebGIS-based portal for database management and usage: 3.1 - 3.4** | **Component 2: Field surveys: 2.10 - 2.18  Component 3: Building a Database and a WebGIS-based portal for database management and usage: 3.5** | **Component 3: Building a Database and a WebGIS-based portal for database management and usage: 3.6 - 3.7  Component 4: Workshops, training and information dissemination: 4.2 - 4.3.** | |
| **A** | **DIRECT COSTS:** |  |  |  | |
| 1 | Personnel | 66,000 | 66,000 | 33,000 | |
| 2 | Consultancy services (Professional) | 168,050 | 181,100 | 30,400 | |
| 3 | Direct Supplies and Services | 14,000 | 24,300 | 5,700 | |
| 4 | Travel | 11,260 | - | 21,340 | |
| 5 | Equipment | 33,000 | 30,900 | - | |
| 6 | Other Direct Costs | 15,730 | 42,306 | 4,578 | |
|  | **Sub total of Programme Cost** | **308,040** | **344,606** | **95,018** | |
| **B** | **INDIRECT COSTS (7% management fee)** | **21,563** | **24,122** | **6,651** | |
|  | **Total (USD)** | **329,603** | **368,728** | **101,669** | |

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| **Project Components / Activities: Year 1** | | | | | | |  |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 1. Personnel |  |  |  |  |  |  |  |
| 1.1 | Project Manager | 3,500.00 | 1 | Person | 12.0 | Month | 42,000.00 |
| 1.2 | Project Coordinator | 2,000.00 | 1 | Person | 12.0 | Month | 24,000.00 |
| **Total Direct Cost** |  |  |  |  |  |  | **66,000.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 4,620.00 |
| **TOTAL** |  |  |  |  |  |  | **70,620.00** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1  4.1. Kick-off meeting** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.1. | Meeting/training Package (one day workshop: 30 participants) | 50.00 | 30 | Pax | 1.0 | Day | 1,500.00 |
| 3.2. | Translation services (Vietnamese-English translator; Cambodian - English translator, Vietnamese-Cambodian translator) | 200.00 | 3 | Person | 1.0 | Day | 600.00 |
| **Sub total of category 3** |  |  |  |  |  |  | **2,100.00** |
| 4. Travel |  |  |  |  |  |  |  |
| 4.1. | Airfare (four participants from Phnom Penh to Ho Chi Minh City) | 800.00 | 4 | Roundtrip | 1.0 | Day | 3,200.00 |
| 4.2. | Ground transportation (Fuel cost for Vietnamese participants, 2,500 vnd/km) | 0.12 | 7000 | km | 1.0 | Trip | 840.00 |
| 4.3. | Accommodation (for 26 participants that outsite Ho Chi minh City, two nights) | 50.00 | 26 | Person | 2.0 | Night | 2,600.00 |
| 4.4. | Per Diem/Food (For 26 participants that outsite Ho Chi Minh City, three days, including two travel days) | 40.00 | 26 | Person | 3.0 | Day | 3,120.00 |
| **Sub total of category 4** |  |  |  |  |  |  | **9,760.00** |
| 6. Other Direct Costs |  |  |  |  |  |  |  |
| 6.1. | Local transport within Ho Chi Minh City to pick-up and transport services for metting | 1,000.00 | 1 | Package | 1.0 | Day | 1,000.00 |
| 6.2. | Printing, stationary, communcation, etc. | 500.00 | 1 | Package | 1.0 | Package | 500.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **1,500.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **13,360.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 935.20 |
| **TOTAL** |  |  |  |  |  |  | **14,295.20** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 1.1. Collecting available maps, management plans and other relevants document to biodiversity conservation and management** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (one biodiversity expert) | 250.00 | 1 | Person | 44.0 | Day | 11,000.00 |
| 2.2. | Reports, communication materials etc. | 250.00 | 1 | Report | 2.0 | Day | 500.00 |
| 2.3. | Accommodation | 75.00 | 1 | Person | 30.0 | Night | 2,250.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 13,750.00 |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.1. | Meeting/training Package |  |  |  |  |  | - |
| 3.2. | Translation services (one Vietnamese-Cambodian translators, working for at least 5 days) | 200.00 | 1 | Person | 5.0 | Day | 1,000.00 |
| 3.3. | Other expenditures under Category 3 |  |  |  |  |  | - |
| **Sub total of category 3** |  |  |  |  |  |  | **1,000.00** |
| 4. Travel |  |  |  |  |  |  |  |
| 4.2. | Ground transportation (Local transport within provinces for collecting data and information) | 0.50 | 3000 | Km | 1.0 | Trip | 1,500.00 |
| **Sub total of category 4** |  |  |  |  |  |  | **1,500.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **16,250.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 1,137.50 |
| **TOTAL** |  |  |  |  |  |  | **17,387.50** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 1.2. Collecting, verifiying available information and extracted reported data of phytoplankton and zooplankton** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (one plankton expert) | 200.00 | 1 | Person | 15.0 | Day | 3,000.00 |
| 2.2. | Reports, communication materials etc. | 200.00 | 1 | Report | 2.0 | Day | 400.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 3,400.00 |
| **Total Direct Cost** |  |  |  |  |  |  | **3,400.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 238.00 |
| **TOTAL** |  |  |  |  |  |  | **3,638.00** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 1.3. Collecting, verifiying available information and extracted reported data of higher plants** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (one flora expert) | 200.00 | 1 | Person | 15.0 | Day | 3,000.00 |
| 2.2. | Reports, communication materials etc. | 200.00 | 1 | Report | 2.0 | Day | 400.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 3,400.00 |
| **Total Direct Cost** |  |  |  |  |  |  | **3,400.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 238.00 |
| **TOTAL** |  |  |  |  |  |  | **3,638.00** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 1.4. Collecting, verifiying available information and extracted reported data of fungi** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (one fungi expert) | 200.00 | 1 | Person | 15.0 | Day | 3,000.00 |
| 2.2. | Reports, communication materials etc. | 200.00 | 1 | Report | 2.0 | Day | 400.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 3,400.00 |
| **Total Direct Cost** |  |  |  |  |  |  | **3,400.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 238.00 |
| **TOTAL** |  |  |  |  |  |  | **3,638.00** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 1.5. Collecting, verifiying available information and extracted reported data of mammals** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (one zoology, mammalogy expert) | 200.00 | 1 | Person | 15.0 | Day | 3,000.00 |
| 2.2. | Reports, communication materials etc. | 200.00 | 1 | Report | 2.0 | Day | 400.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 3,400.00 |
| **Total Direct Cost** |  |  |  |  |  |  | **3,400.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 238.00 |
| **TOTAL** |  |  |  |  |  |  | **3,638.00** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 1.6. Collecting, verifiying available information and extracted reported data of birds** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (one zoology, Ornithology expert) | 200.00 | 1 | Person | 30.0 | Day | 6,000.00 |
| 2.2. | Reports, communication materials etc. | 200.00 | 1 | Report | 2.0 | Day | 400.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 6,400.00 |
| **Total Direct Cost** |  |  |  |  |  |  | **6,400.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 448.00 |
| **TOTAL** |  |  |  |  |  |  | **6,848.00** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 1.7. Collecting, verifiying available information and extracted reported data of reptiles and amphibians** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (one herpetology expert) | 200.00 | 1 | Person | 30.0 | Day | 6,000.00 |
| 2.2. | Reports, communication materials etc. | 200.00 | 1 | Report | 2.0 | Day | 400.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 6,400.00 |
| **Total Direct Cost** |  |  |  |  |  |  | **6,400.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 448.00 |
| **TOTAL** |  |  |  |  |  |  | **6,848.00** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 1.8. Collecting, verifiying available information and extracted reported data of insects** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (one entolomology expert) | 200.00 | 1 | Person | 15.0 | Day | 3,000.00 |
| 2.2. | Reports, communication materials etc. | 200.00 | 1 | Report | 2.0 | Day | 400.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 3,400.00 |
| **Total Direct Cost** |  |  |  |  |  |  | **3,400.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 238.00 |
| **TOTAL** |  |  |  |  |  |  | **3,638.00** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 1.9. Collecting, verifiying available information and extracted reported data of benthos** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (one benthos expert) | 200.00 | 1 | Person | 15.0 | Day | 3,000.00 |
| 2.2. | Reports, communication materials etc. | 200.00 | 1 | Report | 2.0 | Day | 400.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 3,400.00 |
| **Total Direct Cost** |  |  |  |  |  |  | **3,400.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 238.00 |
| **TOTAL** |  |  |  |  |  |  | **3,638.00** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 1.10. Collecting, verifiying available information and extracted reported data of fish** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (one icthyology expert) | 200.00 | 1 | Person | 15.0 | Day | 3,000.00 |
| 2.2. | Reports, communication materials etc. | 200.00 | 1 | Report | 2.0 | Day | 400.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 3,400.00 |
| **Total Direct Cost** |  |  |  |  |  |  | **3,400.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 238.00 |
| **TOTAL** |  |  |  |  |  |  | **3,638.00** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 2.1. Conduct field surveys to collect data of phytoplankton and zooplankton in Cambodia sites** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (2 sites x 11 days per sites x 1 expert) | 250.00 | 1 | Person | 22.0 | Day | 5,500.00 |
| 2.2. | Reports, communication materials etc. | 250.00 | 1 | Person | 2.0 | day | 500.00 |
| 2.3. | Accommodation | 80.00 | 1 | Person | 20.0 | Night | 1,600.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 7,600.00 |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.1. | Local guides (2 persons x 10 day per site x 2 sites) | 25.00 | 2 | Person | 20.0 | day | 1,000.00 |
| **Sub total of category 3** |  |  |  |  |  |  | **1,000.00** |
| 5. Equipment (10% of the budget) |  |  |  |  |  |  |  |
| 5.1. | Zooplankton sampling net | 300.00 | 2 | Net | 1.0 | Package | 600.00 |
| 5.2. | Phytoplankton sampling net | 300.00 | 2 | Net | 1.0 | Package | 600.00 |
| **Sub total of category 5** |  |  |  |  |  |  | **1,200.00** |
| 6. Other Direct Costs |  |  |  |  |  |  | - |
| 6.1. | Local transport (including hiring boat for sampling) to and at sampling sites, 2 sites x 10 days per site | 55.00 | 2 | Site | 11.0 | Day | 1,210.00 |
| 6.2. | Buckets for sampling | 20.00 | 1 | bucket | 2.0 | bucket | 40.00 |
| 6.3. | Stationary | 100.00 | 1 | Package | 1.0 | Package | 100.00 |
| 6.4. | Chemical (alcol, acid for fixing samples) | 200.00 | 1 | Package | 1.0 | Package | 200.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **1,550.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **11,350.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 794.50 |
| **TOTAL** |  |  |  |  |  |  | **12,144.50** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 2.2. Conduct field surveys to collect data of flora in Cambodia sites** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (2 sites x 11 days per sites x 1 expert | 250.00 | 1 | Person | 22.0 | Day | 5,500.00 |
| 2.2. | Reports, communication materials etc. | 250.00 | 1 | Person | 2.0 | day | 500.00 |
| 2.3. | Accommodation | 80.00 | 1 | Person | 20.0 | Night | 1,600.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 7,600.00 |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.1. | Local guides (2 persons x 9 day per site x 2 sites) | 25.00 | 2 | Person | 18.0 | day | 900.00 |
| **Sub total of category 3** |  |  |  |  |  |  | **900.00** |
| 6. Other Direct Costs |  |  |  |  |  |  | - |
| 6.1. | Local transport to and at sampling sites, 2 sites x 11 days per site | 55.00 | 2 | Site | 11.0 | Day | 1,210.00 |
| 6.2. | Sample storage packages | 200.00 | 1 | Person | 1.0 | Package | 200.00 |
| 6.3. | Stationary | 100.00 | 1 | Person | 1.0 | Package | 100.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **1,510.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **10,010.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 700.70 |
| **TOTAL** |  |  |  |  |  |  | **10,710.70** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 2.3. Conduct field survey to collect data of fungi in Cambodia sites** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (2 sites x 11 days per sites x 1 expert | 250.00 | 1 | Person | 22.0 | Day | 5,500.00 |
| 2.2. | Reports, communication materials etc. | 250.00 | 1 | Person | 2.0 | day | 500.00 |
| 2.3. | Accommodation | 80.00 | 1 | Person | 60.0 | Night | 4,800.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 10,800.00 |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.1. | Local guides (2 persons x 9 days per site x 2 sites) | 25.00 | 2 | Person | 18.0 | Day | 900.00 |
| **Sub total of category 3** |  |  |  |  |  |  | **900.00** |
| 5. Equipment (10% of the budget) |  |  |  |  |  |  |  |
| 5.1. | Dryer for drying samples in the field | 350.00 | 1 | Set | 1.0 | Package | 350.00 |
| **Sub total of category 5** |  |  |  |  |  |  | **350.00** |
| 6. Other Direct Costs |  |  |  |  |  |  | - |
| 6.1. | Local transport to and at sampling sites, 2 sites x 11 days per site | 55.00 | 2 | Site | 11.0 | Day | 1,210.00 |
| 6.2. | Sample storage packages | 200.00 | 1 | Package | 1.0 | Package | 200.00 |
| 6.3. | Stationary | 100.00 | 1 | Package | 1.0 | Package | 100.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **1,510.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **13,560.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 949.20 |
| **TOTAL** |  |  |  |  |  |  | **14,509.20** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 2.4. Conduct field survey to collect data of mammals in Cambodia sites** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (2 sites x 11 days per sites x 1 expert | 250.00 | 1 | Person | 22.0 | Day | 5,500.00 |
| 2.2. | Reports, communication materials etc. | 250.00 | 1 | Person | 2.0 | Day | 500.00 |
| 2.3. | Accommodation | 80.00 | 1 | Person | 20.0 | Night | 1,600.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 7,600.00 |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.1. | Local guides (2 persons x 9 days per site x 2 sites) | 25.00 | 2 | Person | 18.0 | Day | 900.00 |
| **Sub total of category 3** |  |  |  |  |  |  | **900.00** |
| 5. Equipment (10% of the budget) |  |  |  |  |  |  |  |
| 5.1. | Mist-net for capturing bats (variable size) | 150.00 | 1 | net | 5.0 | Net | 750.00 |
| **Sub total of category 5** |  |  |  |  |  |  | **750.00** |
| 6. Other Direct Costs |  |  |  |  |  |  | - |
| 6.1. | Local transport to and at sampling sites, 2 sites x 11 days per site | 55.00 | 2 | Site | 11.0 | Day | 1,210.00 |
| 6.2. | Sample storage packages | 200.00 | 1 | Package | 1.0 | Package | 200.00 |
| 6.3. | Stationary | 100.00 | 1 | Package | 1.0 | Package | 100.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **1,510.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **10,760.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 753.20 |
| **TOTAL** |  |  |  |  |  |  | **11,513.20** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 2.5. Conduct field survey to collect data of birds in Cambodia sites** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (2 sites x 11 days per sites x 1 expert | 250.00 | 1 | Person | 22.0 | Day | 5,500.00 |
| 2.2. | Reports, communication materials etc. | 250.00 | 1 | Person | 2.0 | Day | 500.00 |
| 2.3. | Accommodation | 80.00 | 1 | Person | 20.0 | Night | 1,600.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 7,600.00 |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.1. | Local guides (2 persons x 9 day per site x 2 sites) | 25.00 | 2 | Person | 18.0 | Day | 900.00 |
| **Sub total of category 3** |  |  |  |  |  |  | **900.00** |
| 5. Equipment (10% of the budget) |  |  |  |  |  |  |  |
| 5.1. | Binocular | 500.00 | 1 | set | 1.0 | Package | 500.00 |
| **Sub total of category 5** |  |  |  |  |  |  | **500.00** |
| 6. Other Direct Costs |  |  |  |  |  |  | - |
| 6.1. | Local transport to and at sampling sites, 2 sites x 11 days per site | 55.00 | 2 | Site | 11.0 | Day | 1,210.00 |
| 6.2. | Stationary | 100.00 | 1 | Package | 1.0 | Package | 100.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **1,310.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **10,310.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 721.70 |
| **TOTAL** |  |  |  |  |  |  | **11,031.70** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 2.6. Conduct field survey to collect data of reptiles and amphibians in Cambodia sites** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (2 sites x 11 days per sites x 1 expert | 250.00 | 1 | Person | 22.0 | Day | 5,500.00 |
| 2.2. | Reports, communication materials etc. | 250.00 | 1 | Person | 2.0 | Day | 500.00 |
| 2.3. | Accommodation | 80.00 | 1 | Person | 20.0 | Night | 1,600.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 7,600.00 |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.1. | Local guides (2 persons x 9 days per site x 2 sites) | 25.00 | 2 | Person | 18.0 | Day | 900.00 |
| **Sub total of category 3** |  |  |  |  |  |  | **900.00** |
| 5. Equipment (10% of the budget) |  |  |  |  |  |  |  |
| 5.1. | Head lamps (including rechargeable battery) | 150.00 | 2 | Package | 1.0 | Package | 300.00 |
| **Sub total of category 5** |  |  |  |  |  |  | **300.00** |
| 6. Other Direct Costs |  |  |  |  |  |  | - |
| 6.1. | Local transport to and at sampling sites, 2 sites x 11 days per site | 55.00 | 2 | Site | 11.0 | Day | 1,210.00 |
| 6.2. | Sample storage packages | 200.00 | 1 | Package | 1.0 | Package | 200.00 |
| 6.3. | Stationary | 100.00 | 1 | Package | 1.0 | Package | 100.00 |
| 6.4. | Chemical (alcol, acid for fixing samples) | 200.00 | 1 | Package | 1.0 | Package | 200.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **1,710.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **10,510.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 735.70 |
| **TOTAL** |  |  |  |  |  |  | **11,245.70** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 2.7. Conduct field survey to collect data of insects in Cambodia sites** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (2 sites x 11 days per sites x 1 expert | 250.00 | 1 | Person | 22.0 | Day | 5,500.00 |
| 2.2. | Reports, communication materials etc. | 250.00 | 1 | Person | 2.0 | Day | 500.00 |
| 2.3. | Accommodation | 80.00 | 1 | Person | 20.0 | Night | 1,600.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 7,600.00 |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.3. | Local guides (2 persons x 9 day per site x 2 sites) | 25.00 | 2 | Person | 36.0 | Day | 1,800.00 |
| **Sub total of category 3** |  |  |  |  |  |  | **1,800.00** |
| 5. Equipment (10% of the budget) |  |  |  |  |  |  |  |
| 5.1. | Insect net (packages) | 400.00 | 2 | Net | 1.0 | Package | 800.00 |
| **Sub total of category 5** |  |  |  |  |  |  | **800.00** |
| 6. Other Direct Costs |  |  |  |  |  |  | - |
| 6.1. | Local transport to and at sampling sites, 2 sites x 11 days per site | 55.00 | 2 | Site | 11.0 | Day | 1,210.00 |
| 6.2. | Sample storage packages | 200.00 | 1 | Package | 1.0 | Package | 200.00 |
| 6.3. | Stationary | 100.00 | 1 | Package | 1.0 | Package | 100.00 |
| 6.4. | Chemical (alcol, acid for fixing samples) | 200.00 | 1 | Package | 1.0 | Package | 200.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **1,710.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **11,910.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 833.70 |
| **TOTAL** |  |  |  |  |  |  | **12,743.70** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 2.8. Conduct field survey to collect data of benthos in Cambodia sites** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (2 sites x 11 days per sites x 1 expert | 250.00 | 1 | Person | 22.0 | Day | 5,500.00 |
| 2.2. | Reports, communication materials etc. | 250.00 | 1 | Person | 2.0 | Day | 500.00 |
| 2.3. | Accommodation | 80.00 | 1 | Person | 20.0 | Night | 1,600.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 7,600.00 |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.3. | Local guides (2 persons x 9 day per site x 2 sites) | 25.00 | 2 | Person | 36.0 | Day | 1,800.00 |
| **Sub total of category 3** |  |  |  |  |  |  | **1,800.00** |
| 6. Other Direct Costs |  |  |  |  |  |  | - |
| 6.1. | Local transport to and at sampling sites, 2 sites x 11 days per site | 55.00 | 2 | Site | 11.0 | Day | 1,210.00 |
| 6.2. | Sample storage packages | 200.00 | 1 | Package | 1.0 | Package | 200.00 |
| 6.3. | Stationary | 100.00 | 1 | Package | 1.0 | Package | 100.00 |
| 6.4. | Chemical (alcol, acid for fixing samples) | 200.00 | 1 | Package | 1.0 | Package | 200.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **1,710.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **11,110.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 777.70 |
| **TOTAL** |  |  |  |  |  |  | **11,887.70** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 2.9. Conduct field survey to collect data of fishes in Cambodia sites** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (2 sites x 11 days per sites x 1 expert | 250.00 | 1 | Person | 22.0 | Day | 5,500.00 |
| 2.2. | Reports, communication materials etc. | 250.00 | 1 | Person | 2.0 | Day | 500.00 |
| 2.3. | Accommodation | 80.00 | 1 | Person | 20.0 | Night | 1,600.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 7,600.00 |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.1. | Local guides (2 persons x 9 day per site x 2 sites) | 25.00 | 2 | Person | 36.0 | Day | 1,800.00 |
| **Sub total of category 3** |  |  |  |  |  |  | **1,800.00** |
| 6. Other Direct Costs |  |  |  |  |  |  | - |
| 6.1. | Local transport to and at sampling sites, 2 sites x 11 days per site | 55.00 | 2 | Site | 11.0 | Day | 1,210.00 |
| 6.2. | Sample storage packages | 200.00 | 1 | Person | 1.0 | Package | 200.00 |
| 6.3. | Stationary | 100.00 | 1 | Package | 1.0 | Package | 100.00 |
| 6.4. | Chemical (alcol, acid for fixing samples) | 200.00 | 1 | Package | 1.0 | Package | 200.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **1,710.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **11,110.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 777.70 |
| **TOTAL** |  |  |  |  |  |  | **11,887.70** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 3.1. System request collection** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (One expert) | 250.00 | 1 | Person | 30 | Day | 7,500.00 |
| 2.2. | Reports, communication materials etc. | 250.00 | 1 | Person | 2 | Day | 500.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 8,000.00 |
| 5. Equipment (10% of the budget) |  |  |  |  |  |  |  |
| 5.1. | Application Server | 8,000.00 | 1 | Server | 1 | package | 8,000.00 |
| 5.2. | Data server | 10,000.00 | 1 | Server | 1 | package | 10,000.00 |
| 5.3. | PC | 3,300.00 | 2 | set | 1 | package | 6,600.00 |
| 5.4. | Internet connection supply | 150.00 | 1 | connection | 30 | month | 4,500.00 |
| **Sub total of category 5** |  |  |  |  |  |  | **29,100.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **37,100.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 2,597.00 |
| **TOTAL** |  |  |  |  |  |  | **39,697.00** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 3.2. Design and build Mobile App (Android OS)** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (One expert) | 150.00 | 1 | Person | 120 | Day | 18,000.00 |
| 2.2. | Reports, communication materials etc. | 150.00 | 1 | Person | 2 | Day | 300.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 18,300.00 |
| **Total Direct Cost** |  |  |  |  |  |  | **18,300.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 1,281.00 |
| **TOTAL** |  |  |  |  |  |  | **19,581.00** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 3.3. Database and system design** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (One expert) | 250.00 | 1 | Person | 44 | Day | 11,000.00 |
| 2.2. | Reports, communication materials etc. | 250.00 | 1 | Person | 2 | Day | 500.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 11,500.00 |
| **Total Direct Cost** |  |  |  |  |  |  | **11,500.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 805.00 |
| **TOTAL** |  |  |  |  |  |  | **12,305.00** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 1 3.4. Technical supervisor for database and WebGIS system** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (one expert) | 300.00 | 1 | Person | 16 | Day | 4,800.00 |
| 2.2. | Reports, communication materials etc. | 300.00 | 1 | Person | 2 | Day | 600.00 |
| 2.3. | Airfare (round ticket from Korea to Vietnam and return) | 1,000.00 | 1 | Person | 1 | Trip | 1,000.00 |
| 2.4. | Ground transportation (to airport in Korea and from Airport in Vietnam to hotel, to Airport in Vietnam and to home in Korea) | 200.00 | 1 | Person | 2 | Trip | 400.00 |
| 2.5. | Accommodation in Vietnam | 100.00 | 1 | Person | 15 | Night | 1,500.00 |
| **Total Direct Cost** |  |  |  |  |  |  | **8,300.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 581.00 |
| **TOTAL** |  |  |  |  |  |  | **8,881.00** |
|  |  |  |  |  |  |  |  |
| Total |  |  |  |  |  | Total: Year 1: | **329,603** |

**Project Components / Activities: Year 2**

| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 1. Personnel |  |  |  |  |  |  |  |
| 1.1 | Project Manager | 3,500.00 | 1 | Person | 12.0 | Month | 42,000.00 |
| 1.2 | Project Coordinator | 2,000.00 | 1 | Person | 12.0 | Month | 24,000.00 |
| **Total Direct Cost** |  |  |  |  |  |  | **66,000.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 4,620.00 |
| **TOTAL** |  |  |  |  |  |  | **70,620.00** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 2 2.10. Conduct field surveys to collect data of phytoplankton and zooplankton in Vietnam sites** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** | | | | | | | | |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (6 sites x 11 days per sites x 1 experts) | 200.00 | 1 | Person | 66 | Day | 13,200.00 |
| 2.2. | Reports, communication materials etc. | 200.00 | 1 | Person | 2 | day | 400.00 |
| 2.5. | Accommodation | 80.00 | 1 | Person | 60 | Night | 4,800.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 18,400.00 |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.3. | Local guides (2 persons x 9 day per site x 6 sites) | 25.00 | 2 | Person | 54 | day | 2,700.00 |
| **Sub total of category 3** |  |  |  |  |  |  | **2,700.00** |
| 5. Equipment (10% of the budget) |  |  |  |  |  |  |  |
| 5.1. | Zooplankton sampling net | 300.00 | 2 | Net | 1 | Package | 600.00 |
| 5.2. | Phytoplankton sampling net | 300.00 | 2 | Net | 1 | Package | 600.00 |
| 5.3. | Microsopes and camera for specimen photograph | 2,800.00 | 1 | Package | 1 | Package | 2,800.00 |
| **Sub total of category 5** |  |  |  |  |  |  | **4,000.00** |
| 6. Other Direct Costs |  |  |  |  |  |  | - |
| 6.1. | Local transport to and at sampling sites, 6 sites x 11 days per site | 55.00 | 6 | Site | 11 | Day | 3,630.00 |
| 6.2. | Buckets for sampling | 20.00 | 1 | Person | 2 | Package | 40.00 |
| 6.3. | Stationary | 130.00 | 1 | Package | 1 | Package | 130.00 |
| 6.4. | Chemical (alcol, acid for fixing samples) | 200.00 | 1 | Package | 1 | Package | 200.00 |
| 6.5. | Boat hiring for sampling | 100.00 | 1 | Person | 30 | Day | 3,000.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **7,000.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **32,100.00** |
| **B. Indirect Costs** | | | | | | | | |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 2,247.00 |
| **TOTAL** |  |  |  |  |  |  | **34,347.00** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 2 2.11. Conduct field surveys to collect data of flora in Vietnam sites** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** | | | | | | | | |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (6 sites x 11 days per sites x 1 experts) | 200.00 | 1 | Person | 66 | Day | 13,200.00 |
| 2.2. | Reports, communication materials etc. | 200.00 | 1 | Person | 2 | day | 400.00 |
| 2.5. | Accommodation | 80.00 | 1 | Person | 60 | Night | 4,800.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 18,400.00 |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.3. | Local guides (2 persons x 9 day per site x 6 sites) | 25.00 | 2 | Person | 54 | day | 2,700.00 |
| **Sub total of category 3** |  |  |  |  |  |  | **2,700.00** |
| 5. Equipment (10% of the budget) |  |  |  |  |  |  |  |
| 5.1. | Dryer for drying sample in the field | 450.00 | 1 | set | 1 | Package | 450.00 |
| 5.2. | Camera and lens for sample photograph | 3,000.00 | 1 | Package | 1 | Package | 3,000.00 |
| **Sub total of category 5** |  |  |  |  |  |  | **3,450.00** |
| 6. Other Direct Costs |  |  |  |  |  |  | - |
| 6.1. | Local transport to and at sampling sites, 6 sites x 11 days per site | 55.00 | 6 | Site | 11 | Day | 3,630.00 |
| 6.2. | Sample storage package | 1,000.00 | 1 | Package | 1 | Package | 1,000.00 |
| 6.3. | Stationary | 100.00 | 1 | Package | 1 | Package | 100.00 |
| 6.4. | Chemical (alcol, acid for fixing samples) | 200.00 | 1 | Package | 1 | Package | 200.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **4,930.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **29,480.00** |
| **B. Indirect Costs** | | | | | | | | |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 2,063.60 |
| **TOTAL** |  |  |  |  |  |  | **31,543.60** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 2 2.12. Conduct field survey to collect data of fungi in Vietnam sites** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** | | | | | | | | |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (6 sites x 11 days per sites x 1 experts) | 200.00 | 1 | Person | 66 | Day | 13,200.00 |
| 2.2. | Reports, communication materials etc. | 200.00 | 1 | Person | 2 | day | 400.00 |
| 2.5. | Accommodation | 80.00 | 1 | Person | 60 | Night | 4,800.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 18,400.00 |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.1. | Meeting/training Package |  |  |  |  |  | - |
| 3.2. | Translation services |  |  |  |  |  | - |
| 3.3. | Local guides (2 persons x 9 day per site x 6 sites) | 25.00 | 2 | Person | 54 | day | 2,700.00 |
| **Sub total of category 3** |  |  |  |  |  |  | **2,700.00** |
| 6. Other Direct Costs |  |  |  |  |  |  | - |
| 6.1. | Local transport to and at sampling sites, 6 sites x 11 days per site | 55.00 | 6 | Site | 11 | Day | 3,630.00 |
| 6.2. | Sample storage package | 700.00 | 1 | Package | 1 | Package | 700.00 |
| 6.3. | Stationary | 100.00 | 1 | Package | 1 | Package | 100.00 |
| 6.4. | Chemical (alcol, acid for fixing samples) | 200.00 | 1 | Package | 1 | Package | 200.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **4,630.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **25,730.00** |
| **B. Indirect Costs** | | | | | | | | |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 1,801.10 |
| **TOTAL** |  |  |  |  |  |  | **27,531.10** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 2 2.13. Conduct field survey to collect data of mammals in Vietnam sites** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** | | | | | | | | |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (6 sites x 11 days per sites x 1 experts) | 200.00 | 1 | Person | 66 | Day | 13,200.00 |
| 2.2. | Reports, communication materials etc. | 200.00 | 1 | Person | 2 | day | 400.00 |
| 2.5. | Accommodation | 80.00 | 1 | Person | 60 | Night | 4,800.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 18,400.00 |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.3. | Local guides (2 persons x 9 day per site x 6 sites) | 25.00 | 2 | Person | 54 | day | 2,700.00 |
| **Sub total of category 3** |  |  |  |  |  |  | **2,700.00** |
| 5. Equipment (10% of the budget) |  |  |  |  |  |  |  |
| 5.1. | Mist net | 150.00 | 5 | Net | 1 | Package | 750.00 |
| **Sub total of category 5** |  |  |  |  |  |  | **750.00** |
| 6. Other Direct Costs |  |  |  |  |  |  | - |
| 6.1. | Local transport to and at sampling sites, 6 sites x 11 days per site | 55.00 | 6 | Site | 11 | Day | 3,630.00 |
| 6.2. | Sample storage package | 300.00 | 1 | Package | 1 | Package | 300.00 |
| 6.3. | Stationary | 100.00 | 1 | Package | 1 | Package | 100.00 |
| 6.4. | Chemical (alcol, acid for fixing samples) | 200.00 | 1 | Package | 1 | Package | 200.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **4,230.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **26,080.00** |
| **B. Indirect Costs** | | | | | | | | |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 1,825.60 |
| **TOTAL** |  |  |  |  |  |  | **27,905.60** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 2 2.14. Conduct field survey to collect data of birds in Vietnam sites** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** | | | | | | | | |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (6 sites x 11 days per sites x 1 experts) | 200.00 | 1 | Person | 66 | Day | 13,200.00 |
| 2.2. | Reports, communication materials etc. | 200.00 | 1 | Person | 2 | day | 400.00 |
| 2.5. | Accommodation | 80.00 | 1 | Person | 60 | Night | 4,800.00 |
| **Sub total of category 2** |  |  |  |  |  |  | **18,400.00** |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.3. | Local guides (2 persons x 9 day per site x 6 sites) | 25.00 | 2 | Person | 54 | day | 2,700.00 |
| **Sub total of category 3** |  |  |  |  |  |  | **2,700.00** |
| 5. Equipment (10% of the budget) |  |  |  |  |  |  |  |
| 5.1. | Camera package and Tele lens | 15,500.00 | 1 | Package | 1 | Package | 15,500.00 |
| **Sub total of category 5** |  |  |  |  |  |  | **15,500.00** |
| 6. Other Direct Costs |  |  |  |  |  |  | - |
| 6.1. | Local transport to and at sampling sites, 6 sites x 11 days per site | 55.00 | 6 | Site | 11 | Day | 3,630.00 |
| 6.3. | Stationary | 100.00 | 1 | Person | 1 | Package | 100.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **3,730.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **40,330.00** |
| **B. Indirect Costs** | | | | | | | | |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 2,823.10 |
| **TOTAL** |  |  |  |  |  |  | **43,153.10** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 2 2.15. Conduct field survey to collect data of reptiles and amphibians in Vietnam sites** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** | | | | | | | | |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (6 sites x 11 days per sites x 1 experts) | 200.00 | 1 | Person | 66 | Day | 13,200.00 |
| 2.2. | Reports, communication materials etc. | 200.00 | 1 | Person | 2 | day | 400.00 |
| 2.5. | Accommodation | 80.00 | 1 | Person | 60 | Night | 4,800.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 18,400.00 |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.3. | Local guides (2 persons x 9 day per site x 6 sites) | 25.00 | 2 | Person | 54 | day | 2,700.00 |
| **Sub total of category 3** |  |  |  |  |  |  | **2,700.00** |
| 6. Other Direct Costs |  |  |  |  |  |  | - |
| 6.1. | Local transport to and at sampling sites, 6 sites x 11 days per site | 55.00 | 6 | Site | 11 | Day | 3,630.00 |
| 6.2. | Sample storage package | 500.00 | 1 | Package | 1 | Package | 500.00 |
| 6.3. | Stationary | 100.00 | 1 | Package | 1 | Package | 100.00 |
| 6.4. | Chemical (alcol, acid for fixing samples) | 200.00 | 1 | Package | 1 | Package | 200.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **4,430.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **25,530.00** |
| **B. Indirect Costs** | | | | | | | | |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 1,787.10 |
| **TOTAL** |  |  |  |  |  |  | **27,317.10** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 2 2.16. Conduct field survey to collect data of insects in Vietnam sites** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** | | | | | | | | |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (6 sites x 11 days per sites x 1 experts) | 200.00 | 1 | Person | 66 | Day | 13,200.00 |
| 2.2. | Reports, communication materials etc. | 200.00 | 1 | Person | 2 | day | 400.00 |
| 2.5. | Accommodation | 80.00 | 1 | Person | 60 | Night | 4,800.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 18,400.00 |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.3. | Local guides (2 persons x 9 day per site x 6 sites) | 25.00 | 2 | Person | 54 | day | 2,700.00 |
| **Sub total of category 3** |  |  |  |  |  |  | **2,700.00** |
| 5. Equipment (10% of the budget) |  |  |  |  |  |  |  |
| 5.1. | Generator for collecting nocturnal insects | 1,500.00 | 1 | Person | 1 | Package | 1,500.00 |
| **Sub total of category 5** |  |  |  |  |  |  | **1,500.00** |
| 6. Other Direct Costs |  |  |  |  |  |  | - |
| 6.1. | Local transport to and at sampling sites, 6 sites x 11 days per site | 55.00 | 6 | Site | 11 | Day | 3,630.00 |
| 6.2. | Sample storage package | 500.00 | 1 | Package | 1 | Package | 500.00 |
| 6.3. | Stationary | 100.00 | 1 | Package | 1 | Package | 100.00 |
| 6.4. | Chemical (alcol, acid for fixing samples) | 200.00 | 1 | Package | 1 | Package | 200.00 |
| 6.5. | Fuel | 1.10 | 6 | Site | 10 | Litter | 66.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **4,496.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **27,096.00** |
| **B. Indirect Costs** | | | | | | | | |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 1,896.72 |
| **TOTAL** |  |  |  |  |  |  | **28,992.72** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 2 2.17. Conduct field survey to collect data of benthos in Vietnam sites** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** | | | | | | | | |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (6 sites x 11 days per sites x 1 experts) | 200.00 | 1 | Person | 66 | Day | 13,200.00 |
| 2.2. | Reports, communication materials etc. | 200.00 | 1 | Person | 2 | day | 400.00 |
| 2.5. | Accommodation | 80.00 | 1 | Person | 60 | Night | 4,800.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 18,400.00 |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.3. | Local guides (2 persons x 9 day per site x 6 sites) | 25.00 | 2 | Person | 54 | day | 2,700.00 |
| **Sub total of category 3** |  |  |  |  |  |  | **2,700.00** |
| 5. Equipment (10% of the budget) |  |  |  |  |  |  |  |
| 5.1. | Ponar grab for sampling | 5,000.00 | 1 | Person | 1 | Package | 5,000.00 |
| 5.2. | Ponar Wash Frame Standard 500um Mesh | 700.00 | 1 | Person | 1 | Package | 700.00 |
| **Sub total of category 5** |  |  |  |  |  |  | **5,700.00** |
| 6. Other Direct Costs |  |  |  |  |  |  | - |
| 6.1. | Local transport to and at sampling sites, 6 sites x 11 days per site | 55.00 | 6 | Site | 11 | Day | 3,630.00 |
| 6.2. | Sample storage package | 500.00 | 1 | Package | 1 | Package | 500.00 |
| 6.3. | Stationary | 100.00 | 1 | Package | 1 | Package | 100.00 |
| 6.4. | Chemical (alcol, acid for fixing samples) | 200.00 | 1 | Package | 1 | Package | 200.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **4,430.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **31,230.00** |
| **B. Indirect Costs** | | | | | | | | |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 2,186.10 |
| **TOTAL** |  |  |  |  |  |  | **33,416.10** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 2 2.18. Conduct field survey to collect data of fishes in Vietnam sites** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** | | | | | | | | |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (6 sites x 11 days per sites x 1 experts) | 200.00 | 1 | Person | 66 | Day | 13,200.00 |
| 2.2. | Reports, communication materials etc. | 200.00 | 1 | Person | 2 | day | 400.00 |
| 2.5. | Accommodation | 80.00 | 1 | Person | 60 | Night | 4,800.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 18,400.00 |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.3. | Local guides (2 persons x 9 day per site x 6 sites) | 25.00 | 2 | Person | 54 | day | 2,700.00 |
| **Sub total of category 3** |  |  |  |  |  |  | **2,700.00** |
| 6. Other Direct Costs |  |  |  |  |  |  | - |
| 6.1. | Local transport to and at sampling sites, 6 sites x 11 days per site | 55.00 | 6 | Site | 11 | Day | 3,630.00 |
| 6.2. | Sample storage package | 500.00 | 1 | Package | 1 | Package | 500.00 |
| 6.3. | Stationary | 100.00 | 1 | Package | 1 | Package | 100.00 |
| 6.4. | Chemical (alcol, acid for fixing samples) | 200.00 | 1 | Package | 1 | Package | 200.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **4,430.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **25,530.00** |
| **B. Indirect Costs** | | | | | | | | |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 1,787.10 |
| **TOTAL** |  |  |  |  |  |  | **27,317.10** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 2 3.5. Building database** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** | | | | | | | | |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee | 250.00 | 1 | Person | 60 | Day | 15,000.00 |
| 2.2. | Reports, communication materials etc. | 250.00 | 1 | Person | 2 | day | 500.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 15,500.00 |
| **Total Direct Cost** |  |  |  |  |  |  | **15,500.00** |
| **B. Indirect Costs** | | | | | | | | |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 1,085.00 |
| **TOTAL** |  |  |  |  |  |  | **16,585.00** |
|  |  |  |  |  |  |  |  |
| Total |  |  |  |  |  | Total: Year 2: | **368,728** |

**Project Components / Activities: Year 3**

| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 1. Personnel |  |  |  |  |  |  |  |
| 1.1 | Project Manager | 3,500.00 | 1 | Person | 6.0 | Month | 21,000.00 |
| 1.2 | Project Coordinator | 2,000.00 | 1 | Person | 6.0 | Month | 12,000.00 |
| **Total Direct Cost** |  |  |  |  |  |  | **33,000.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 2,310.00 |
| **TOTAL** |  |  |  |  |  |  | **35,310.00** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 3 3.6. Building WebGIS** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** | | | | | | | |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee | 250.00 | 1 | Person | 60 | Day | 15,000.00 |
| 2.2. | Reports, communication materials etc. | 250.00 | 1 | Person | 2 | day | 500.00 |
| **Sub total of category 2** |  |  |  |  |  |  | 15,500.00 |
| **Total Direct Cost** |  |  |  |  |  |  | **15,500.00** |
| **B. Indirect Costs** | | | | | | | |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 1,085.00 |
| **TOTAL** |  |  |  |  |  |  | **16,585.00** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 3 3.7. Biodiversity database verification** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee | 300.00 | 1 | Person | 20 | Day | 6,000.00 |
| 2.2. | Reports, communication materials etc. | 300.00 | 1 | Person | 2 | day | 600.00 |
| 2.3. | Airfare (round ticket from Korea to Vietnam and return) | 1,000.00 | 1 | Person | 1 | Trip | 1,000.00 |
| 2.4. | Ground transportation (to airport in Korea and from Airport in Vietnam to hotel, to Airport in Vietnam and to home in Korea) | 200.00 | 1 | Person | 2 | Trip | 400.00 |
| 2.5. | Accommodation in Vietnam | 100.00 | 1 | Person | 19 | Night | 1,900.00 |
| **Total Direct Cost** |  |  |  |  |  |  | **9,900.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 693.00 |
| **TOTAL** |  |  |  |  |  |  | **10,593.00** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 3 4.2. Training workshop on WebGiS and data management** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 2. Consultancy services |  |  |  |  |  |  |  |
| 2.1. | Consultant/Remuneration fee (preparing training material) | 250.00 | 1 | Person | 20 | Day | 5,000.00 |
| **Sub total of category 2** |  |  |  |  |  |  | **5,000.00** |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.1. | Meeting/training Package (two day workshop: 30 participants) | 50.00 | 30 | Pax | 2.0 | Day | 3,000.00 |
| 3.2. | Translation services (Vietnamese-English translator; Cambodian - English translator, Vietnamese-Cambodian translator) | 200.00 | 3 | Person | 1.0 | Day | 600.00 |
| **Sub total of category 3** |  |  |  |  |  |  | **3,600.00** |
| 4. Travel |  |  |  |  |  |  |  |
| 4.1. | Airfare (four participants from Phnom Penh to Ho Chi Minh City) | 800.00 | 4 | Roundtrip | 1.0 | Day | 3,200.00 |
| 4.2. | Ground transportation (Fuel cost for Vietnamese participants, 2,500 vnd/km) | 0.12 | 7000 | km | 1.0 | Trip | 840.00 |
| 4.3. | Accommodation (for 20 participants that outsite Ho Chi minh City, three nights) | 80.00 | 20 | Person | 3.0 | Night | 4,800.00 |
| 4.4. | Per Diem/Food (For 20 participants that outsite Ho Chi Minh City, three days, including two travel days) | 40.00 | 20 | Person | 3.0 | Day | 2,400.00 |
| 4.5. | Travel insurance (For 20 participants that outsite Ho Chi Minh City) | 10.00 | 20 | Person | 1.0 | Trip | 200.00 |
| **Sub total of category 4** |  |  |  |  |  |  | **11,440.00** |
| 6. Other Direct Costs |  |  |  |  |  |  |  |
| 6.1. | Local transport within Ho Chi Minh City to pick-up and transport services for metting | 1,000.00 | 1 | Package | 2.0 | Day | 2,000.00 |
| 6.2. | Printing, stationary, communcation, etc. | 620.00 | 1 | Package | 1.0 | Day | 620.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **2,620.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **22,660.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 1,586.20 |
| **TOTAL** |  |  |  |  |  |  | **24,246.20** |
|  |  |  |  |  |  |  |  |
| **Project Components / Activities: Year 3 4.3. Scientific workshops** | | | | | | |  |
| **Budget Line** | **Description** | **Unit Cost (USD)** | **Quantity 1** | **Unit 1** | **Quantity 2** | **Unit 2** | **Total Cost (USD)** |
| **A. Direct Costs** |  |  |  |  |  |  |  |
| 3. Direct Supplies and Services |  |  |  |  |  |  |  |
| 3.1. | Meeting/training Package (one day workshop: 30 participants) | 50.00 | 30 | Pax | 1.0 | Day | 1,500.00 |
| 3.2. | Translation services (Vietnamese-English translator; Cambodian - English translator, Vietnamese-Cambodian translator) | 200.00 | 3 | Person | 1.0 | Day | 600.00 |
| 3.3. | Other expenditures under Category 3 |  |  |  |  |  | - |
| **Sub total of category 3** |  |  |  |  |  |  | **2,100.00** |
| 4. Travel |  |  |  |  |  |  |  |
| 4.1. | Airfare (four participants from Phnom Penh to Ho Chi Minh City) | 800.00 | 4 | Roundtrip | 1.0 | Day | 3,200.00 |
| 4.2. | Ground transportation (Fuel cost for Vietnamese participants, 2,500 vnd/km) | 0.12 | 7500 | km | 1.0 | Trip | 900.00 |
| 4.3. | Accommodation (for 20 participants that outsite Ho Chi minh City, two nights) | 80.00 | 20 | Person | 2.0 | Night | 3,200.00 |
| 4.4. | Per Diem/Food (For 20 participants that outsite Ho Chi Minh City, three days, including two travel days) | 40.00 | 20 | Person | 3.0 | Day | 2,400.00 |
| 4.5. | Travel insurance (For 20 participants that outsite Ho Chi Minh City) | 10.00 | 20 | Person | 1.0 | Trip | 200.00 |
| **Sub total of category 4** |  |  |  |  |  |  | **9,900.00** |
| 6. Other Direct Costs |  |  |  |  |  |  |  |
| 6.1. | Local transport within Ho Chi Minh City to pick-up and transport services for metting | 1,000.00 | 1 | Package | 1.0 | Day | 1,000.00 |
| 6.2. | Printing, stationary, communcation, etc. | 958.00 | 1 | Package | 1.0 | Day | 958.00 |
| **Sub total of category 6** |  |  |  |  |  |  | **1,958.00** |
| **Total Direct Cost** |  |  |  |  |  |  | **13,958.00** |
| **B. Indirect Costs** |  |  |  |  |  |  |  |
| 1. Management fee (7% of the total direct cost budget) |  |  |  |  |  |  | 977.06 |
| **TOTAL** |  |  |  |  |  |  | **14,935.06** |
|  |  |  |  |  |  |  |  |
| Total |  |  |  |  |  | Total: Year 3: | **101,669** |

Appendix 4: [proposal package] Indicative Work Plan

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **MONTH** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **TASK** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | | **13** | **14** | **15** | **16** | **17** | **18** | **19** | **20** | **21** | **22** | **23** | **24** | **25** | **26** | **27** | **28** | **29** | **30** |
| ***Output 1. Reports of data collection and revision*** | *- TOTAL BUDGET AS ACCUMULATION OF ACTIVITY BUDGETS:* | | | | | | | | | | | | *USD 56,549.50* | | | | | | | | | | | | | | | | | | |
| x | x | x | x | x | x | x |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *1.1. Collecting available maps, management plans and other revelants document to biodiversity conservation and management* | *- Budget:* | | *USD 17,387.50* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | x | x | x | x |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *1.2. Collecting, verifiying available information and extracted reported data of phytoplankton and zooplankton* | *- Budget:* | | *USD 3,638.00* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | x | x | x | x |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *1.3. Collecting, verifiying available information and extracted reported data of higher plants* | *- Budget:* | | *USD 3,638.00* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | x | x | x | x |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *1.4. Collecting, verifiying available information and extracted reported data of fungi* | *- Budget:* | | *USD 3,638.00* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | x | x | x | x |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *1.5. Collecting, verifiying available information and extracted reported data of mammals* | *- Budget:* | | *USD 3,638.00* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | x | x | x | x |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *1.6. Collecting, verifiying available information and extracted reported data of birds* | *- Budget:* | | *USD 6,848.00* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | x | x | x | x |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *1.7. Collecting, verifiying available information and extracted reported data of reptiles and amphibians* | *- Budget:* | | *USD 6,848.00* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | x | x | x | x |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *1.8. Collecting, verifiying available information and extracted reported data of insects* | *- Budget:* | | *USD 3,638.00* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | x | x | x | x |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *1.9. Collecting, verifiying available information and extracted reported data of benthos* | *- Budget:* | | *USD 3,638.00* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | x | x | x | x |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *1.10. Collecting, verifiying available information and extracted reported data of fishes* | *- Budget:* | | *USD 3,638.00* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | x | x | x | x |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ***Output 2. Reports of field surveys*** | *- TOTAL BUDGET AS ACCUMULATION OF ACTIVITY BUDGETS:* | | | | | | | | | | | | *USD 389,197.52* | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  | x | x | x | x | x | x | | x | x | x | x | x | x | x | x | x | x | x | x |  |  |  |  |  |  |
| *2.1. Conduct field surveys to collect data of phytoplankton and zooplankton in Cambodia sites* | *- Budget:* | | *USD 12,144.50* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  | x | x | x | x | x | x | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *2.2. Conduct field surveys to collect data of flora in Cambodia sites* | *- Budget:* | | *USD 10,710.70* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  | x | x | x | x | x | x | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *2.3. Conduct field survey to collect data of fungi in Cambodia sites* | *- Budget:* | | *USD 14,509.20* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  | x | x | x | x | x | x | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *2.4. Conduct field survey to collect data of mammals in Cambodia sites* | *- Budget:* | | *USD 11,513.20* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  | x | x | x | x | x | x | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *2.5. Conduct field survey to collect data of birds in Cambodia sites* | *- Budget:* | | *USD 11,031.70* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  | x | x | x | x | x | x | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *2.6. Conduct field survey to collect data of reptiles and amphibians in Cambodia sites* | *- Budget:* | | *USD 11,245.70* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  | x | x | x | x | x | x | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *2.7. Conduct field survey to collect data of insects in Cambodia sites* | *- Budget:* | | *USD 12,743.70* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  | x | x | x | x | x | x | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *2.8. Conduct field survey to collect data of benthos in Cambodia sites* | *- Budget:* | | *USD 11,887.70* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  | x | x | x | x | x | x | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *2.9. Conduct field survey to collect data of fishes in Cambodia sites* | *- Budget:* | | *USD 11,887.70* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  | x | x | x | x | x | x | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *2.10. Conduct field surveys to collect data of phytoplankton and zooplankton in Vietnam sites* | *- Budget:* | | *USD 34,347.00* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  | | x | x | x | x | x | x | x | x | x | x | x | x |  |  |  |  |  |  |
| *2.11. Conduct field surveys to collect data of flora in Vietnam sites* | *- Budget:* | | *USD 31,543.60* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  | | x | x | x | x | x | x | x | x | x | x | x | x |  |  |  |  |  |  |
| *2.12. Conduct field survey to collect data of fungi in Vietnam sites* | *- Budget:* | | *USD 27,531.10* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  | | x | x | x | x | x | x | x | x | x | x | x | x |  |  |  |  |  |  |
| *2.13. Conduct field survey to collect data of mammals in Vietnam sites* | *- Budget:* | | *USD 27,905.60* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  | | x | x | x | x | x | x | x | x | x | x | x | x |  |  |  |  |  |  |
| *2.14. Conduct field survey to collect data of birds in Vietnam sites* | *- Budget:* | | *USD 43,153.10* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  | | x | x | x | x | x | x | x | x | x | x | x | x |  |  |  |  |  |  |
| *2.15. Conduct field survey to collect data of reptiles and amphibians in Vietnam sites* | *- Budget:* | | *USD 27,317.10* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  | | x | x | x | x | x | x | x | x | x | x | x | x |  |  |  |  |  |  |
| *2.16. Conduct field survey to collect data of insects in Vietnam sites* | *- Budget:* | | *USD 28,992.72* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  | | x | x | x | x | x | x | x | x | x | x | x | x |  |  |  |  |  |  |
| *2.17. Conduct field survey to collect data of benthos in Vietnam sites* | *- Budget:* | | *USD 33,416.10* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  | | x | x | x | x | x | x | x | x | x | x | x | x |  |  |  |  |  |  |
| *2.18. Conduct field survey to collect data of fishes in Vietnam sites* | *- Budget:* | | *USD 27,317.10* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  | | x | x | x | x | x | x | x | x | x | x | x | x |  |  |  |  |  |  |
| ***Output 3. Database and WebGIS-based portal built*** | *- TOTAL BUDGET AS ACCUMULATION OF ACTIVITY BUDGETS:* | | | | | | | | | | | | *USD 124,227.00* | | | | | | | | | | | | | | | | | | |
| x | x | x | x | x | x | x |  |  |  |  |  | |  |  |  | x | x | x | x | x | x | x | x | x | x | x | x | x |  |  |
| *3.1. System request collection* | *- Budget:* | | *USD 39,697.00* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| x |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *3.2. Design and build Mobile App (Android OS)* | *- Budget:* | | *USD 19,581.00* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| x | x | x | x | x | x |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *3.3. Database and system design* | *- Budget:* | | *USD 12,305.00* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  | x | x |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *3.4. Technical supervior for database and WebGIS system* | *- Budget:* | | *USD 8,881.00* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  | x | x |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *3.5. Building database* | *- Budget:* | | *USD 16,585.00* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  | x | x | x | x | x | x | x | x | x |  |  |  |  |  |  |
| *3.6. Building WebGIS* | *- Budget:* | | *USD 16,585.00* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  | x | x | x |  |  |  |
| *3.6. Biodiversity database verification* | *- Budget:* | | *USD 10,593.00* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  | x | x | x |  |  |  |
| ***Output 4. Workshops*** | *- TOTAL BUDGET AS ACCUMULATION OF ACTIVITY BUDGETS:* | | | | | | | | | | | | *USD 53,476.46* | | | | | | | | | | | | | | | | | | |
| x |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | x |  |
| *4.1. Kick-off meeting* | *- Budget:* | | *USD 14,295.20* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| x |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *4.2. Training workshop on WebGiS and data management* | *- Budget:* | | *USD 24,246.20* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | x |  |
| *4.3. Scientific workshops* | *- Budget:* | | *USD 14,935.06* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | x |  |
| Output 5. 5. Report and publication | *TOTAL BUDGET AS ACCUMULATION of ACTIVITY BUDGETS* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | x |
| *Report and paper publication* |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | x |

# Appendix 5: TOR

**TERMS OF REFERENCE OF KEY PROJECT CONTRACTED PERSONNEL**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Name** | **Organization** | **Position** | **e-mail / phone** | **Remarks** |
| **1** | Dr. Luu Hong Truong | SIE | Project manager | lhtruong@sie.vast.vn /+84-965610031 | Fulltime, TOR No.1 |
| **2** | Mr. Tran Van Bang | SIE | Project Coordinator | [tvbang@sie.vast.vn](mailto:tvbang@sie.vast.vn)  /+84-909569957 | Fulltime, TOR No.2 |
| **3** | Dr. Tran Thai Binh | Hochiminh City Space Technology Application Center (Vietnam) | WebGIS expert | [ttbinh@vnsc.org.vn](mailto:ttbinh@vnsc.org.vn); [thaibinhtran@gmail.com](mailto:thaibinhtran@gmail.com)  (+84) 93-3994442 | TOR No.3 |
| **4** | Dr. Kidong Kim | Ecobank Network (National Institute of Ecology, Korea) | Ecobank expert/ International Biodiversity database expert | [kidong@nie.re.kr/](mailto:kidong@nie.re.kr/)  82+41-950-5620 | TOR No.4 |
| **5** | Dr. Sanghun Lee | Ecobank Network (National Institute of Ecology, Korea) | Ecobank expert/ International Biodiversity database expert | [sanghunlee@nie.re.kr/](mailto:sanghunlee@nie.re.kr/)  82+41-950-5621 | TOR. No5 |

**TERMS OF REFERENCE OF CONSULTANTS/EXPERTS**

|  |  |
| --- | --- |
| TOR No.1 | |
| Position | Project manager |
| Duty Station | Vietnam and Cambodia |
| Responsibilities | Manage all activities of the project |
| Requirements | Doctor's degree in ecology, natural resources management, systematic management, forestry or relevant; have at least 20 years of working experience in biodiversity inventory, biodiversity conservation, of which have at least five years working experience in Mekong Delta  Work as Project manager at least five national and international projects related to biodiversity database, inventory, and conservation, |
| Date | 01/2023 - 6/2025 (full time project staff) |

|  |  |
| --- | --- |
| TOR No.2 | |
| Position | Project coordinator |
| Duty Station | Vietnam and Cambodia |
| Responsibilities | * Working closely with Project manager and consultants/experts to conduct all activities of the project * Working with relevant stakeholders of the project * Providing logistics to project * Working closely with project’s institution for administrative management of the project |
| Requirements | Master's degree in ecology, natural resources management, systematic management, forestry or relevant; have at least ten years of working experience in relevant fields, of which, at least five years working in Mekong Delta.  Have strong experience in biodiversity database, knowing GBIF is an advance.  Work as project leader of at least two project, project coordinator of at least five projects. |
| Date | 01/2023 - 6/2025 (full time project staff) |

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| --- | --- |
| TOR No.3 | |
| Position | Biodiversity Database and a Web-GIS platform expert |
| Duty Station | Vietnam |
| Responsibilities | Conduct the following activities:   * Building a Database and a Web-GIS platform for database management and usage, with following activities: (1) System request collection, (2) Database and system design, (3) Building database, (4) Building WebGIS; * Working with technical supervisor to develop the final version of database and system, * Prepare document for training workshop on WebGIS and data management |
| Requirements | Doctor degree in Geoinformatics, Informatics, Geology and Geography  Have at least ten-years working in geography, Geoinformatics, Informatics, Geology.  Have at least five-years working with opensource platform, online platform  Developed at least two WebGIS platform  Have knowledge on biodiversity data is an advance. |
| Date | 02/2023 - 12/2024 (222 working days) |

|  |  |
| --- | --- |
| TOR No. 4 | |
| Position | International Biodiversity database expert/Ecobank advising expert |
| Duty Station | Vietnam |
| Responsibilities | Conduct the following activities:   * Provide the technical supervisor for database and WebGIS system, platform of the project |
| Requirements | Doctor degree in integrated science,  Have at least five-years working experience with biodiversity information, biodiversity database, WebGIS platform.  Have experience with GBIF or other similar database structures |
| Date | 06/2023 - 7/2023 (16 working days) |

|  |  |
| --- | --- |
| TOR No. 5 | |
| Position | International Biodiversity database and WebGIS expert/Ecobank verifying expert |
| Duty Station | Vietnam |
| Responsibilities | Conduct the activities: Biodiversity database verification, with detailed tasks:   * Verifying biodiversity database of the project following global standard for biodiversity database * Provide an assessment report on biodiversity database of the project |
| Requirements | Have doctor degree in Integrated science, Earth System Science, Systematics science.  Have at least five-years working experience with biodiversity information, biodiversity database, WebGIS platform.  Have experience with global standard of biodiversity database, familiar with GBIF or other similar database structures and platform |
| Date | 1/2025 - 4/2025 (20 working days) |

|  |  |
| --- | --- |
| TOR No.6 | |
| Position | Biodiversity conservation and management expert |
| Duty Station | Vietnam and Cambodia |
| Responsibilities | Conduct the following activities:   * Collecting available maps, management plans and other relevant documents to biodiversity conservation and management in Mekong Delta * Provide report on assessment of biodiversity conservation plan and management in Mekong Delta |
| Requirements | Doctor's degree in ecology, natural resources management, systematic management, forestry or relevant; have at least ten years of working experience in relevant fields, of which, at least five years working in Mekong Delta. |
| Date | 01/2023 - 5/2023 (47 working days) |

|  |  |
| --- | --- |
| TOR No.7 | |
| Position | Biodiversity conservation and management expert |
| Duty Station | Vietnam and Cambodia |
| Responsibilities | Conduct the following activities:   * Collecting available maps, management plans and other relevant documents to biodiversity conservation and management in Mekong Delta * Provide report on assessment of biodiversity conservation plan and management in Mekong Delta |
| Requirements | Doctor's degree in ecology, natural resources management, systematic management, forestry or relevant; have at least ten years of working experience in relevant fields, of which, at least five years working in Mekong Delta. |
| Date | 01/2023 - 5/2023 (47 working days) |

|  |  |
| --- | --- |
| TOR No.8 | |
| Position | National phytoplankton and zooplankton expert |
| Duty Station | Vietnam |
| Responsibilities | Conduct the following activities:   * Collecting, verifying available information, and extracted reported data of phytoplankton and zooplankton in Mekong Delta * Conduct field surveys to collect data of phytoplankton and zooplankton in Vietnam sites * Prepare data following structure of project’s database |
| Requirements | Master's degree in biology, ecology, forestry; have at least ten years of working experience in a relevant field  Have good ability in writing, reading English  Have good experience in field surveys, including using field equipment  Have good ability in samples photographing |
| Date | 02/2023 - 12/2024 (85 working days) |

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| --- | --- |
| TOR No.9 | |
| Position | National Flora expert |
| Duty Station | Ho Chi Minh City, Vietnam and field sites in Vietnam |
| Responsibilities | Conduct the following activities:   * Collecting, verifying available information and extracted reported data of higher plants in Mekong Delta * Conduct field surveys to collect data of flora in Vietnam sites * Prepare data following structure of project’s database |
| Requirements | Master's degree in biology, ecology, forestry; have at least ten years of working experience in relevant fields  Have good ability in writing, reading English  Have at least five years’ experience in flora taxonomy  Have good experience in field surveys, including using field equipment  Have digital camera and good ability in samples photographing |
| Date | 02/2023 - 9/2024 (85 working days) |

|  |  |
| --- | --- |
| TOR No.10 | |
| Position | National Fungi Expert |
| Duty Station | Ho Chi Minh City, Vietnam and field sites in Vietnam |
| Responsibilities | Conduct the following activities:   * Collecting, verifying available information and extracted reported data of fungi in Mekong Delta * Conduct field surveys to collect data of fungi in Vietnam sites * Prepare data following structure of project’s database |
| Requirements | Master's degree in biology, ecology, forestry; have at least ten years of working experience in relevant fields;  Have good ability in writing, reading English  Have at least five years’ experience in fungi species taxonomy  Have good experience in field surveys, including using field equipment  Have digital camera and good ability in samples photographing |
| Date | 02/2023 - 9/2024 (85 working days) |

|  |  |
| --- | --- |
| TOR No.11 | |
| Position | National Mammal expert |
| Duty Station | Ho Chi Minh City, Vietnam and field sites in Vietnam |
| Responsibilities | Conduct the following activities:   * Collecting, verifying available information and extracted reported data of mammal in Mekong Delta * Conduct field surveys to collect data of flora in Vietnam sites * Prepare data following structure of project’s database |
| Requirements | Master's degree in biology, ecology, forestry; have at least ten years of working experience in the Mekong region and relevant fields  Have good ability in writing, reading English  Have at least five years’ experience in mammal species taxonomy  Have good experience in field surveys, including using field equipment  Have digital camera and good ability in samples photographing |
| Date | 02/2023 - 9/2024 (85 working days) |

|  |  |
| --- | --- |
| TOR No.12 | |
| Position | National Aves expert |
| Duty Station | Ho Chi Minh City, Vietnam and field sites in Vietnam |
| Responsibilities | Conduct the following activities:   * Collecting, verifying available information and extracted reported data of birds in Mekong Delta * Conduct field surveys to collect data of birds in Vietnam sites * Prepare data following structure of project’s database |
| Requirements | Master's degree in biology, ecology, forestry; have at least ten years of working experience in the Mekong region and relevant fields  Have good ability in writing, reading English  Have good experience in field surveys, including using field equipment  Have at least five years’ experience in bird species taxonomy  Have digital camera and good ability in bird photographing |
| Date | 02/2023 - 9/2024 (85 working days) |

|  |  |
| --- | --- |
| TOR No.13 | |
| Position | National herpetofauna expert |
| Duty Station | Ho Chi Minh City, Vietnam and field sites in Vietnam |
| Responsibilities | Conduct the following activities:   * Collecting, verifying available information, and extracted reported data of herpetofauna in Mekong Delta * Conduct field surveys to collect data of herpetofauna in Vietnam sites * Prepare data following structure of project’s database |
| Requirements | Master's degree in biology, ecology, forestry; have at least ten years of working experience in the Mekong region and relevant fields  Have good ability in writing, reading English  Have at least five years’ experience in herpetofauna species taxonomy  Have good experience in field surveys, including using field equipment  Have digital camera and good ability in sample and species photographing |
| Date | 02/2023 - 9/2024 (85 working days) |

|  |  |
| --- | --- |
| TOR No.14 | |
| Position | National benthos expert |
| Duty Station | Ho Chi Minh City, Vietnam and field sites in Vietnam |
| Responsibilities | Conduct the following activities:   * Collecting, verifying available information and extracted reported data of benthos in Mekong Delta * Conduct field surveys to collect data of benthos in Vietnam sites * Prepare data following structure of project’s database requirement |
| Requirements | Master's degree in biology, ecology, forestry; have at least ten years of working experience in the Mekong region and relevant fields  Have good ability in writing, reading English  Have at least five years’ experience in benthos species taxonomy  Have good experience in field surveys, including using field equipment  Have digital camera and good ability in sample photographing |
| Date | 02/2023 - 9/2024 (85 working days) |

|  |  |
| --- | --- |
| TOR No.15 | |
| Position | National insect expert |
| Duty Station | Ho Chi Minh City, Vietnam and field sites in Vietnam |
| Responsibilities | Conduct the following activities:   * Collecting, verifying available information and extracted reported data of insect species in Mekong Delta * Conduct field surveys to collect data of insects in Vietnam sites * Prepare data following structure of project’s database |
| Requirements | Master's degree in biology, ecology, forestry; have at least ten years of working experience in the Mekong region and relevant fields  Have good ability in writing, reading English  Have at least five years’ experience in entomology taxonomy  Have good experience in field surveys, including using field equipment  Have digital camera and good ability in sample photographing |
| Date | 02/2023 - 9/2024 (85 working days) |

|  |  |
| --- | --- |
| TOR No.16 | |
| Position | National fish expert |
| Duty Station | Ho Chi Minh City, Vietnam and field sites in Vietnam |
| Responsibilities | Conduct the following activities:   * Collecting, verifying available information and extracted reported data of fish species in Mekong Delta * Conduct field surveys to collect data of fishes in Vietnam sites * Prepare data following structure of project’s database |
| Requirements | Master's degree in biology, ecology, forestry; have at least ten years of working experience in the Mekong region and relevant fields.  Have at least five years’ experience in ichthyology taxonomy  Have good ability in writing, reading English  Have good experience in field surveys, including using field equipment  Have digital camera and good ability in sample photographing |
| Date | 02/2023 - 9/2024 (85 working days) |

|  |  |
| --- | --- |
| TOR No.17 | |
| Position | International phytoplankton and zooplankton expert |
| Duty Station | Cambodia |
| Responsibilities | Conduct the following activities:   * Conduct field surveys to collect data of phytoplankton and zooplankton in Cambodia sites * Prepare data following structure of project’s database |
| Requirements | Master's degree in biology, ecology, forestry; have at least ten years of working experience in a relevant field  Have good ability in writing, reading English  Have experience in working in Cambodia  Have good experience in field surveys, including using field equipment  Have good ability in samples photographing |
| Date | 06/2023 - 12/2023 (44 working days) |

|  |  |
| --- | --- |
| TOR No.18 | |
| Position | International Flora expert |
| Duty Station | Cambodia |
| Responsibilities | Conduct the following activities:   * Collecting, verifying available information and extracted reported data of higher plants in Mekong Delta * Conduct field surveys to collect data of flora in Cambodia sites * Prepare data following structure of project’s database |
| Requirements | Master's degree in biology, ecology, forestry; have at least ten years of working experience in relevant fields  Have good ability in writing, reading English  Have experience in working in Cambodia  Have at least five years’ experience in flora taxonomy  Have good experience in field surveys, including using field equipment  Have digital camera and good ability in samples photographing |
| Date | 06/2023 - 12/2023 (44 working days) |

|  |  |
| --- | --- |
| TOR No.19 | |
| Position | International Fungi Expert |
| Duty Station | Cambodia |
| Responsibilities | Conduct the following activities:   * Collecting, verifying available information and extracted reported data of fungi in Mekong Delta * Conduct field surveys to collect data of fungi in Cambodia sites * Prepare data following structure of project’s database |
| Requirements | Master's degree in biology, ecology, forestry; have at least ten years of working experience in relevant fields;  Have good ability in writing, reading English  Have experience in working in Cambodia  Have at least five years’ experience in fungi species taxonomy  Have good experience in field surveys, including using field equipment  Have digital camera and good ability in samples photographing |
| Date | 06/2023 - 12/2023 (44 working days) |

|  |  |
| --- | --- |
| TOR No.20 | |
| Position | International Mammal expert |
| Duty Station | Cambodia |
| Responsibilities | Conduct the following activities:   * Collecting, verifying available information and extracted reported data of mammal in Mekong Delta * Conduct field surveys to collect data of flora in Cambodia sites * Prepare data following structure of project’s database |
| Requirements | Master's degree in biology, ecology, forestry; have at least ten years of working experience in the Mekong region and relevant fields  Have good ability in writing, reading English  Have experience in working in Cambodia  Have at least five years’ experience in mammal species taxonomy  Have good experience in field surveys, including using field equipment  Have digital camera and good ability in samples photographing |
| Date | 06/2023 - 12/2023 (44 working days) |

|  |  |
| --- | --- |
| TOR No.21 | |
| Position | International Aves expert |
| Duty Station | Cambodia |
| Responsibilities | Conduct the following activities:   * Collecting, verifying available information and extracted reported data of birds in Mekong Delta * Conduct field surveys to collect data of birds in Cambodia sites * Prepare data following structure of project’s database |
| Requirements | Master's degree in biology, ecology, forestry; have at least ten years of working experience in the Mekong region and relevant fields  Have good ability in writing, reading English  Have experience in working in Cambodia  Have good experience in field surveys, including using field equipment  Have at least five years’ experience in bird species taxonomy  Have digital camera and good ability in bird photographing |
| Date | 06/2023 - 12/2023 (44 working days) |

|  |  |
| --- | --- |
| TOR No.22 | |
| Position | International herpetofauna expert |
| Duty Station | Ho Chi Minh City, Cambodia and field sites in Cambodia |
| Responsibilities | Conduct the following activities:   * Collecting, verifying available information, and extracted reported data of herpetofauna (Reptile and amphibia) in Mekong Delta * Conduct field surveys to collect data of herpetofauna in Cambodia sites * Prepare data following structure of project’s database |
| Requirements | Master's degree in biology, ecology, forestry; have at least ten years of working experience in the Mekong region and relevant fields  Have good ability in writing, reading English  Have experience in working in Cambodia  Have at least five years’ experience in herpetofauna species taxonomy  Have good experience in field surveys, including using field equipment  Have digital camera and good ability in sample and species photographing |
| Date | 06/2023 - 12/2023 (44 working days) |

|  |  |
| --- | --- |
| TOR No.23 | |
| Position | International benthos expert |
| Duty Station | Cambodia |
| Responsibilities | Conduct the following activities:   * Collecting, verifying available information and extracted reported data of benthos in Mekong Delta * Conduct field surveys to collect data of benthos in Cambodia sites * Prepare data following structure of project’s database requirement |
| Requirements | Master's degree in biology, ecology, forestry; have at least ten years of working experience in the Mekong region and relevant fields  Have good ability in writing, reading English  Have experience in working in Cambodia  Have at least five years’ experience in benthos species taxonomy  Have good experience in field surveys, including using field equipment  Have digital camera and good ability in sample photographing |
| Date | 06/2023 - 12/2023 (44 working days) |

|  |  |
| --- | --- |
| TOR No.24 | |
| Position | International insect expert |
| Duty Station | Cambodia |
| Responsibilities | Conduct the following activities:   * Collecting, verifying available information and extracted reported data of insect species in Mekong Delta * Conduct field surveys to collect data of insects in Cambodia sites * Prepare data following structure of project’s database |
| Requirements | Master's degree in biology, ecology, forestry; have at least ten years of working experience in the Mekong region and relevant fields  Have good ability in writing, reading English  Have experience in working in Cambodia  Have at least five years’ experience in entomology taxonomy  Have good experience in field surveys, including using field equipment  Have digital camera and good ability in sample photographing |
| Date | 06/2023 - 12/2023 (44 working days) |

|  |  |
| --- | --- |
| TOR No.25 | |
| Position | International fish expert |
| Duty Station | Cambodia |
| Responsibilities | Conduct the following activities:   * Collecting, verifying available information and extracted reported data of fish species in Mekong Delta * Conduct field surveys to collect data of fishes in Cambodia sites * Prepare data following structure of project’s database |
| Requirements | Master's degree in biology, ecology, forestry; have at least ten years of working experience in the Mekong region and relevant fields.  Have at least five years’ experience in ichthyology taxonomy  Have good ability in writing, reading English  Have experience in working in Cambodia  Have good experience in field surveys, including using field equipment  Have digital camera and good ability in sample photographing |
| Date | 06/2023 - 12/2023 (44 working days) |

|  |  |
| --- | --- |
| TOR No.26 | |
| Position | Mobile application expert |
| Duty Station | Vietnam |
| Responsibilities | Conduct the following activities:   * Design and build Mobile App (Android and IOS) for biodiversity data collecting |
| Requirements | Master’s degree in Geoinformatics, Informatics, Geology and Geography  Have at least five-years working in geography, Geoinformatics, Informatics, Geology.  Have at least five-years working with mobile application  Have at least one projects working with mobile application |
| Date | 01/2023 - 7/2023 (120 working days) |

Appendix 6: CV

CVs of Proposed Project Team

1. **Name:** LUU Hong Truong
2. **Proponent Organization:** Southern Institute of Ecology
3. **Proposed Position:** Project manager
4. **Date of Birth:** 21st January 1974. **Citizenship:** Vietnamese.
5. **Complete personal contact details:**

Address: Apartment 12.1, 14B Ky Dong Street, Ward 9, District 3, Hochiminh City, Vietnam.

Mobile phone: (84) 9 65 61 00 31

Email: [hongtruongluu@gmail.com](mailto:hongtruongluu@gmail.com) or [lhtruong@sie.vast.vn](mailto:lhtruong@sie.vast.vn)

1. **Education:**

**1992 - 1996:** BSc. in *Biology*, specialized in *Ecology and Environment* at University of Natural Sciences, Vietnam National University-Ho Chi Minh City. Thesis: *Pragmatic identification keys for the Fabaceae, Lythraceae and Dipterocarpaceae in Cat Tien National Park, Vietnam*. Thesis mark: 9/10.

**1997 - 2000:** MSc. in *Ecology and Resources* at University of Natural Sciences, Vietnam National University-HoChiMinh City. Thesis: *The Flora of Ta Kou Mountain, Ta Kou Nature Reserve, Binh Thuan Province, Vietnam*. Thesis mark: 9/10.

**2001 –** **2005**: Ph.D. student at the Institute for Forest Genetics and Tree Breeding, Faculty of Forest Sciences and Forest Ecology, Georg-August University of Goettingen, Germany, including a 6-month German course at the Goethe-Institut Goettingen from September 2001 to March 2002. PhD thesis: *Genetic variation and the reproductive system of Dipterocarpus* cf*. condorensis Pierre in Vietnam*. Graduation evaluation: Magna cum Laude.

1. **Membership in Professional Associations:**

* American Society of Plant Taxonomists ([http://www.aspt.net](http://www.aspt.net/)) since 2017.
* Non-Timber Forest Products Exchange Programme for South and Southeast Asia (<http://www.ntfp.org>) since 2005.
* International Camellia Society (<http://www.internationalcamellia.org>) since 2013.
* Vietnam River Network (<http://www.vrn.org.vn>) since 2013.

1. **Other Trainings:**

**Nov 2011:** *Training on Barcoding Informatics and Laboratory Barcoding Protocols,* training at the fourth international barcode of life conference, University of Adelaide, Australia.

**Nov 2010**: *International herbarium technique course¸* organized by the Royal Botanic Gardens, Kew (UK) at Sirikit Botanic Garden, Chiang Mai, Thailand.

**July 2010:** *Analysis of data from forest dynamics plots*, organized by Forest Research Institute of Malaysia.

**May 2010:** *Training on Global Biodiversity Information Facility and the Publication and Use of Biodiversity Data,* organized by the Global Biodiversity Information Facility (GBIF) and ITB in Ho Chi Minh City.

**Nov 2009:** *Training workshop on Bioinformatics*, organized by GBIF and ASEAN Center for Biodiversity, Bangkok, Thailand.

**Aug 2009:** *Training Course BRAHMS – Botanical Research and Herbarium Management System*, organized by SEP, Oxford University and ITB in Ho Chi Minh City.

1. **Countries of Work Experience:** [in the last 10 years]

|  |  |
| --- | --- |
| **Country** | **Time of experience** |
| Germany | June-December 1999; 2001-2005; 2017 |
| Cambodia, China, India, Indonesia, Japan, Laos, Malaysia, Myanmar, Philippines, Singapore, Taiwan, Thailand | Short study/conference visits since 1998 to 2019 |
| US | Short study visits in 2013, 2016, 2018 |

1. **Language:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Writing** | **Reading** | **Speaking** | **Language** |
| Mother tounge | Mother tongue | Mother tounge | Vietnamese |
| good | good | good | English |
| fair | fair | poor | German |

1. **Employment Record**

| **Date from - to** | **Location** | **Employer organizations and reference persons** | **Position** | **Work Undertaken that Best illustrates Capability to Handle the project** |
| --- | --- | --- | --- | --- |
| **01/2022 – now** | Vietnam | Southern Institute of Ecology (SIE), Institute of Applied Material Science, under the Vietnam Academy of Science and Technology | Director | Mange all activities of the institute |
| **8/2016 –****12/2021** | Vietnam | Southern Institute of Ecology (SIE), under the Vietnam Academy of Science and Technology | Director | Mange all activities of the institute |
| **2012 –****7/2016** | Vietnam | Southern Institute of Ecology (SIE), under the Vietnam Academy of Science and Technology | Vice Director,*cum* Chair of Scientific Committee | Mange all activities of the institute |
| **2011 –** **2015** | Vietnam | Loyola University (Chicago, US) | Invited lecturer | Provide the lectures on the subject of course: *Humans and the Environment in Contemporary Viet Nam* |
| **2007 –****2012** | Vietnam | Institute of Tropical Biology, under the Academy of Science and Technology | Head of Department of Biological Resources | Responsible for the national herbarium VNM and biodiversity studies |
| **2005 – 2007** | Vietnam | Department of Environment Technology and Management, Institute of Tropical Biology | Researcher | Responsible for studies in plant resources |
| **1999 –****2002** | Vietnam | University of Natural Sciences, Vietnam National University-Ho Chi Minh City | Invited researcher | Responsible for Isozyme Lab and Population Genetics at Department of Botany and Ecology |
| **1995 – 1996** | Vietnam | French National Center for Research and Science (CNRS) in Vietnam | Researcher | Responsible for identifying tree species of the 3 families of Dipterocarpaceae, Fabaceae and Lythraceae in Cat Tien National Park |

**12. Other relevant information** (e.g., Publications)

**SELECTED GRANTEE OF THE FOLLOWING DONORS:**

1. Vietnam Ministry of Science and Technology: VND 4,35 billion (equal to USD 185,000, 2020-2022)
2. Botanic Gardens Conservation International, UK: £27,000 (2019-2021)
3. Center for Tropical Forest Science, Smithsonian Institutions, Washington DC, USA: USD 125,000 (2018-2020)
4. Pastor Dalbert Rice Small Grant Fund (Philippines): EUR 6,000 (2015-2016).
5. Vietnam National Fund for Science and Technology Development (NAFOSTED): VND 650 million (equal to USD 32,000, 2014-2015)
6. Department of Natural Resources and Environment, Khanh Hoa Province (Vietnam): VND 2.3 billions (equal to USD 115,000, 2011-2013)
7. Ministry of Science and Technology (Vietnam): VND 5.7 billions (equal to USD 275,000, 2011-2015)
8. MacArthur Foundation (USA): USD 150,000 (2009-2012) (with Dr. Vu Ngoc Long)
9. NC-IUCN/EPG (The Netherlands): EUR 60,000 (2008-2010)
10. Cordaid (The Netherlands): EUR 12,500 (2007)
11. MacArthur Foundation (USA): USD 200,000 (2006-2009) (with Dr. Vu Ngoc Long)

**CURRENT COMMITTEE MEMBERSHIP**

* Member of Scientific Board for Biology and Agriculture, Vietnam National Foundation for Science and Technology (NAFOSTED).
* Member of Scientific Advisory Board, Lang Biang Biosphere Reserve, Vietnam, 2016-now.
* Member of Scientific Committee for Biodiversity and Biologically Active Substances, Vietnam Academy of Science and Technology, 2016-now.
* Member of Management Board of National Collections for Vietnam National Museum of Nature, Vietnam Academy of Science and Technology, 2016-now.
* Member of Scientific Advisory Board, International Center for Tropical Highlands Ecosystems Research, Bidoup Nui Ba National Park, Da Lat, Vietnam, 2014-now.

# SELECTED PEER-REVIEWED PAPERS

1. de Lima, R.A.F., Phillips, O.L., …, Luu, H.T.,… & al., 2022. Making forest data fair and open. Nature Ecology & Evolution. https://doi.org/10.1038/s41559-022-01738-7.
2. Chen, W.C., Ebihara, A., Cheng, K.Y., Hsu, T.C., Huang, Y.M., Dang, V.D., **Luu, H.T.**, Le, V.S. & Li, C.W., 2021. Studies of Vietnamese Pteridophyte Flora 1. Systematic Botany 46(3): 573–581.
3. Lin, C.W., Hsu, T.C., **Luu, H.T.**, Nguyen, I.L.P.T., Yang, T.Y.A. & Li, C.W., 2021. Revision of *Begonia* (Begoniaceae) in Bidoup - Nui Ba National Park, Southern Vietnam, including two new species. Phytotaxa 496(1): 77–89.
4. Davies, S.J., Abiem, I., Salim, K.A., Aguilar, S., Allen, D., Alonso, A., Anderson-Teixeira, K., Andrade, A., Arellano, G., Ashton, P.S, ...., **Luu, H.T.**, & al., 2020. ForestGEO: Understanding forest diversity and dynamics through a global observatory network. Biological Conservation 253: 108907.
5. Nuraliev, M.S., Yudina, S.V., Vuong, T.B., Do, T.X., **Luu, H.T.**, Kuznetsov, A.N. & Kuznetsova, S.P., 2020. A revision of the family Thismiaceae (Dioscoreales) in Cambodia, Laos and Vietnam. Phytotaxa 441 (3): 229–250.
6. Middleton, D.J., Armstrong, K., Baba, Y., Balslev, H., Chayamarit, K., Chung, R.C.K., Conn, B.J., Fernando, E.S., Fujikawa, K., Kiew, R., **Luu, H.T**., Aung, M.M., Newman, M.F., Nobuyuki, T., Tagane, S., Thomas, D.C., Tran, T.B., Utteridge, T.M.A., van Welzen, P.C., Widyatmoko, D. & Yahara, T., 2019. Progress on Southeast Asia’s Flora projects. Gardens' Bulletin Singapore 71 (2): 267–319.
7. Chen, C.W., Kuo, L.Y., Huang, Y.H., Hsu, T.C., Dang, M.T., **Luu, H.T.**, Li, C.W. & Huang, Y.M., 2019. A New Species and a New Record of *Stegnogramma* (Thelypteridaceae; Polypodiales) from Southern Vietnam. Systematic Botany 44(4): 768–774.

**SELECTED SCIENTIFIC REPORTS**

1. Mekong River Commission (MRC), 2017 (co-author). The Council Study: Study on the sustainable management and development of the Mekong River, including impacts of mainstream hydropower projects. BioRA Final Technical Report Series. Volume 4: Assessment of Planned Development Scenarios. Final Report. Vientiane, Lao PDR. 145 pp.
2. **Luu, H.T.**, Hoang, M.D., Vu, N.L., Truong, Q.T., Le, B.T. & Nguyen, K.T., 2009. *Action Plan of Conservation of the Kien Luong Karst Landscape, Kien Giang Province, Vietnam 2010-2015*. CBD/ITB & IUCN.

**Certification:**

I, the undersigned, certify to the best of my knowledge and belief:

|  |  |  |
| --- | --- | --- |
|  | Yes | No |
| i) This CV correctly describes my qualifications and my experience | ☑ | ☐ |
| ii) I am employed by the proponent organization | ☑ | ☐ |
| iii) I was part of the team who wrote the Expression of Interest (EOI) for this proposed project | ☑ | ☐ |

I certify that I have been informed by the proponent organization that it is including my CV

in the EOI/proposal. I confirm that that I will be available to carry out the assignment for which my CV has been submitted, in accordance with the implementation arrangements and schedule set out in the proposal.

I understand that any willful misstatement may lead to disqualification or dismissal, and any other MKCF disciplinary action.

Name: Luu Hong Truong Date: 05th May 2022

Signature:

**CVs of Proposed Project Team**

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Name:** | Tran Van Bang | | |
| **2. Proponent Organization:** | Southern Institute of Ecology | | |
| **3. Proposed Position:** | Project coordinator | | |
| **4. Date of Birth** | 29 Jul 1987 | **Citizenship** | Vietnamese |
| **5. Complete personal contact details:** | | | |
| Address: 20/7 Street No.3, Go Vap District, Ho Chi Minh City  Mobile: 0909569957  Email: vn.vanbang@gmail.com | | | |

|  |
| --- |
| **6. Education:** |
| 2010 - 2013 **M.Sc. Ecology,** University of Natural Sciences – National University of Ho Chi Minh City  2005 - 2009 **B.Sc** **Biology,** University of Natural Sciences – National University of Ho Chi Minh City |
|  |

|  |  |
| --- | --- |
| **7. Membership in Professional Associations:** | |
| Since 2010 | Member, International Primate Society |
| Since 2017 | Member, IUCN SSC Primate Specialist Group – SE Asia |
| **8. Other Trainings:** | |
| **December 2018** | Training on Bio-acoustic and DNA Barcoding at The Museum of Natural History, Berlin, Germany. Host by Museum of Natural History, from September 2018 to December 2018 |
| **May 2018** | *Workshop on Joint Monitoring of Asian Terrestrial Soundscape.* Host by Academia Sinica Grid Computing Centre (ASGC), Taiwan |
| **November 2014** | *Workshop on Joint Monitoring of Asian Soundscape*, Taiwan. Host by Taiwan Forestry Research Institute and Academia Sinica Grid Computing Centre |
| **August 2012** | 2012 *Pre-Congress Training Program for Primate Conservation*, Cancun, Mexico. Host by International Primatological Society |
| **May 2011** | *Study and monitoring primate behavior: A workshop for Asian Conservation Professionals*, Singapore. Hosted by Wildlife Reserves Singapore group |
| **July 2009** | *Primates behavior and locomotion,* Binh Thuan Province, Vietnam. Hosted by Center for Diversity and Development, Institute of Tropical Biology |
| **November 2008** | *Biodiversity and Primates monitoring course,* Binh Thuan Province, Vietnam. Hosted by Center for Diversity and Development, Institute of Tropical Biology |
| **9. Countries of Work Experience:** | |
| Cambodia | Short survey for 10 days, in 2014 |
| Germany | August 2018 – December 2018, intern working at Berlin Natural History Museum |

**10. Languages:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Languages** | Speaking | Reading | Writing |
| Vietnamese | Mother Tongue | Mother Tongue | Mother Tongue |
| English | Good | Good | Good |

**11. Employment Record:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Date from – to** | **Location** | **Employer organizations and reference persons** | **Position** | **Work Undertaken that Best illustrates Capability to Handle the project** |
| Jan. 2022 - Now | Vietnam | Southern Institute of Ecology, Institute of Applied Materials | Vice Director | Responsibilities for all activities related to zoological research, administrative works |
| Sep.2012 - 2021 | Vietnam | Southern Institute of Ecology, Viet Nam Academy of Science and Technology | Vice Head of Department of Zoology | Responsibilities for all activities related to zoological research, including:   * Coordinate projects * Working with local stakeholder to organize workshops * Provide consultant services to international organizations such as FFI, WWF |
| 2009-Sep.2012 | Vietnam | Centre for Biodiversity and Development, Institute of Tropical Biology | Researcher | Conduct field survey for biodiversity inventory, focusing on vertebrate fauna. |

**12. Other relevant information** (e.g., Publications)

1. Quy, L. T. & **Bằng, T. V.** (2020). Ảnh hưởng của khách du lịch đến tập tính của Dơi ngựa ở Khu dự trữ sinh quyển Cần Giờ, Thành phố Hồ Chí Minh. Trang 120-128. Hội nghị Khoa học 45 năm Viện Hàn lâm Khoa học và Công nghệ Việt Nam - Tiểu ban Đa dạng sinh học và các chất có hoạt tính sinh học. Nhà xuất bản Khoa học Tự nhiên và Công nghệ, Hà Nội.
2. Nguyen, H. N., **B. V. Tran**, L. H. Nguyen, T. Neang, P. V. Yushchenko & N. A. Poyarkov (2020). A new species of Oligodon Fitzinger, 1826 from the Langbian Plateau, southern Vietnam, with additional information on Oligodon annamensis Leviton, 1953 (Squamata: Colubridae). PeerJ 8:e8332.
3. **Tran, B. V**., Le, D., Hoang, H. Q. and Hoang, D. M. (2019). Occurrence data of terrestrial vertebrates of Son Tra Peninsula, Da Nang City, Vietnam. Biodiversity Data Journal **7**: e39233.
4. **Tran, V. B**., M. A. Nguyen, D. Q. Nguyen, Q. B. T. Truong, A. Ang, H. H. Covert, and D. M. Hoang (2017) Current conservation status of Germain’s langur (*Trachypithecus germaini*) in Vietnam. Primates 58(3):435-440**.**
5. **Tran Van Bang** and Hoang Minh Duc (In press). A Yun Pa Propose Natural Reserve: Initial data on primate fauna. *The Fifth National Conference on Ecology and Bioresources*
6. **Tran, V.B.,** Hoang, M.D., Luu, H.T., Workman, C., Covert, H. (2019). Diet of the Annamese langur (*Trachypithecus margarita*) (Elliot, 1909) at Takou Natura Reserve, Binh Thuan Province, Vietnam. Raffles Bulletin of Zoology, 67: 352-362.
7. Hoang M.D, **Tran, V.B**., Covert, H H. & Luu H.T. (2010) Conservation Status of Primates in Takou Nature Reserve. In Nadler, T., Rawson, B.M. & Van N.T. (Eds.) *Conservation of Primates in Indochina.* Hanoi, Frankfurt Zoological Society and Conservation International, pp91-98
8. Covert, H.H., Hoang, M.D., Luu, H.T., **Tran, V.B.** (2010) Primate diversity, conservation and behavioral ecology at Takou Nature Reserve, Binh Thuan Province, Vietnam [Abstract]. *American Journal of Physical Anthropology,* 141(S50): 86.
9. **Tran Van Bang**, Hoang Minh Duc, H. H. Covert and L. H. Truong. 2009. Group composition and spatial distribution of black-shanked douc langur (*Pygathrix nigripes*) at Takou Mountain, Takou Nature Reserve, Binh Thuan Province [In Vietnamese]. Pages 1195 - 1200. *The Third National Conference on Ecology and Bioresources*. The Agriculture Publishing house, Hanoi
10. Hoang M.D, Covert H.H., **Tran, V.B.,** (2010) Current Status of the black-shanked douc in Vietnam, in *Quest for coexistence with nonhuman primates.* The 23rd International Primatological Society Congress. Abstract 340

**Certification:**

I, the undersigned, certify to the best of my knowledge and belief:

|  |  |  |
| --- | --- | --- |
|  | Yes | No |
| i) This CV correctly describes my qualifications and my experience | ☑ | ☐ |
| ii) I am employed by the proponent organization | ☑ | ☐ |
| iii) I was part of the team who wrote the Expression of Interest (EOI) for this proposed project | ☑ | ☐ |

I certify that I have been informed by the proponent organization that it is including my CV

in the EOI/proposal. I confirm that that I will be available to carry out the assignment for which my CV has been submitted, in accordance with the implementation arrangements and schedule set out in the proposal.

I understand that any willful misstatement may lead to disqualification or dismissal, and any other MKCF disciplinary action.

Name: Tran Van Bang Date: 4th May 2022

Signature:

**Appendix 6: CV**

**CVs of Proposed Project Team**

1. **Name:** TRAN THAI BINH, PhD
2. **Proponent Organization:** Hochiminh city Space Technology Application Center, Vietnam National Space Center
3. **Proposed Position:** Vice Director
4. **Date of Birth:** 15th, December 1972 **Citizenship:** Vietnamese
5. Complete personal contact details:

Address: 22 Str. No. 4, Phước Kiển A residential, Nhà Bè District Mobile: 0933994442

Email: ttbinh@vnsc.org.vn/ [thaibinhtran@gmail.com](mailto:thaibinhtran@gmail.com)

# Education:

|  |  |
| --- | --- |
| 2014 | PhD level. |
| 2009 – 2013 | PhD student Bonn university; DLR (German Aerospace |
|  | Center), Germany |
| 2005 - 2008 | Master degree (Utilization and Protection of Natural Resources) at VietnamNationalUniversity- Ho Chi Minh City |
| 1991 – 1995 | Bachelor degree (University of Ho Chi Minh City). A four-year program in Geography |
|  | Le HongPhongHigh school, Ho Chi Minh City |
| 1986 – 1990 |  |

1. **Membership in Professional Associations:**

- Member of VietnamGeodesy, Cartography and Remote Sensing Association.

# Other Trainings:

|  |  |
| --- | --- |
| 2000 | Training course on Marine Remote Sensing with |
|  | Ocean Color Image, held in the Asian Institute of |
|  | Technology (AIT), Thailand in 2000, Sponsored |
|  | by NASDA. |
| 05/2003– 05/2004 | GRID – Arendal, Norway |
| 06/2015 | Project Management Course - DAAD |

1. **Countries of Work Experience:** [in the last 10 years]

**Name of the Project:** Hậu Giang Agriculture Information System

**Year:** 2019 – 2020

**Location:** Hâu Giang Province

Client: Hậu Giang Department of Science and Technology

**Position held:** project leader

**Activities performed:** Building an Agriculture Information System using WebGIS open sources

**Budget:** 1.500.000.000 VND

**Name of the Project:** Bến Tre Irrigation Information System

**Year:** 2017 – 2019

**Location:** Bến Tre Province

Client: Bến Tre Department of Science and Technology

**Position held:** project leader

**Activities performed:** Building an Irrigation Information System using WebGIS open sources

**Budget:** 1.200.000.000 VND

**Name of the Project:** An Giang Agriculture Information System

**Year:** 12/2016 – 4/2018

**Location:** Ho Chi Minh City

Client: An Giang Department of Science and Technology

**Position held:** Project leader

**Activities performed:** Building an Agriculture Information System using WebGIS open sources

**Budget:** 1.500.000.000 VND

**Name of the Project:** Vũng Tàu oil spills coping plan

**Year:** 1/2015 – 12/2015

**Location:** Ho Chi Minh City

Client: Ba Ria - Vung TauProvince Flood and Storm Prevention Steering Committee

**Position held:** Project leader

**Activities performed:** Building an Environmental Sensitivity Index (ESI) Maps with oil spill cases

**Budget:** 1.900.000.000 VND

**Name of the Project:** Long An Natural resource and Environment Database

**Year:** 2014 – 2016

**Location:** Ho Chi Minh City

Client: Long An Department of Natural resource and Environment

**Position held:** Project leader

**Activities performed:** Building an Web-based application for Natural resource and Environment management

**Budget:** 3.00.000.000 VND

Name of the Project: Study on the temporal GIS database design and application for cadastral data in HCMC

**Year:** 2007 – 2008

**Location:** Ho Chi Minh City

Client: HCMC Department of Science and Technology

**Position held:** GIS Specialist

**Activities performed:** Building temporal GIS database design and application for cadastral data in HCMC

Name of the Project: Application of RS and GIS for monitoring river bank changes supporting flood control in HCMC area.

**Year:** 2000 - 2001

**Location:** Ho Chi Minh City

Client: HCMC Department of Science and Technology

**Position held:** GIS Specialist

Activities performed: Building an application of RS and GIS for monitoring river bank changes supporting flood control in HCMC area

**Name of the Project:** Vietnam – Canada Environment Project, VCEP – Phase II

**Year:** 2000 - 2002

**Location:** Long An Province **Client:** Long An DoNREs **Position held:** GIS Expert **Activities performed:** Mapping

**Name of the Project:** GIS application in irrigation networks management in Tien Giang, Tra Vinh Provinces

**Year:** 2008 - 2009

**Location:** Tien Giang, Tra Vinh

Client: The Southern Institute Of Water Resources Research

**Position held:** GIS & Database Expert

**Activities performed:** Building a GIS application

Name of the Project: Using remotely sensed data and GIS technique for monitoring the changes of Mekong and SaiGon – Dong Nai riverbank, and coastal shoreline in the south of Vietnam

**Year:** 2000 - 2001

**Location:** Ho Chi Minh City

# Client:

**Position held:** GIS Specialist

**Activities performed:** Mapping

Name of the Project: Detailed design for Ho Chi Minh City (HCMC) water environment improvement project funded by JICA (Japan)

**Year:** 1999 - 2000

**Location:** Hochiminh

**Client:** JICA

**Position held:** GIS and Database Expert, supervising CAD operators

**Activities performed:** Mapping and checking ACAD files

Name of the Project: Master plan on drainage and sewerage system development for HCMC Project funded by JICA

**Year:** 1998 - 1999

**Location:** Hochiminh

**Client:** JICA

**Position held:** GIS and Database Expert

**Activities performed:** Mapping and checking ACAD files

**Name of the Project:** Feasibility study for drainage and sewerage system development for HCMC project

**Year:** 1998 - 1999

**Location:** Hochiminh

**Client:** JICA

**Position held:** GIS and Database Expert

Activities performed: Analyzing area, population, thessen polygon. Study on existing drainage and sewerage system of HCMC, making F/S for drainage and sewerage system development

1. **Languages:** [Mother Tongue/Excellent/Good/Fair/Poor]

|  |  |  |  |
| --- | --- | --- | --- |
| **Language** | **Speaking** | **Reading** | **Writing** |
| English | Fair | Fair | Fair |
| German | Fair | Fair | Fair |

# Employment Record:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Date from- to** | **Location** | **Employer organizations and reference persons** | **Position** | **Work Undertaken that Best illustrates Capability to**  **Handle the project** |
| 12/1995 –  4/1999 | HCMC/Vietnam | DITAGIS Center, Hochiminh city University of  Technology | GIS  specialist |  |
| 4/1999 –  12/2006 | HCMC/Vietnam | Center of IT anh Remote sensing, Institute of physics  Hochiminh city | GIS  specialist |  |
| 01/2007 –  12/2013 | HCMC/Vietnam | GIS and Remote sensing Research Center, Hochiminh city Institute of  Resources Geography | GIS  specialist |  |
| 01/2014 –  12/2015 | HCMC/Vietnam | GIS and Remote sensing Research Center, Hochiminh city Institute of Resources  Geography | Director of Center |  |
| 01/2016 –  01/2018 | HCMC/Vietnam | GIS and Remote sensing Research Center, Hochiminh city Institute of Resources Geography | Director of Center; Vice Director of the  Insitute |  |
| 02/2018 –  present | HCMC/Vietnam | Hochiminh city Space Technology Application Center, Vietnam National  Space Center | Vice Director of Center |  |

1. **Other relevant information (e.g., Publications)**

Certification:

I, the undersigned, certify to the best of my knowledge and belief:

|  |  |  |
| --- | --- | --- |
|  | Yes | No |
| i) This CV correctly describes my qualifications and my experience | ☑ | ☐ |
| ii) I am employed by the proponent organization | ☐ | ☑ |
| iii) I was part of the team who wrote the Expression of Interest (EOI) for this proposed project | ☑ | ☐ |

I certify that I have been informed by the proponent organization that it is including my CV in the EOI/proposal. I confirm that that I will be available to carry out the assignment for which my CV has been submitted, in accordance with the implementation arrangements and schedule set out in the

proposal.

I understand that any willful misstatement may lead to disqualification or dismissal, and any other MKCF

disciplinary action.

Name:Tran Thai Binh Signature:

Text, letter

Description automatically generated

Date: May 4, 2022

Appendix 6: CV

CVs of Proposed Project Team

1. Name: Kidong Kim
2. Proponent Organization: National Institute of Ecology(NIE) in Korea
3. Proposed Position: Ecobank expert/ International Biodiversity database expert
4. Date of Birth: 25th October 1968.
5. Complete personal contact details:

Address: Halla Vivaldi Apartment 303-1703, 131, Galmaejungang-ro, Guri-si, Gyeonggi-do, Republic of Korea.

Mobile phone: (82) 10 3256 4033

Email: kidongkim68@gmail.com or [kidong@nie.re.kr](mailto:kidong@nie.re.kr)

1. Education:

1987 - 1992: BSc. In Geology at University of Natural Sciences, Yonsei University, ROK.

1992 - 1994: MSc. In Geophysics and GIS at University of Natural Sciences, Yonsei University, ROK. Thesis: A Study on the Groundwater Movement and Contamination using Geographic Information System(GIS) : User interface development

2000 - 2006: Ph.D. in Earth System Science at University of Natural Sciences, Yonsei University, ROK. PhD thesis: Prediction and Verification of Ground Subsidence at Abandoned Underground Coal Mine Area using GIS - Examples from Samcheok City, Kangwon-do, Korea

|  |  |
| --- | --- |
| 1. Membership in Professional Associations**:** | |
| since 2021 .7 | Board member of GeoAI DATA Society(www.gaidas.org) |
| since 2019.11 | Editorial board member of PNIE journal (proceedings of the NIE) |
| since 2019.9 | Editorial board member of GEODATA journal ( https://geodata.kr/) |
| since 2018.6 | Technical Committee member of ISO/TC 276 |
| 1. Countries of Work Experience: | |
| China, Taiwan | Short visit (cooperation) in 2018 |
| Japan | Joint research project in 2017 |
| England(U.K) | Short visits(cooperation) in 2012, 2015 |

1. **Language:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Language** | **Speaking** | **Reading** | **Writing** |
| Korean | Mother tongue | Mother tongue | Mother tongue |
| English | good | good | good |

1. **Employment Record:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Date from - to** | **Location** | **Employer organizations** | **Position** | **Work undertaken that Best**  **illustrates Capability to Handle the project** |
| 01/2014 -  now | Republic of Korea | National  Institute of Ecology(NIE) | Director | Manage overall projects and researches of Ecological Applications Research Division |
| 10/2008 -  12/2013 | Republic  of Korea | National  Institute of  Environmental  Research(NIBR) | Senior  Researcher | Participate in National  Ecosystem Survey project  Ecological data analysis with  GIS |
| 3/2007 -  8/2008 | Republic  of Korea | Sejong  University  (Seoul, Korea) | Invited  researcher | National geological hazard  management with spatial  database and GIS |
| 3/2005 -  2/2007 | Republic  of Korea | Yonsei University  (Seoul, Korea) | Researcher | Analysis of Remote sensed  imagery and aerial photos  using GIS |
| 2/2003 -  9/2004 | Republic  of Korea | SsangYong  Information and  Communications  Corporation | Manager | Technical consultant (GIS) for telecommunication company and domestic public institution |
| 9/1994 -  1/2000 | Republic  of Korea | SsangYong  Information and  Communications  Corporation | Assistant  manager | Development of system for  remote sensed imagery  analysis  Wireless telecommunications  coverage analysis |

1. **Representative Papers:**
2. EcoBank: A Flexible Data Platform for Sharing Ecological Data, Biodiversity Data Journal, 2021
3. A Study on the Data Cleaning and Standardization of National Ecosystem Survey in Korea, The Korean Society of Limnology, 2020
4. A Study on the Strategies for Publishing Data Journals in the Field of Ecology: Focused on K Institution, Journal of Korean Library and Information Science Society, 2020
5. Development and Applications of Ecological Data Portal Service (EcoBank) for Sharing Ecological Information of Korea, The Korean Society of Limnology, 2018
6. The Biodiversity Informatics Landscape: Elements, Connections and Opportunities, RIO journal, 2017
7. The Analysis on Causes of Areas with Public Appeals to the Ecosystem and Nature Map, Journal of Korean Environment and Restoration Technique, 2017'
8. Analysis and prediction for spatial distribution of functional feeding groups of aquatic insects in the Geum river, The Korean Association of Geographic Information Studies, 2013
9. Community analysis and biological water quality evaluation of benthic macroinvertebrate in Wangpi-cheon watershed, Korean Society of Environment and Ecology, 2013
10. Habitat classification and distribution characteristic of aquatic insect functional feeding groups in the Geum river; Korea, Korean Society of Environment and Ecology, 2011
11. Integration of a subsidence model and SAR interferometry for a coal mine subsidence hazard map in Taebaek, Korea, International Journal of Remote Sensing, 2011
12. Application of a fuzzy operator to susceptibility estimations of coal mine subsidence in Taebaek City, Korea, Environmental Earth Sciences, 2010
13. Statistical Spatial Modeling of Ground Subsidence Hazard near an Abandoned Underground Coal Mine, Disaster Advances , 2010
14. Prediction of Ground Subsidence in Samcheok City, Korea using artificial neural networks and GIS, Environmental Geology, 2009
15. Determination of Gravity and Calibration of a Superconducting Gravimeter at MunGyung Observatory, Korea, Geosciences Journal, 2009
16. Analysis of Ground Subsidence in Coal Mining Area using SAR Interferometry,
17. Geosciences Journal, 2008
18. Assessment of ground subsidence hazard near an abandoned underground coal mine using GIS, Environmental Geology, 2006
19. Certification:

I certify that the information in this document and any attached documents is true and correct. I understand that any willful misstatement may lead to disqualification or dismissal, and any other MKCF disciplinary action.

Name: Kidong Kim Date: 3 August 2022

Signature:

Appendix 6: CV

CVs of Proposed Project Team

1. **Name:** Sanghun Lee
2. **Proponent Organization:** National Institute of Ecology
3. **Proposed Position:** Ecobank expert/ International Biodiversity database expert
4. **Date of Birth:** 5th May 1971. **Citizenship:** Republic of Korea.
5. **Complete personal contact details:**

Address: 1210 Geumgang-ro, Maseo-myeon, Seocheon-gun, Cuungcheongnam-do, 33657, Republic of Korea.

Tel: 82 41 950 5621

Email: sanghunlee@nie.re.kr

1. **Education:**

Ph.D. 2006, The Graduate School of Integrated Basic Sciences, Nihon University, Japan

M.S. 2003, The Graduate School of Integrated Basic Sciences, Nihon University, Japan

B.S. 2001, Department of Geography, Hosei University, Japan

1. **Countries of Work Experience:** [in the last 10 years]

|  |  |
| --- | --- |
| **Country** | **Time of experience** |
|  |  |
|  |  |
|  |  |

1. **Language:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Writing** | **Reading** | **Speaking** | **Language** |
| Mother tounge | Mother tongue | Mother tounge | Korean |
| good | good | good | English |
|  |  |  |  |

1. **Employment Record**

| **Date from - to** | **Location** | **Employer organizations and reference persons** | **Position** | **Work Undertaken that Best illustrates Capability to Handle the project** |
| --- | --- | --- | --- | --- |
| January 2015 ~ Now | Korea | Nation Institute of Ecology | Team leader | Mange all activities of the institute |
| July 2013 ~ January 2015 | Republic of Korea | Korea Institute of Atmospheric Prediction Systems | Junior researcher | Mange all activities of the institute |
| January 2010 ~ July 2013 | Republic of Korea | Departments of Civil and Environmental Engineering, Sejong University | Junior researcher |  |
| May 2008 ~ November 2009 | Republic of Korea | Severe storm research center, Ewha Womans University | Post doctoral scientist |  |
| April 2006 ~ March 2008 | Japan | The Institute of Natural Sciences, Nihon University | Post doctoral scientist |  |

**12. Other relevant information** (e.g., Publications)

# SELECTED PEER-REVIEWED PAPERS

1. **Sang-Hun Lee**, Sang-Hak Han, Na-Hyun Ahn, (2022) Cases and Implications of Response to Climate Crisis Using Ecosystem-Based Adaptation (EbA) Approach. Environmental Law and Policy, 29, 1-20.
2. Dong-Su Yu, Oh-Chang Kwon, Man-Seok Shin, Jung-Kyu Kim, **Sang-Hun lee**, (2022) Effects of climate factors on the nationwide distribution of wild aculate (Insecta: Hymenoptera). Korean J. Environ. Ecol. 36-3, 303-317.
3. Ju Hyun Song, Sang Hak Han, **Sang Hun Lee**, Chung Weon Yun, (2021) Ecological characteristic of Abies Koreana Stand structure of Mt. Jirisan and Mt. Hallasan. Journal of Korean Society of Forest Science, 110-4, 590-600.
4. **Sang-Hun Lee**, Na-Hyun Ahn, (2021) Seasonal changes and the biodiversity of the butterfly community on Gogeumdo Island, Jeonnam, Korea. The Journal of Korean Island, 33-4, 165-179.
5. Na-Hyun Ahn, **Sang-Hun Lee**, Sei-Woong Choi, (2021) A study on the biodiversity and seasonal changes of macromoths inhabiting the warm temperatute deciduous forest on Wando-Arboretum. The Journal of Korean Island, 33-4, 141-164.
6. Sang-hak Han, Chulhyun Choi, Jeom-Sook Lee, **Sanghun Lee**, (2021) Environmental and ecological characteristics influencing spatial distribution of halophytes in Hampyeong bay, Koera, Proceeding of The National Institute of Ecology, 2-4, 219-228.
7. Na-Hyun Ahn, **Sang-Hun Lee**, Jeong-seop An, (2020) Phenological changes and biodiversity of butterfly community on cheongsando island. The Journal of Korean Island, 32-4, 287-299.
8. Sang Hak Han, Chung Weon Yun, Sanghun Lee, (2020) Phenophase extraction from repeat digital phetograpphy in the noethern temperate type deciduous broadleaf forest. ournal of Korean Society of Forest Science, 109-4, 361-370.
9. **Sanghun Lee**, Nahyun ahn, jeong-Seop An, (2020) Altitudinal diversity and distribution of butterflies inhabiting Mt. Jirisan, South Korea. Korean journal of environmental biology, 38(4):497-506.
10. Rae-Ha Jang, Seung-Yeon Lee, Eung-Pill Lee, Soo-In Lee, Eui-Joo Kim, **Sang-Hun Lee** and Young-Han You (2019) Organic carbon distribution and budget of dominant woody plant community in the subalpine zone at volcanic Jeju Island, Korea. Journal of Ecology and Environment, (2019)43:40.
11. Eung-Pill Lee, Soo-In Lee, Heon-Mo Jeong, Young-Sub Han, Seung-Yeon Lee, Jae-Hoon Park, Rae-Ha Jang, Youg-Sik Hong, Young-Ho Jung, Eui-Joo Kim, **Sang-Hun Lee**, Young-Han You, (2019) Valuation of ecosystem services in the organic carbon of the pinus densiflora forest at Mt. Namsan, Seoul metropolitan city. Journal of Ecology and Environment, (2019)43:35.
12. Sang-Hak, Han, Chung-Weon Yun, Ju-Hyeon, Ho-Jin Kim, Jeong-Eun Lee, I-Seul Yun, Yoon-Seo Yoo, Sang-Hun Lee, (2019) The ecological characteristrics by micro-topographies of beech forest in Ulleung Island. 33-6, 686-694.
13. **Sanghun Lee**, Baek-Jun Kim and Kon Joon Bhang, (2019) Habitat Analysis of Endangered Korean Long-Tailed Goral (Naemorhedus caudatus raddeanus) with Weather Forecasting Model. Sustainability, 11, 6086.
14. Sei-Woong Choi, Jeong-Seop An, Nang-Hee Kim, **Sanghun Lee**, Nahyun Ahn, (2019) Long-term (2005–2017) macromoth community monitoring at Mt. Jirisan National Park, South Korea. Ecological research, 34: 443.
15. Ju Hyeon Song, Sang Hak Han, **Sang Hun lee**, Chung Weon, (2019) Changes for stand structure of Abies koreana forest at the Yeongsil area Mt. Hallasan for six years (from 2011 to 2017). Journal of Korean Society of Forest Science, 108, 1-9.
16. Jin-Yong Kim, Changwan Seo, Seungbum Hong, **Sanghun Lee**, Soo Hyung Eo, (2019) Altitudinal range-size distribution of breeding birds and environmental factors for the determination of species richness: An empirical test of altitudinal Rapoport’s rule and non-directional rescue effect on a local scale. Plos one14(1):e0203511.
17. Hak-sub Shin, hye-jin Kim, Chung-Weon Yun, **Sang-hun Lee**, (2018) Population dynamics and distribution of machilus thunbergil in Ulleung-do. J. Korean Env. Res. Tech. 21-3, 83-98.
18. **Sang-Hun Lee**, Jeong-Seop An, Na-hyun Ahn, (2018) Temporal changes and biodiversity of the butterfly community on the lsland of Wando. The Journal of Korean Island, 30-3, 211-223.
19. Soon-In Lee, Eung-Pill Lee, Young-Ho Jung, Eui-JU Kim, Jae-Keun Lee, Seung-Yeon Lee, Jae-Hoon Park, **Sang-Hun Lee**, Young-Han You, (2018) Study of ecological response of endangered Sarcandra glabra(Thunb) Nakai according to moisture andnutrient under condition of climate change for propagation and restoration. Korean J. Environ. Ecol. 32-1, 30-38.
20. Jin-Yong Kim, **Sanghun Lee**, Man-Seok Shin, Chang-Hoon Lee, Changwan Seo and Soo Hyung Eo, (2018) Altudinal patterns in breeding bird species richness and density in relation to climate, habitat heterogeneity, and migration influence in South Korea' PeerJ, 4857 1-18.
21. Jeong-seop An, Hak-Sub Shin, Sang-Hak Han, Sun-ah choi, S**ang-Hun Lee**, Jung-Hyo Lee, Chung-Weon Yun, (2017) Vegitation community structure and Moth (Insecta: Lepidoptera) diversity in *Quercus Acuta* on Sanghwangbong, Wandogun. The Journal of Korean Island, 29-1, 239-251.
22. **Sanghun Lee**, Deg-Hyo Bae, and Chun-Ho Cho (2013) Changes in future precipitation over South Korea using a global high-resolution climate model. Asia-Pacific Journal of Atmospheric Sciences (Accepted 2013/4/19)
23. Baek-Jun Kim, Su-Jin Kim, Jun-Gu Kang, Sungjin Ko, Sohyun Won, Hyewon Kim, Heung-Chul Kim, Myung-Soon Kim, Sung-Tae Chong, Terry A. Klein, **Sanghun Lee**, and Joon-Seok Chae (2013) First Report for the Seasonal and Annual Prevalence of Flea-Borne Bartonella from Rodents and Soricomorphs in the Republic of Korea. Vector-Borne and Zoonotic Diseases, 13, DOI: 10.1089/vbz.2012.1115.
24. **Sanghun Lee**, Deg-Hyo Bae (2012) Local effects of climate change over South Korea with a high-resolution climate scenario. Climate research 54: 85-93.
25. **Sanghun Lee**, Hiroko Tsuchida and Shuji Yamakawa (2008) Climatological features of 2005/06 heavy snowfall in the Hokuriku district - In comparison with 1962/63 and 1980/81 heavy snowfall -. Proceedings of the institute of natural sciences, Nihon University. 43, p303-312. (in Japanese)

**Certification:**

I, the undersigned, certify to the best of my knowledge and belief:

|  |  |  |
| --- | --- | --- |
|  | Yes | No |
| i) This CV correctly describes my qualifications and my experience | ☑ | ☐ |
| ii) I am employed by the proponent organization | ☐ | ☑ |
| iii) I was part of the team who wrote the Expression of Interest (EOI) for this proposed project | ☐ | ☑ |

I certify that I have been informed by the proponent organization that it is including my CV

in the EOI/proposal. I confirm that that I will be available to carry out the assignment for which my CV has been submitted, in accordance with the implementation arrangements and schedule set out in the proposal.

I understand that any willful misstatement may lead to disqualification or dismissal, and any other MKCF disciplinary action.

Name: Sanghun Lee Date: 02th August 2022

Signature: