



Environment and Natural Resources Information
System (ENRIS) for Palawan towards Food
Security and Water Quality Improvement
(36 months/ 8.80 million USD)

Republic of the Philippines

Project/Program Concept Paper

05 September 2022

<i>Applicant Information</i>	
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PROJECT/PROGRAM CONCEPT PAPER (PCP)

SECTION 1. BASIC PROJECT INFORMATION		
1.1	Country	Philippines
1.2	Title	Establishing Environment and Natural Resources Information System (ENRIS) for Palawan towards Food and Water Sufficiency
1.3	Region(s)/Location(s)	Palawan, MIMAROPA Region, Philippines
1.4	Duration	36 months (2023-2026)
1.5	Budget (total)	US\$ 8.80 million
	- KOICA funding	US\$ 8.00 million
	- Partner government funding	US\$ 0.80 million
	- Other donor funding	Not applicable
1.6	Objectives	To establish a web-based Environment and Natural Resources Information System (ENRIS) that will contribute to the efficient land-use, maintenance of ecosystem condition and enhance provision of ecosystem services, water and food security, and climate change adaptability aligned with the Environmentally Critical Areas Network (ECAN) Management Program and the UN Sustainable Development Goals (SGDs) thru realization of advanced scientific decision support.
1.7	Beneficiary	<ol style="list-style-type: none"> 1. Communities, individual farmers and indigenous peoples 2. People's organizations and farmers' groups 3. Civil society groups 4. Local Government Units (LGUs): Provincial Government; Municipal Government; Municipal Agricultural Officers, Municipal Environment and Natural Resources Office; City Government of Puerto Princesa; Municipal/City Environment and Natural Resources Office 5. Provincial/Municipal Environment and Natural Resources Offices-Department of Environment and Natural Resources 6. Department of Agriculture and other National Government Agencies (NGAs) 7. Palawan Council for Sustainable Development (PCSD)

		8. Women and women's groups 9. Private investors 10. Academic community 11. Banks and other financing institutions
1.8	Implementing organization	PCSD
	- Type	Please check a type of the implementing organization in the boxes. <input type="checkbox"/> Central/national government <input type="checkbox"/> Provincial government <input type="checkbox"/> Public organization <input checked="" type="checkbox"/> Others – National Government Agency (NGA) – of provincial coverage
	- Major functions	<p>The PCSD, which is established through Republic Act 7611, is a multi-sectoral planning, policy-making, and coordinating body responsible for the governance implementation, and policy direction of the Strategic Environmental Plan (SEP). The SEP Law is purposefully designed for the province of Palawan to ensure that the province's fragile environment is protected, conserved, utilized, and managed effectively.</p> <p>The PCSD is provided with proper fiscal and financial capability to ensure the effective and efficient implementation of related environmental programs.</p> <p>The PCSD is also the management authority of the Palawan UNESCO Biosphere Reserve.</p>
	- Annual budget (2022)	Php126,375,000.00 / USD2,255,166.1373 (1USD=56.038Php as of 30 August 2022)
	- Number of staff	75 permanent staff; 142 contract of services
1.9	Is this a resubmission of a previous PCP?	No
SECTION 2. PROJECT DESCRIPTION		
2.1	Objectives/Outcome/Outputs: Please outline the objectives, the expected outcomes, and outputs of the Project. Please provide the detailed information as an annex 2 (Project Design Matrix). If relevant, gender equality/women's empowerment can be manifested as one of the objectives or sub-objectives.	
	OBJECTIVE: To establish a web-based Environment and Natural Resources Information System (ENRIS) that will contribute to efficient land-use, enhanced ecosystem condition and services, water and food security, and climate change adaptability aligned with the Environmentally Critical Areas Network (ECAN) Management Program. The specific	

	<p>objectives are as follows:</p> <ol style="list-style-type: none"> 1. To systematize land resources data and information; 2. To retrieve existing analog data and build an up-to-date database; and 3. To integrate all data on biophysical, social, and land-uses as the basis for a decision support system for the following: <ul style="list-style-type: none"> • Rational land-use planning and development • Land productivity • Natural resources management • Development of regulatory policies <p>OUTCOMES:</p> <ol style="list-style-type: none"> 4. Data accessibility improved and knowledge and awareness enhanced 5. Environment and Agroecosystem governance improved 6. Environment and Agroecosystem information management, analysis technology, and application of information technology related to land-use management, water and food security, and climate change adaptation enhanced 7. Palawan eco-region's environment, water security and productivity through the realization of advanced scientific decision support improved <p>OUTPUTS:</p> <ol style="list-style-type: none"> 1. Informatization Master Plan 2. Environment and Agroecosystem Database 3. On-site and Geographic Information System (GIS) based soil, water and micro-climate monitoring stations 4. Web-based Environment and Natural Resources Information System, may include thematic maps and overlays: ECAN map, Land Use map, Protected Areas (PA), Marine Protected Areas (MPAs), Certificate of Ancestral Domain Certificate (CADC), Certificate of Ancestral Domain Titles (CADT), Forest Land Use Agreement (FLAg), Hazard maps, Network of Protected Areas for Agriculture and Agro-Industrial Development (NPAAAD), and Strategic Agriculture and Fisheries Development Zone (SAFDZ) 5. Equipment and capacity building for sustainable project operation 6. Memorandum of Agreement (MoA) on data sharing mechanism with DOST PAG-ASA and NAMRIA (1) on populating information databases; and (2) access and sharing of ENRIS data requirement 7. Knowledge product on project technology/innovations
2.2	<p>Activities: Please describe what will be carried out in terms of planned activities, their timing and duration, and who will be responsible for each activity. It should indicate the sequence of all major activities and implementation milestones. Please provide the detailed information as an annex 3 (Project Work Plan).</p> <ol style="list-style-type: none"> 1. Pre-project execution and social and institutional preparation (Y1: Q3-Q4) This will involve agreement signing, preparation, and submission of the inception report that will define how and when the project components will be implemented,

	<p>the selection and engagement of project consultants, physical arrangements and establishment of the Project Management Unit (PMU), and social preparation of key stakeholders and partners.</p> <p>2. Informatization master planning (Y2: Q1-Q3) This will involve defining the technical details of the project and discussing the strategy for the engagement of stakeholders and partners and how to ensure uptake by the targeted users. And the possibility of the existing data and new data for the establishment of bio-economic modeling.</p> <p>3. Establishment of land, soils, water, and microclimate monitoring stations Physical installation of satellite-based monitoring stations in select permanent monitoring sites, initially in the 12 catchment/watershed areas based on the following criteria: (a) Supports significant productive lands; (b) not a recipient of the previous development project; (c) supplies ecosystem services (i.e., water provisioning and nutrient regulation) to major development centers.</p> <p>The following environmental parameters will be collected: <i>Water.</i> Physico-chemical i.e., pH, BOD, TSS, Fecal Coliform, Flow Rate, Phosphate, Nitrate, Color/turbidity, and Temperature <i>Soil.</i> Physico-chemical i.e., NPK, Soil micronutrients, pH, Soil moisture, and Temperature <i>Climate.</i> Ambient temperature, Precipitation, Solar radiation</p> <p>4. Field Data Acquisition, validation, analysis, and interpretation (Y2: Q2-Q4; Y3 Q1-Q3) 1/10,000 Land Cover and Land Use map, NPAAAD, and SAFDZ. The activity will involve the application of remote sensing and geospatial information technology for the analysis of potential large areas for Special Economic Zones and Agricultural development, among others. This will also involve the conduct of field survey/ground truthing of agricultural land use map/vegetation map to identify and map potential NPAAAD/SAFDZ as agricultural protected areas. This activity will require the engagement of partner agencies that generate related thematic maps. A Memorandum of Agreement (MOA) will be pursued on data/information-sharing.</p> <p>5. Establishment of Hydro-meteorological stations and ENRIS data base (Y2: Q2-Q4; Y3: Q1-Q2). This component will involve data mining, updating and data generation (including the acquisition of remotely sensed data). This will focus on priority ecosystem services related to water and food security, and climate change adaptation in Palawan eco-region. This will also involve the generation of micro-climate data through the installation of hydro-meteorological stations in strategic sites within the identified 12 watershed areas.</p> <p>6. Development of Web-based ENRIS (Y2: Q4; Y3: Q1-Q4; Y4:Q1-Q2).</p>
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	<p>The component will develop a web-based application geo-referenced decision tool. The application will be developed for easy accessibility of data and information by concerned stakeholders and other users for decision. This includes the development of thematic map layers. It will have the following features:</p> <ul style="list-style-type: none"> - <i>Thematic maps and overlays:</i> ECAN map, Land Use map, PA, MPAs, CADC, CADT, FLAg, Hazard maps, NPAAAD and SAFDZ - <i>Soils and agriculture information system</i> System development to provide the soils and land resource information for the Region so that soil and land characteristics can be applied and integrated into the Philippines' soils and land resource database accordingly - <i>Water resources facility geographic information system</i> Provides information on watersheds and existing water resource facilities for agricultural areas to ensure efficient management - <i>Organic farm facility information system</i> Provides the information on related organic farm facilities for efficient management - <i>Fertilizer Management Information System</i> Develop a system for prescribing fertilizer used for each crop based on the chemical properties of the soil - <i>Water stream management information system</i> Provides information on the rivers and water streams flowing to agricultural land, and its related facilities to support administrative work for efficient management - <i>Real-time micro-climate monitoring system</i> Contains monitored data from micro-climate stations and linkage with a web-based system to be managed and visualized for the 12 selected watershed areas - <i>Real-time water level monitoring system</i> Contains monitored data from water level stations and linkage with a web-based system to be managed and visualized for the 12 selected watershed areas <p>7. Capacity Building (Y2: Q3, Y3: Q1-Q2, Q4; Y4: Q1-Q2) A training needs assessment shall be formulated to develop training modules and information materials for both the end users and the technical team that will maintain the information system.</p> <p>8. Procurement of Equipment Support (Y2:Q3-Q4; Y3: Q1-Q4; Y4: Q1-Q2) This component involves the procurement of hardware, software, and field monitoring equipment to run the information system.</p>
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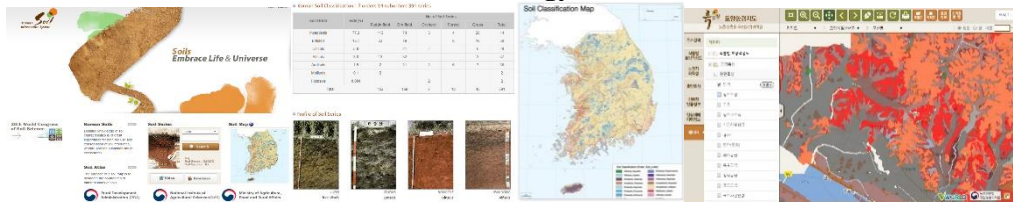
	<p>9. Upload and Web-testing of Database and Information System (Y4:Q1-Q2) This activity will test-run the system to make the necessary modifications and enhancements.</p> <p>10. Project monitoring (Y2-Y4). This component will ensure that the project deliverables are on track, institutional arrangements are in place, and a sustainability plan is developed early in the project implementation. A Project Steering Committee (PSC) and a Project Management Unit (PMU) shall be convened for the project</p>
SECTION 3. PROJECT RATIONALE	
3.1	<p>SITUATION ANALYSIS: Please provide a brief introduction to the current social and economic situation related to the Project (geographic region and beneficiaries, etc.)</p> <p><i>Population Growth</i> The population in the province of Palawan, including the city of Puerto Princesa, is projected to grow 7.2% from 1,216,008 in 2020 to 1,303,583 residents in 2025, based on the 2015 Population Census. (PSA. 2021). An increase in demands for necessities, land area for agricultural and household needs, and development in the province can be expected as a result of its population growth. In regards to this, ensuring the protection, conservation, and sustainable management of the environment and natural resources is necessary for the betterment of the quality of life of the present and future generations through the integration of development and environmental protection programs. Scenario analysis and planning for necessary strategies and actions in the future should be taken into consideration to achieve long-term benefits for the continuous provision of ecosystem goods and services for the people of the province of Palawan.</p> <p><i>Water Insufficiency</i> A large part of the province of Palawan experiences water shortage during dry months from November to April. The capital of Palawan province in the Philippines, Puerto Princesa City (PPC), is one of the major tourist destinations in the country (Figure 2). It is where tourism arrival increases yearly while the basic assumption for the water supply system has remained unchanged, addressing demands only from domestic, commercial, and institutional connections. Water shortage has been constantly experienced, especially during summer months when tourist arrival peaks and little precipitation is received. These lead to a further increase in groundwater extraction. Saltwater intrusion had already been observed. The development of a new surface water source is proposed which potentially may lead to unsustainable water management practices in the absence of scientific data. (Dela Cruz, 2018). In October 2019, Montible Watershed was established by the Puerto Princesa City Water District (PPCWD) to provide the increasing water demand of the city as a result of the growing population and tourism industry in the province. (Montible Integrated Watershed Management Plan, 2022.)</p> <p><i>Food Insecurity</i> Considering the island nature and geographical isolation of Palawan from the rest of the country, there is a need to ensure water and food security and climate change resilience of over 1M population (including that of Puerto Princesa City). Many of the food commodities such as eggs, garlic, onion, fruits, and vegetables are either produced locally on a limited</p>

	<p>scale and/or need to be imported outside of the province. There is an urgent need to develop these high-value crops for food self-sufficiency and at the same time help farmers improve their household income, especially in this uncertain time of changing climate and pandemic. Meantime at the national level, Palawan had become a major rice producer but productivity needs to be improved considering that average production (wet and dry season combined) is low at 3.3 mt/ha, compared to the national average of 4.77 mt/ha (5.68/ha during the wet season and 3.84 hectares during the dry season (Borley et al, 2016).</p> <p>In 2012, the holders/farm operators in Palawan totaled 90,000 as compared to only 39,000 in 1980. This represents an increase of 131% over more than 2 decades. The area of farm holdings represents 238,000 ha in 1980 but declined to only 175,000 ha in 2012. Among the provinces in the MIMAROPA Region, Palawan had the biggest loss in its total farm area from 1980 to 2012 most probably due to land use conversion or lack of farm labor. Note that the economy of Palawan shifted from agriculture to mining and quarrying representing (32.2%), other services (tourism-related) (10.9%), transport, storage, and communication, (7.14) construction, (6.4%), real-estate, renting and business activities (6.1%), etc., leaving only 21.1% of workforce to agriculture sector (PSA, 2012).</p> <p>Of the 175,000 hectares of farm holdings, 74,000 ha were devoted to temporary crops; 90,000 ha to permanent crops, 6,000 ha comprised home lots, and 5,000 ha to other uses. Meantime, this area of farm holdings is operated by 90,000 farmers where 47,000 operators till temporary crops; 36,000 permanent crops; while the rest use their landholdings for home lots with agricultural crops and other uses. Meantime, during the same period, the average farm size likewise declined by 68% from 6.1 ha in 1980 to only 1.9 ha or 68% in 2012.</p> <p>The farm operators were reported to be dominated by males representing 80% of the total 90,000 individuals as compared to only 20% of female operators. The median age of farm operators was recorded at 46.2 years. The average age of female and male farm operators was reported at 49.5 years and 46.9 years, respectively.</p> <p>Cropping intensity and yield are low (e.g., irrigated rice and corn yields are only 70% and 73%, respectively, of the national average). Land suitability analyses indicated misuse. For example, only 14.7% of the area grown for corn and 64.3% of the area planted for coconut are on-site suitable for these crops.</p> <p><i>Climate Change</i></p> <p>The human-ecological system of Palawan islands is susceptible to climate change. An overall warming trend of 0.16°C per decade is recorded in the province in the last half-century. There is a need to increase the adaptive capacity of its peoples and ecosystems to adverse climate impacts. This necessitates integrated management of natural capital to maintain the stock of ecosystems that provide a flow of essential services to its people.</p> <p>The ongoing impacts of climate change in Palawan can be classified into four types:</p> <ol style="list-style-type: none"> 1. <i>Loss of habitat</i> - coral reef mortality following mass coral bleaching events due to increase in SST; loss of breeding grounds (e.g., submerged beaches will lose the breeding grounds of marine turtles) 2. <i>Stress to natural ecosystems and wildlife species</i> – the dissolution of shells of some marine organisms; breeding failure of certain species 3. <i>Loss of ecosystem goods and services</i> – coastal flooding and inundation of coastal ecosystems; coastal beach erosion; the intrusion of saltwater into farms and low-
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	<p>lying water sources; reduced fishery resources; drying of water sources and watersheds and reduced availability of water</p> <p>4. <i>Damage to life, property, infrastructure, and food sources</i> – decline in productivity and loss of productive areas; human and wildlife displacement (‘climate refugees’); forest fires; urban heat island effect; vector-borne diseases (malaria, dengue); flooding of low-lying areas; erosion, sedimentation, and local landslides</p>
3.2	<p>PROBLEM TO BE ADDRESSED: Please describe the problem or critical issue which the project seeks to resolve, how the problem was identified, and how will the Project address the problem. If relevant, analysis on gender equality needs to be described.</p> <p>The degradation of the condition of the environment has far-reaching impacts on the provision of ecosystem services that support the economy and social-cultural life of the Palawan communities. The cause of these degradations and their socio-economic ramification that need to be addressed through information generation, provision, and access for decisions related to the agroecosystem include the following:</p> <ol style="list-style-type: none"> 1. Insufficiency of water for agricultural, domestic, and industrial use especially during extended dry months is impacted by a changing climate. The agricultural productivity of the lowlands depends on the ecological stability of the watershed areas. Meanwhile, flooding is increasingly becoming frequent. The provisioning, regulatory, and supporting of the function of the forest ecosystem need to be safeguarded and enhanced to ensure continuous availability of water when needed through sustainable watershed management; 2. Encroachment of settlements into forest and agricultural lands as a result of urban growth and in-migration. With a high migration rate and fast development, there is an increasing land conversion and settlements in forestlands and prime agricultural lands. The lowland’s pace and state of development provide “pull” or “push” factors of migration patterns. For example, lack of employment opportunities and uncertainty of land tenure can drive people to seek opportunities elsewhere including the hinterlands and salvage zones. Thus, the zonal interdependencies between the lowlands and the uplands cannot be ignored, more so in the face of climate change and fast-growing population and its implications; 3. Poor soil condition. The coastal and alluvial landscapes have deep, near-level soils often with poor internal and external drainage. Soils of variable depth, more often quite deep, are found in the foothill and mountain landscapes, where external drainage is excessive and with high erodibility. Laboratory data showed that all soils in Palawan are particularly in need of phosphate while nitrogen and potassium are also often deficient. Soil pH is often low. In certain cases, iron and aluminum toxicities as well as Ca-Mg imbalances occur. Overall, the soils are of low to moderate fertility and require proper fertilization and/or liming for sustained levels of productivity; and, 4. Relative low crop yield compared to the national average. For instance, the average rice yield per hectare in Palawan is only 3.3 mt/ha as compared to the national average of 4.77 mt/ha. (combined average yield for dry and wet seasons).

	<p>This project would mainly aim to develop an information system and mobile application that would be useful for management of natural resources. Through the use of mobile application, stakeholders can easily access data on soil and agriculture, water resources, fertilizer management, real-time micro-climate monitoring system, and real-time water level monitoring system of selected watershed areas. Thus, they can be able to determine the condition of their agricultural lands and come up with better decision for land management, which would eventually contribute to inclusive and sustainable rural development.</p>
3.3	<p>COUNTRY DEVELOPMENT STRATEGIES AND POLICIES: Please describe how the Project relates to other relevant national development strategies and policies, and provide the ongoing status of their implementation, results and effects, if any.</p> <p>The Project will contribute to the implementation of the following policies and strategies:</p> <p><i>Sub-national level: Republic Act 7611 or the Strategic Environmental Plan for Palawan Act</i></p> <p>Support PCSD in achieving sustainable development in Palawan as a complementary tool in implementing the ECAN which is the main strategy for implementation of SEP. ECAN is a graded system of protection and development control over the whole of Palawan.</p> <p>Protection areas include Core Zone, Restricted Use Area, and Controlled Use Area, while development areas include Traditional Use Area and Multiple Use Zone where agriculture activities are allowed.</p> <p>Environmental Monitoring and Evaluation System (EMES) is a support mechanism for ECAN establishment that ensures a systematic and reliable means of data generation for the various concerns of the SEP. It consists of Geographic Information System (GIS), Environmental Laboratory, ECAN Resources and Natural Capital Monitoring (NCM), Sustainable Development Monitoring of Industries, Sustainable Financing, and Knowledge Management lodged ECAN Monitoring and Evaluation Division (EMED).</p> <p>Using GIS and Natural Capital Accounting, PCSD can monitor land cover change in Palawan Biosphere Reserve (BR), particularly in the context of ECAN zones, and analyze its ecological, economic, social, and governance implications.</p> <p>The Environmental Laboratory allows PCSD to sustain its effort to monitor residuals to the environment thru periodic analysis of the water quality of rivers in priority watersheds. The combination of these tools allows PCSD to understand the interaction of the environment and anthropologic activities to enhance and generate policies and programs that will contribute to human well-being.</p> <p>This also responds to the Palawan Sustainable Development Agenda adopted by the Palawan Council for Sustainable Development through PCSD Resolution No. 16-562, which localized the UN Sustainable Development Goals.</p> <p><i>National level: AmBisyon Natin 2040</i></p>

	<p>AmBisyon Natin 2040 represents the collective long-term vision and aspirations of the Filipino people for themselves and the country in the next 25 years, capsuled in the statement “The life of all Filipinos in 2040: Matatag, Maginhawa at Panatag na Buhay” (By 2040, Filipinos enjoy a strongly rooted, comfortable, and secure life). It is an anchor for development planning across at least four Philippine administrations.</p> <p>AmBisyon can be partly achieved by having competitive enterprises that offer quality goods and services at affordable prices while protecting our natural capital. Government must encourage investments in these sectors by improving market linkages, simplifying government procedures, and facilitating access to finance. These should be complemented by appropriate human capital development, science, technology, and innovation. Agriculture (including food production, commercial and industrial crop, agricultural biotechnology, etc.) is one of the priority sectors that have a direct impact on AmBisyon (2040.neda.gov.ph).</p> <p><i>Global level:</i> United Nations Sustainable Development Goals</p> <p>The Sustainable Development Goals (SDGs) were adopted by all United Nations Member States in 2015 as a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030. The 17 SDGs are integrated—that is, they recognize that action in one area will affect outcomes in others and that development must balance social, economic, and environmental sustainability.</p> <p>Through the pledge to <i>Leave No One Behind</i>, countries have committed to fast-track progress for those furthest behind first. Everyone is needed to reach these ambitious targets. The creativity, know-how, technology, and financial resources from all of society are necessary to achieve the SDGs in every context (sdgs.un.org).</p> <p>The implementation of the Project will support the achievement of SDGs: 1 – No Poverty, 2 – Zero Hunger, 8 – Decent Work and Economic Growth, 9 – Industry, Innovation and Infrastructure, 11 – Sustainable Cities and Communities, 12 – Responsible Consumption and Production, 14 – Life Below Water, 15 – Life on Land, and 17 – Partnerships for the Goals.</p>
3.4	<p>JUSTIFICATION FOR INTERVENTION: Please describe how the need for the Project was determined, and what the rationale/justification for the Project (why the Project is considered to be the most effective way the problem is resolved.).</p> <p>The conventional methods of generating and providing access to the reliable, accurate, and organized environment and market data/information, to understand the dynamics of natural systems and economic system (environment-economic interactions), has their limitations in crafting appropriate and implementable policy recommendations and decisions relating to the development, sustainability, water and food security, and climate proofing. The use of Remote Sensing techniques and Geographic Information System (GIS) has emerged as important tools in land use/vegetation mapping, biomass and yield estimation, soil moisture assessment,</p>

	<p>crop disease and infestation evaluation, and settlement and population mapping, among the many applications of space technology.</p> <p>Space-based technology is of value to local communities, resource scientists, policy makers, and other interest groups who desire to simultaneously enhance ecosystem capacity and economic profitability. For example, remote sensing satellites provide key data for monitoring ecosystem conditions, soil, drought, and crop development. Rainfall assessments from satellites help farmers plan the timing and amount of irrigation they will need for their crops. Accurate information and analysis can also help predict a region's agricultural output well in advance and can be critical in anticipating and mitigating the effects of food shortages and famines.</p> <p>Governance, using the ECAN thematic map, is a piece of important information that will be included in the information system that will guide users in identification and access to development zones (Traditional Use Area and Multiple Use Zone) where agricultural activities are allowed and prevent further encroachment in protection zones (Core Zone, Restricted Use Area, Controlled Use Area). The inclusion of the ECAN map as a parameter will ensure the sustainability of agriculture and the ecosystems providing the services that contribute to crop production</p>
<p>3.5</p>	<p>LESSONS LEARNED: Please describe what lessons Partner Country has drawn on (from Partner Country's own and other's past experience) in designing this Project.</p> <p>An advanced case of soil information technology of South Korea</p>  <p>Not only has South Korea already established a database of soil-related information, but it also developed an environment and natural resources system in the area of soil information system. As in Korea's superior example, the local governments will be able to identify the optimal locations of crops in the Philippines through the soil, water, and climate information systems, making this accessible to users in all areas of governance. This includes agriculture workers to raise agricultural output and promote sustainable agriculture development. These systems will contribute to the rationalization and modernization of agricultural policy decisions. In Korea, the government already has an excellent system to make the optimal decision-making system for agriculture, compared to the low dependence on agriculture. On the other hand, since the Philippines is heavily dependent country on agriculture, it is believed that the introduction of the system will have a greater effect.</p>
<p>SECTION 4. STAKEHOLDER ANALYSIS</p>	

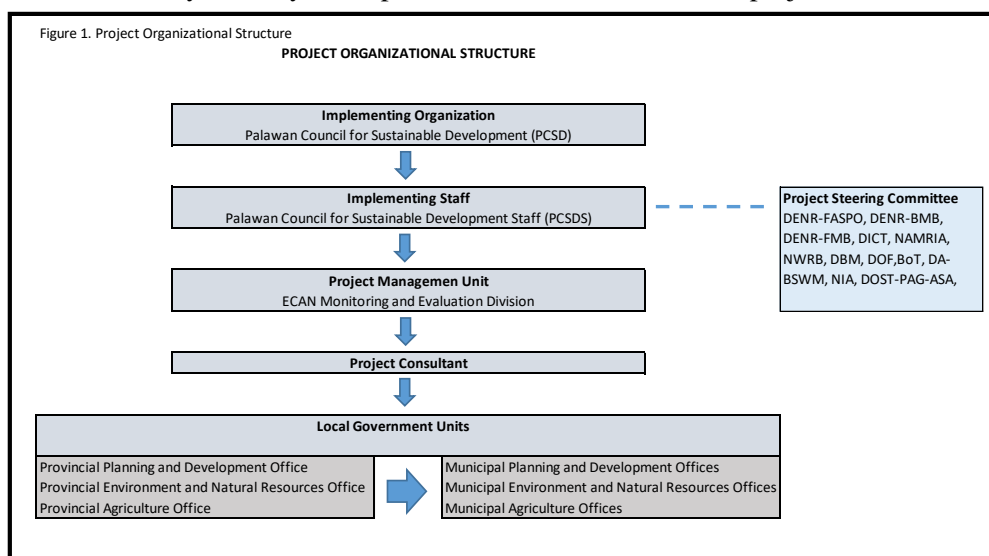
4.1	<p>TARGET BENEFICIARY: Please describe the following information: a) direct and indirect/wider beneficiary group, b) number of beneficiary, with gender segregation if necessary (e.g. 300 children rather than children in 3 schools), c) how the target group was identified, d) why they were selected as target group, e) how intended beneficiaries have been involved in Project design, and their expected role in Project implementation and evaluation. If relevant, the target group needs be disaggregated by sex.</p>
	<p>The ecosystem goods and services provided by the natural system are important in the development of economic sectors such as agriculture, a major economic sector that drives the socio-economic life of the Province of Palawan, and the City of Puerto Princesa in the Palawan Ecological Region. In 2017, the sector contributed 21.1% with a sector growth of 6.8% (PSA), second to mining and quarrying. The sector together with forestry and fishery accounts for 57.90 % of the total labor force for the province in 2011 (Community-Based Monitoring System). To develop the agriculture sector and increase its contribution to Palawan's economy, resiliency, food security, and reduce poverty in the countryside, this project will target stakeholders at all levels of governance. They include People's organizations and farmers' groups, Civil society groups, Local Government Units (LGU), Department of Environment and Natural Resources, Department of Agriculture and other National Government Agencies (NGA), Palawan Council for Sustainable Development (PCSD), Private investors, Researchers, Banks, and other financing institutions. Important groups are the students and youths that need to be tapped as next-generation farmers.</p>
4.2	<p>OTHER STAKEHOLDERS: Please describe other stakeholders (e.g. partner government agency, international organization, NGO, donor agency, etc.), if any, including a) name/group, b) respective role(s) and cooperation/coordination mechanism, etc.</p>
	<p>Major partners in this project include the Department of Environment and Natural Resources and Department of Agriculture including their line bureaus and attached agencies such as the National Mapping Resource and Information Authority (NAMRIA) for thematic maps, and the Bureau of Soils and Water Management (BSWM) who can facilitate the acquisition of soils and water data and information. Other key agencies include the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) for their expertise and mandate on weather and climate; the Provincial Government of Palawan thru their Provincial Agriculture Office; the Municipal Governments through the League of Mayors; the Western Philippines University for their researches and program on agriculture; civil society groups which can be tapped to engage communities, among others. Their engagement is possible thru the Committee on Environment and Natural Resources and the Committee on Agriculture of the PCSD, and the Palawan Knowledge Platform (PKP) a body formed and managed by the PCSD Staff to share information about Palawan among its member institutions.</p>
<p>SECTION 5. PROJECT MANAGEMENT AND IMPLEMENTATION</p>	

	<p>PROJECT MANAGEMENT: Please describe a) who will be responsible for planning and management of the Project operations as well as coordinating other bodies and organizations associated with the Project, b) what arrangements will be established to ensure that there will be effective coordination with other relevant programs and activities.</p>
5.1	<p>Project Management Arrangements The setting up of the project management mechanism will ensure the timely delivery, effective implementation of the project activities, and cost-efficient utilization of project funds. Taxes incurred by the project shall be included and borne by the donor organization. The implementation arrangements are described in the following section and summarized in Figure 1.</p> <p>Project Organizational Structure PCSD¹, the highest environmental body in the Province of Palawan and the United Nations Educational Scientific and Cultural Organization (UNESCO)- designated management authority of the Palawan Biosphere Reserve (BR), shall be the Implementing Organization</p> <p>(IO). PCSD as the IO shall provide the overall strategy and policy guidance for the project. PCSD as mandated by Republic Act 7611, shall serve as the framework to guide the government agencies in the formulation and implementation of plans, programs, and projects affecting the environment and natural resources of Palawan (RA7611, Sec 6). RA 7611 Sec 9 (3) likewise states that PCSD can call on any agency or any department, bureau, office, or agency or instrumentality of the government, private entities, and organizations for cooperation and assistance in the performance of its functions. Further, LGU plans, programs, and projects need to be aligned with the plans, programs, and policies of the SEP. The PCSD through its technical support staff, the Palawan Council for Sustainable Development Staff (PCSDS) serving as the Implementing Staff (IS), will administer the project activities and facilitate coordination between the project and KOICA. A Project Management Unit (PMU) will be established at PCSDS consisting of the PCSDS Project Director, Provincial LGU Coordinator, and Project Consultants. A Project Steering Committee (PSC) shall be created to serve as the oversight body for the project and provide data validation generated by their respective offices and attached bureaus.</p> <p>The PSC will be composed of NGAs through their Regional offices with jurisdiction over the Province of Palawan. Specifically, these offices shall comprise of Department of Environment and Natural Resources – Foreign Assisted and Special Project Office (DENR-FASPO), the Department of Finance (DOF) - Bureau of Treasury (BoT), the Department of Budget and Management (DBM), DENR- Biodiversity Management Bureau (DENR-BMB), DENR- Forest Management Bureau (DENR-FMB), Department</p>

¹ The PCSD is a policy formulation and implementing body enacted by a national law (RA 7611) of provincial application (Province of Palawan). It is composed of Members of the House of Representatives of the province of Palawan, the Deputy Director General of the National Economic and Development Authority (NEDA), the Undersecretary of the Department of Environment and Natural Resources (DENR), the Undersecretary for Special Concerns of the Department of Agriculture (DA), the Governor of Palawan, the Mayor of the City of Puerto Princesa, the President of the Mayor's League of Palawan, the President of the Provincial Chapter of the Liga ng mga Barangay, the Executive Director of the Palawan Council for Sustainable Development Staff (PCSDS), the representative from the Civil Society Organizations, the President of the Palawan Chamber of Commerce and the representative of the Indigenous Peoples of Palawan. The chairmanship of the PCSD is currently lodge to the Governor, Province of Palawan.

of Information and Communication Technology (DICT), National Mapping and Resource Information and Information Agency (NAMRIA), National Water Resources Management Board (NWRB), Department of Agriculture – Bureau of Soil and Water Management (DA-BSWM), National Irrigation Administration (NIA), Department of Science and Technology – Philippine Atmospheric Geophysical and Astronomical Services Administration (DOST-PAG-ASA), and National Commission on Indigenous People (NCIP).

The creation of the PSC will ensure the timely release of project funds and facilitate project endorsements, review and monitoring, thus avoiding delays in implementation. Consultants will be recruited by the IO/IS in accordance with KOICA's Consultant Selection Process to provide services towards implementing and managing the KOICA grant, as well as monitoring its progress. Project consultants will be hired to implement the day-to-day activities of the project under the direct supervision of PCSDS. Project consultants are likewise expected to institute knowledge building through technology and knowledge transfer to the IO/IS and the LGUs. The Planning, Environment, and Agriculture offices at the Province and Municipal levels will work closely with PCSDS and the technical consultants to ensure the timely delivery of outputs and efficient utilization of project funds.



The matrix below outlines the Roles and Responsibilities of the project implementer and project partners:

Project Implementation Organizations	Roles and Responsibilities
Implementing Organization/ Staff	PCSD/PCSDS <ul style="list-style-type: none"> Responsible for the day-to-day operation of the project through the PMU Recruitment of consultants, procurement of works and equipment Announcement of projects Preparation and submission of necessary reports to KOICA, NEDA, and DENR-FASPO among others Obtainment of approvals from KOICA and government agencies

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		<ul style="list-style-type: none"> Preparations and submission of fund withdrawal applications to KOICA through DENR, DBM, and BoT Supervised of consultants 	
	Project Steering Committee	DENR-FASPO, DENR-BMB, DENR-FMB, DICT, NAMRIA, NWRB, DBM, DoF, BoT, DA-BSWM, NIA, DOST-PAG-ASA, NCIP <ul style="list-style-type: none"> Monitor and guide the implementation of the project Help PMUs to ensure effective and timely implementation of subprojects Consensus building on effective and efficient operations and maintenance mechanisms after completion of the project Data sharing, reconciliation / validation 	
	Donor Organization	KOICA <ul style="list-style-type: none"> Monitor and review the overall implementation of the project in consultation with the IO/IS including the following: <ul style="list-style-type: none"> project schedule procurement of goods withdrawal applications project expenditures disbursements compliance with agreed covenants implementation progress and slippages 	
Key persons in implementation			
Implementing Organization			
	Palawan Council for Sustainable Development (PCSD)	Hon. Victorino Dennis M. Socrates Governor, Province of Palawan Chair, Palawan Council for Sustainable Development <i>Address:</i> Provincial Capitol Complex, Rizal Avenue Puerto Princesa City, Palawan <i>Email:</i> palawan.governor@gmail.com <i>Telephone Number:</i> +637230590	
	Palawan Council for Sustainable Development Staff (PCSDS)	Teodoro Jose S. Matta, Esq. Executive Director, PCSDS <i>Address:</i> PCSD Bldg., Sports Complex Road, Bgy. Santa Monica Puerto Princesa City, Palawan <i>Email:</i> oed@pcsd.gov.ph <i>Tel Number:</i> +63484344245 / +63484344234	
Project Management Unit			
	PCSDS-EPRPD	John Francisco A. Pontillas, EnP Chief, EPRPD <i>Address:</i> PCSD Bldg., Sports Complex Road, Bgy. Santa Monica Puerto Princesa City, Palawan <i>Email:</i> john_pontillas2001@yahoo.com <i>Mobile Number:</i> +639175531917, +639189572845	
	PCSDS-EMED	Engr. Madrono P. Cabrestante, Jr. Chief, EMED	

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		<p><i>Address:</i> PCSD Bldg., Sports Complex Road, Bgy. Santa Monica Puerto Princesa City, Palawan <i>Email:</i> m.cabrestante@pcsd.gov.ph <i>Mobile Number:</i> +639175625999</p>	
	Project Steering Committee		
	Department of Environment and Natural Resources - Foreign Assisted and Special Projects Service-(DENR-FASPS)	<p>For. Marcial C. Amaro, Jr., CESO III Assistant Secretary - PPFASPs <i>Address:</i> Department of Environment and Natural Resources, Visayas Avenue, Diliman, Quezon, City <i>Email:</i> amaromars@yahoo.com <i>Telephone Number:</i> +63289202212, +63289252339 <i>Trunkline:</i> +63289296626 Loc 2176</p>	
	Department of Budget and Management (DBM)	<p>Ms. Amenah F. Pangandaman Secretary <i>Address:</i> Boncodin Hall, General Solano St., San Miguel, Manila <i>Email:</i> osec@dbm.gov.ph <i>Telephone Number:</i> +63286573300 loc 2601; 3310</p> <p>Mr. Jonathan Caparas DBM Analyst <i>Address:</i> Boncodin Hall, General Solano St., San Miguel, Manila <i>Email:</i> jcaparas@dbm.gov.ph <i>Telephone Number:</i> +639092627862</p>	
	Department of Finance (DOF)	<p>Benjamin E. Diokno Secretary <i>Address:</i> 6/F DOF Building, BSP Complex, Roxas Boulevard, Malate, Manila <i>Email:</i> feedback@treasury.gov.ph <i>Telephone Number:</i> +63285239219</p>	
	Bureau of Treasury (BoT)	<p>Rosalia V. De Leon Treasurer of the Philippines <i>Address:</i> Ayuntamiento Bldg, Cabildo Street, A. Soriano Avenue, Intramuros, Intramuros, Manila, 1002 <i>Telephone Number:</i> +6328663-2287 Loc 2282</p>	
	Department of Agriculture (DA)	<p>H.E. Ferdinand R. Marcos, Jr. Secretary <i>Address:</i> Elliptical Road, Diliman, Quezon City, 1100 <i>Email:</i> osec@da.gov.ph <i>Telephone Number:</i> 8928 8741-64</p>	
	Local Government Units		
	Provincial Environment and Natural Resource Office	<p>Atty. Noel Aquino Provincial ENR Officer <i>Address:</i> PEO Compound, Puerto Princesa City, Palawan <i>Email:</i> noelaquino45@yahoo.com <i>Telephone Number:</i> +637231257</p>	

	<div>Provincial Planning and Development Office (PPDO)</div> <div>Sharlene D. Vilches, EnP Acting Provincial Planning and Development Officer Address: Provincial Capitol Bldg, Fernandez St., Puerto Princesa City, Palawan Email: ppdopalawan@gmail.com Telephone Number: +637231257</div>	
	<div>FUNDS FLOW ARRANGEMENT</div> <div><div><div>1. As mandated, PCSD has the power to arrange, negotiate for, and accept donations, grants, gifts, loans, and other funding from domestic and foreign sources to pursue its plans and activities (RA7611, Sec 9(4)).</div><div>2. The PCSD as the IO shall establish an imprest fund account at a government bank acceptable to KOICA. PCSD has a long experience in managing imprest accounts owing to its varied foreign-funded project implementation experience from ADB, JICA, JBIC, and JFPR donors.</div><div>3. The imprest account will be established, managed, replenished, and liquidated in accordance with the disbursement protocols of KOICA.</div><div>4. Imprest account income earned from Interest and foreign currency exchange adjustments may be used for the project subject to KOICA approval.</div><div>5. Payment to consultants shall be in accordance with KOICAs Procurement Guidelines 2019 (subject to subsequent future amendments, if any) and may be paid through direct payment.</div><div>6. Payment to suppliers of procured goods acquired through either direct contract or shopping modalities shall be in accordance with KOICAs Procurement Guidelines 2019 (subject to subsequent future amendments, if any) and may be paid through direct payment.</div><div>7. The schematic fund flow is shown in Figure 2 (Funds Flow Arrangement).</div></div><div><div>FUNDS FLOW ARRANGEMENT</div><div><div><div><div>KOICA</div><div>Palawan Council for Sustainable Development Staff (PCSDS) Imprest Account</div><div>Project Components</div></div><div><div>Project Consultants Direct Payment</div><div>Goods Supplier Direct Payment</div></div></div></div></div></div>	
5.2	<div>MANAGEMENT OF CONSTRUCTION WORK (IF ANY): Please specify purpose of the building, total floor area, site location, estimated construction duration and budget and O&M plans.</div>	

	Not Applicable
SECTION 6. SUSTAINABILITY	
	Please describe whether Project operations are expected to continue, or expand to other areas or sectors, once the current phase of assistance is completed. This could include plans for introducing self-financing provisions to ensure continued viability of operations on Project completion.
6.1	<p>The first strategy to ensure project sustainability is knowledge building through human capital development and providing accessible science and technology innovation. The main strategy is to provide a platform for easy access to information as decision support in improving the productivity of the land as a resource, including agriculture areas by farmers, investors, planners, managers, and policy makers. This will increase the contribution of the concerned sectors to the local, provincial and regional economy, thereby improving the living condition of communities, including the farmer communities, to rise from poverty. Gearing towards the realization of the <i>Philippines AmBisyon 2040 for all Filipinos to “live in a prosperous, predominantly middle-class society, where no one is poor”</i>. To realize this, <i>economic growth must be relevant, inclusive, and sustainable</i>.</p> <p>During the project, deployed experts will be provided with Philippine counterparts for close knowledge transfer at the onset. After the project, continuing <i>GIS-based image processing, interpretation</i>, and analysis training for the PMU and LGU will be continued to cope with the fast-changing technological innovations. This will build technical expertise that will ensure continuity of use and availability of developed project information beyond project completion. The application of project output will be instituted at the LGU through the issuance of an appropriate legal instrument (Provincial Resolution or Ordinance) by the Provincial Legislative body effecting its adoption for municipal application. Further, A Memorandum of Agreement (MOA) shall be made between the PCSD and the concerned Municipal LGU detailing mechanisms for the following: accessibility, management, and maintenance of the System including specific roles, responsibilities, and funding requirements.</p> <p>Community development workers from the Office of the Municipal Agriculture and Municipal Environment and Natural Resources, partner Civil Society Groups, and People’s Organizations will be engaged to help disseminate information to a wider audience through the project-developed knowledge products that will promote information on the utility and importance of the project outputs.</p> <p>In terms of technology, periodic updating of information will be made through the PCSDS and PPDO GIS-Units. Advances in GIS and RS hardware and software will be ensured for the staff by regularly providing Learning and Development (L&D) programs that will be included in the regular agency budget from the General Appropriations Act (GAA) at the end of the project life. Maintenance and replacement of equipment will likewise be coordinated through the Medium-Term Information and Communications Technology Harmonization Initiative (MITHI) of the Philippine government. MITHI is an e-Government and ICT support initiative that aims to harmonize ICT-related resources, programs, and projects of government agencies.</p>

	The database information will also be periodically updated through the profiling of site characteristics of initially identified permanent monitoring stations and environment hotspots using drones and similar technologies. The Municipal Environment and Natural Resources Officer and the Municipal Agriculturist will be playing a big role in determining land-use change and cover which shall be uploaded online by the PCSDS and PPDO GIS units.		
SECTION 7. MONITORING AND EVALUATION			
7.1	Please include proposed mechanisms and procedures for monitoring of Project operations to ensure that activities occur as planned, that they remain directed towards stated objectives, and that appropriate corrective action is taken if required.		
	Specifically, please indicate who will be responsible for preparing periodic Project progress and final technical reports and for the accounting of expenditures, if needed, as well as how intended beneficiaries will be involved.		
	The following indicators will be used to institute the monitoring and evaluation program for the project. Aside from monitoring the delivery of target output, progress report monitoring involving key project staff and selected project beneficiaries is an important M&E component. Regular coordination meetings will ensure that activities occur as planned, directed towards the project objectives, challenges, and bottlenecks are identified and addressed by providing corrective action early on.		
	Key Performance Indicator (KPI)	Reporting Mechanism	Plan and Timetable
	PROJECT OUTPUT		
	1 Informatization Master Plan	Master Plan Report	Yr1
	Number of Satellite Images Procured for the entire project site	Procurement Report and Disbursement	Yr1
	4 database operational	Consultants' Progress Report	Yr2
	1 web-based decision-support operational	Consultants' Progress Report	Yr3
	1 desktop application decision-support operational	Consultants' Progress Report	Yr3
	1 mobile application decision-support operational	Consultants' Progress Report	Yr3
	Progress Monitoring Report	Consultants' and PMUs Physical and Financial Quarterly Progress Report	30th of the succeeding month after the quarter
	Progress Monitoring Report	Consultants' and PMUs Physical and Financial Annual Progress Report	30th of the succeeding month after every 12 th month of implementation
	Progress Monitoring	Consultants' and PMUs Project Completion Report (PCR)	90 days after project completion
	Quarterly Progress Meetings	Consultants' Report	5 th day after the end of every quarter
Annual Progress Meetings	Consultants' Report	5 th day after the end of every year	
Percentage of GAD (Gender and Development Sector -youth, seniors, Persons With Disabilities (PWD)) engaged	Consultants' After Training Report with disaggregated data Project staff roster	30 days after every capacity-building activity	

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	beneficiaries and/or hired project staff		
	At least 2 Knowledge products on technology/innovation popularization were developed and disseminated through national, regional, provincial and municipal networks	Consultants' Progress Report	End of project implementation
	PROJECT OUTCOME		
	<ul style="list-style-type: none"> • Data accessibility improved for decision and knowledge and awareness enhanced • Environment and ecosystem governance improved • Palawan eco-region's environment and, water security and productivity through the realization of advanced scientific decision support improved • All data on biophysical, social, and land uses to build an up-to-date database for an advance decision support system retrieved and integrated 	Project M&E Report by the PMU	after the project life
	PROJECT IMPACT		
	<ul style="list-style-type: none"> • Maintain or increase the productivity of the agricultural lands by at least 5% and optimally-managed agro-ecosystem areas in allowable zones of the ECAN 5 years after the project • Improve ecosystem condition and services such as water provisioning with at least 5% increase of local population having access 5 years after the project. • Formulate at least 3 regulatory policies promoting efficient land-use, enhanced ecosystem condition and services, water and food security, and climate change adaptability. 	Project Impact Assessment Report by the PMU	5 years after the project's life
SECTION 8. RISK AND ASSUMPTION			

8.1	Please identify and list the major risk factors that could result in the Project not producing the expected results. These should include both internal and external factors. Please also propose risk mitigation measures to address the potential risks.		
	Types of Risk	Description of Risk	Measure to Mitigate the Risk
	Governance	<p>Local politicians intervening with selection of sites, procurement of goods and fund disbursement</p> <p>Partners not willing to share and provide access to data and information</p>	<p>A project visioning, scoping and teambuilding workshop will be conducted at the start of the project to establish a common understanding of the objectives and target output of the project. This will be made possible through a project inception workshop to agree and level off to a common goal for the project.</p> <p>Quarterly and annual planning and budgeting meetings will be conducted with the participation of the IO, PMU and leaders of the stakeholder groups for aligned project understanding and instill project ownership.</p> <p>Activities will always be anchored on the approved work and financial plans, following the receipt of a no objection letter from the government.</p> <p>The IO through the PMU will facilitate the periodic annual independent audits of finances and project performance.</p> <p>Government policies with corresponding budget are ensured to be in place to support the agriculture sector.</p> <p>Memorandum of Understanding (MOU) shall be forged between and among partners on data/information sharing and access</p>
	Weather and changing climate	Unfavorable weather and sea conditions could affect implementation schedules	<p>These factors will be carefully considered in the preparation of project scheduling with due consideration of location and topography (mainland and island) of project sites.</p> <p>It is important that work plans for conducting field activities such as data collection, site validation, training and coaching, even scheduling of procurement and delivery considers weather patterns and locations.</p>
	Project Management	Implementing organizations' lack of	Training for the PMU staff on KOICA project management, consultant, procurement and disbursement procedures should be made prior to the

		knowledge and familiarity of the donor project implementation protocol may cause delay in consultant selection, procurement, fund replenishment, thus affecting the project implementation schedules	<p>start of project implementation and should form part of the work and financial plan.</p> <p>The PMU shall likewise facilitate the selection of an Audit Team at the start of the project. The Audit Lead shall brief the PMU and consultants on the audit documentation requirements for both the Philippine government and KOICA. Similarly, it shall also be made clear on the source of Audit team whether it will be from the Philippine Commission on Audit (COA) or an external auditor will be on-board. This shall also be part of the approved project workplan.</p> <p>Ensuring the availability and early involvement of the Audit team will facilitate compliance at the start of project implementation and minimize or eliminate delays in the preparation of annual project financial reports.</p>
	Institutional Coordination	Lack of coordination among agencies could generate conflict and hamper smooth project implementation	The institutionalization of the Project Steering Committee (PSC) shall address bureaucratic delays particularly in project fund disbursement arising from the concerned agencies lack of understanding of project goals and activities. Considering that funds from foreign sources pass through several requirements and justification prior to release, the PSC's understanding of the project objectives and activities will facilitate the timely release of funds to meet the project objectives.
	Unforeseen unprecedented events	Pandemic or health concerns affecting logistics and mobility	Strict compliance to the government prescribed health protocols specifically on movements, quarantine and vaccination requirements.

The following documents as annexes are required to be submitted with a PCP.

Annex 1. Project Location Map

2. Project Design Matrix

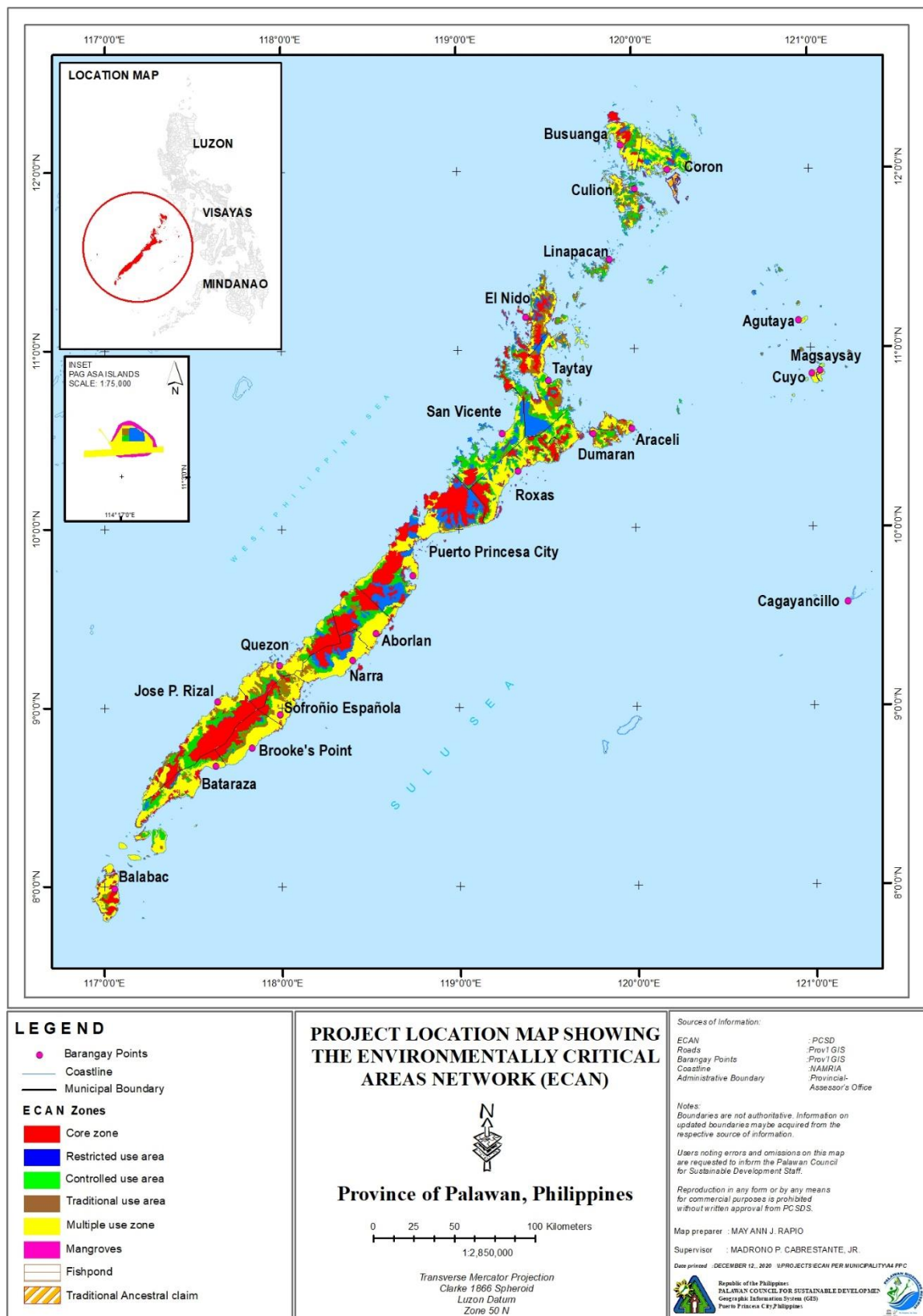
3. Project Work Plan

4. Estimated Budget Sheet

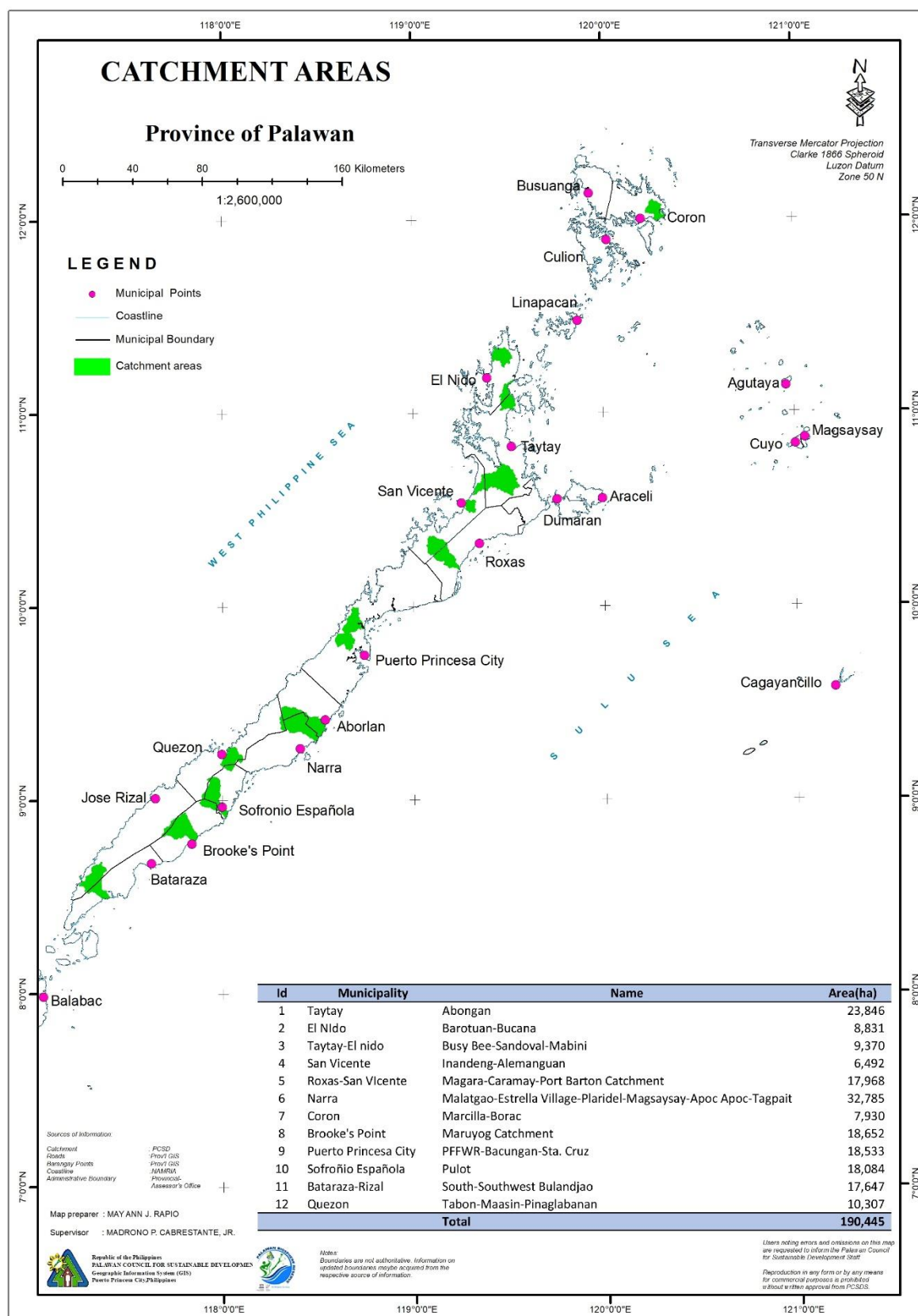
5. Environmental Screening Checklist

6. Gender & Development Screening Checklist

Annex 1A. Project Location Map (14,900 sq. km (Source: www.mimaropa.dilg.gov.ph))



Annex 1B. Project Location Map, Potential Target Catchments



Annex 2. Project Design Matrix

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS AND RISKS
Objectives (Impacts)			
To establish a web-based Environment and Natural Resources Information System (ENRIS) that will contribute to efficient land-use, enhanced ecosystem condition and services, water and food security, and climate change adaptability aligned with the Environmentally Critical Areas Network (ECAN) Management Program and UN Sustainable Development Goals (SDGs) thru realization of advanced scientific decision support	<ol style="list-style-type: none"> 1. Maintain or increase the productivity of the agricultural lands by at least 5% and optimally-managed agroecosystem areas in allowable zones of the ECAN, 5 years after the project. 2. Improve water quality condition of the twelve (12) watershed, 5 years after the project. 3. Formulate at least three (3) policies promoting efficient land-use, enhanced ecosystem condition and services, water and food security, and climate change adaptability. 	<ol style="list-style-type: none"> 1. Provincial Products Account (PPA) Report; Philippine Statistics Authority (PSA) Census of Agriculture, etc. 2. State of the Environment Report by the PCSDS; ENRIS Data base 3. Resolutions formulated by the PCSD, Sangguniang Panlalawigan, Sangguniang Bayan, Sangguniang Panlungsod 	There are no natural hazards experienced by the province and city

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS AND RISKS
NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS AND RISKS
Outcomes			
<ol style="list-style-type: none"> 1. Access to data for efficient decision-making enhanced 2. Environment and Agroecosystem governance improved 3. Palawan eco-region's environment, water security and productivity through the realization of advanced scientific decision support improved 4. All data on biophysical, social, and land uses to build an up-to-date database for an advance decision support system retrieved and integrated 	<ol style="list-style-type: none"> 1. Increasing annual trend of Geoportal/website visitors and downloads 2. Formulated at least 3 policies related to environment and agroecosystem governance for efficient and inclusive use of ecosystem goods and services by stakeholders and key players 3. Water quality, as proxy for ecosystem condition, in at least 80% of localities with established water and climate monitoring stations compliant to DENR A.O. 2016-08. 4. Development and operationalization of Web-based ENRIS and software product (mobile application) At least one (1) policy issued in support to Environment and Agroecosystem governance in 	<ol style="list-style-type: none"> 1. Website visitor and download logs 2. PCSD and LGUs formulated Policies in support of Environment and Agroecosystem governance 3. Water Quality Monitoring Reports under the EMES based on DENR A.O. 2016-08 4. ENRIS Report 	<ol style="list-style-type: none"> 1. Government policies with corresponding budget are in place to support the agriculture sector 2. Accessible financing are in place 3. Readiness and capacitation of target users to uptake the technology and apply innovations in agriculture and agro-ecosystem 4. Covid-19 Pandemic controlled or abated 5. All inputs for the ENRIS are available 6. Timely awarding of contract for the development of the web-based and software application

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NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS AND RISKS
	appropriate areas within the Multiple and Traditional Use Zo		
NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS AND RISKS
Outputs			
1. Informatization Master Plan	1. One (1) Inception report containing Informatization Master Plan developed; One (1) Final/Completion Report	1. Inception Report with Final Informatization Master Plan; Final/Project Completion Report (in print and digital formats)	1. Available, reliable and stable System Operating Environment (electricity, communication, and network)
2. Environment and Agroecosystem Database	2. Four (4) Environment and Agroecosystem database developed	2. Operational Database installed in hardware with Operations Manual (in hard and digital format)	2. Access to Philippine Government information under Executive Order 02 series of 2016 “Freedom of Information”, and Republic Act 10173 “Data Privacy Act of 2012”
3. On-site and Geographic Information System (GIS) based soil, water and micro-climate monitoring stations	3. Twelve (12) permanent on-site monitoring stations for soil, land, water and micro-climate established	3. Monitoring stations established with Memorandum of Agreement (MOA) between PCSD and LGU for installation, security and maintenance	3. The quality and quantity of the existing data on soil, water, land resources, etc.
4. Web-based Environment and Natural Resources Information System (ENRIS)	4. Two (2) web-based Environment and Natural Resources Information System (desktop and mobile – based Application)	4. Free access / downloadable desktop and android Web-based Environment and Natural Resources Information System	4. Equipment and training providers are available and compliant with the provisions of the R.A. 9184, otherwise known as the “Government Procurement Reform Act,” for the purpose of prescribing the necessary rules and regulations for the modernization, standardization, and regulation of the procurement activities of the
5. Procurement of equipment support	5. Twenty-Four (24) sets of equipment and training for LGUs for continuing project operation	5. Twenty-Four (24) sets of equipment and training provided to LGUs for continuing project operation	
6. Capacity building	6. At least four (4) training modules and information materials for both the end users and the technical team	6. Training Needs Assessment Report	

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NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS AND RISKS
<p>7. Forged Memorandum of Agreement (MOA) on data sharing mechanism</p> <p>8. Knowledge product on project technology/innovation</p> <p>9. Developed Software Product (mobile application)</p>	<p>7. One (1) Agreement signed with DOST PAG-ASA and NAMRIA</p> <p>8. Two (2) Knowledge products developed</p> <p>9. One (1) mobile application developed and popularize</p>	<p>7. Signed MOA with DOST PAG-ASA and NAMRIA</p> <p>8. Two (2) Knowledge Products</p> <p>9. Report generated on mobile application users</p>	<p>Government of the Philippines (GoP)</p> <p>5. Covid-19 Pandemic controlled or abated</p> <p>6. Timely awarding of contract for the development of the web-based and software application</p>

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Activities	Inputs	Assumptions and Risks
<ol style="list-style-type: none"> 1. Pre-project execution and social preparation 2. Informatization Master Planning 3. Establishment of lands, soil, water, and microclimate monitoring stations 4. Field data acquisition, validation, analysis (including satellite images) and interpretation 5. Environment-Agro-ecosystem database establishment 6. Web-based Environment and Natural Resources Information System (ENRIS) 7. Capacity Building 8. Procurement of Equipment Support(Hardware, Software, field monitoring equipment) 9. Upload and Web-testing of Database and Information System 10. Project monitoring 	<p>KOICA</p> <ul style="list-style-type: none"> • Grant administration and release of funds • Project Management Unit establishment • Project Management Trainings • Administration of health protocols and provision of related supports (i.e., tests, quarantine, vaccine, etc.) to Philippine counterpart experts • Consultant and equipment procurement process <p>Korea Technical Assistance</p> <ul style="list-style-type: none"> • Expert Dispatch • Informatization Master Plan • Database construction / Agricultural Land Resources Information System Development. • Communication & Network • Development of Project monitoring and evaluation system • Additional personnel needed for project execution • Management and Operator Training – Technical meeting(conference) • In-kind support (HW / SW / System operation) • Invitational capacity building program support (Expense, visa, capacity program) <p>The Philippines</p> <ul style="list-style-type: none"> • Project administration and allocation of fund counterpart • Provide relevant information and data • Consultant and equipment procurement • Administrative and safety support for dispatched experts in Korea • Authorization, personnel and equipment support during the activities – • Others (transit of equipment and equipment, visa, etc.) • Office space offering for the project team • Technical counterpart staff 	<ol style="list-style-type: none"> 1. Covid-19 Pandemic controlled or abated 2. Weather and climatic conditions affecting logistics and mobility

Annex 3. Project Work Plan

Description	YEAR 1				YEAR 2				YEAR 3				YEAR 4			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1.0 Pre-Project Execution and Social and Institutional Preparation																
Activity 1.1 Signing of R/D																
Activity 1.2 Inception Report to Establish Project Implementation Plan																
Activity 1.3 Project management and administration to include establishment of the Project Management Unit and selection of PC and dispatch of PM																
Activity 1.4 Social Preparation of Key stakeholders and partners																
Activity 1.5 Institutional Preparation through a MOU on data access and sharing among partners																
2.0 Informatization Master Planning																
Activity 2.1 Current Situation analysis for agricultural land resource information management & implementation plan.																
Activity 2.2 Work process analysis & Future model presentation																
Activity 2.3 Enhancement of strategy for Agro-ecosystem development including bio-economic modeling																
3.0 Establishment of land, soils, water, and microclimate monitoring stations																
Activity 3.1 Site selection																
Activity 3.2 Memorandum of Agreement (MOA) signing with partner Local Government Units (LGU)																
Activity 3.2 Monitoring stations establishment and operation																

Environment and Natural Resources Information System (ENRIS) SPATIAL DECISION SUPPORT for Palawan Island Eco-Region I Palawan Council for
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	YEAR 1				YEAR 2				YEAR 3				YEAR 4			
Description	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
4.0 Field data acquisition, validation, analysis, and interpretation																
Activity 4.1 Satellite Image acquisition & Ground control point survey for Ortho-image production																
Activity 4.2 Field survey and monitoring stations establishment																
Activity 4.3 1/10,000 or finer Land Use/Vegetation Map production																
5.0 Establishment of Hydro-meteorological stations and ENRIS data base																
Activity 5.1 Existing data collection, analysis, processing, editing, and integration including Environmentally Critical Areas Network (ECAN) data base																
Activity 5.2 Database construction for Agro-ecosystem soils information																
Activity 5.3 Database construction for Agro-ecosystem land information																
Activity 5.4 Database construction for Agro-ecosystem water resources information																
Activity 5.5 Database construction for Agro-ecosystem climate/microclimate information																
6.0 Development of Web-based ENRIS																
Activity 6.1 Soils and agriculture information																
Activity 6.2 Water resources facility geographic Information																
Activity 6.3 Organic facility geographic information																

Environment and Natural Resources Information System (ENRIS) SPATIAL DECISION SUPPORT for Palawan Island Eco-Region I Palawan Council for
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	YEAR 1				YEAR 2				YEAR 3				YEAR 4			
Description	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Activity 6.4 Prescription of fertilizer																
Activity 6.5 Water stream management geographic information																
Activity 6.6 Real-time microclimate monitoring system																
Activity 6.7 Real-time water level monitoring system																
Activity 6.8 System establishment & inspection																
Activity 6.9 Development of thematic maps and overlays for decision (1/10,000 scale): ECAN map, ECAN resource-management map, Land Use map, PA, MPAs, CADC, CADT, Network of Protected Areas for Agriculture and Agro-industrial Development (NPAAD) and & Strategic Agriculture and Fisheries Development Zones (SAFDZ), Special Economic Zones (SEZ), among others																
7.0 Capacity Building																
Activity 7.1 invitation for Decision-making level																
Activity 7.2 Invitation for Technical level																
Activity 7.3 Local capacity building in Palawan																
8.0 Procurement of Equipment Support (Hardware, Software, field monitoring equipment)																
Activity 8.1 Hardware for system operation																
Activity 8.2 Software for system operation																

Environment and Natural Resources Information System (ENRIS) SPATIAL DECISION SUPPORT for Palawan Island Eco-Region I Palawan Council for Sustainable Development

	YEAR 1				YEAR 2				YEAR 3				YEAR 4			
Description	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Activity 8.3 Field monitoring equipment for soil, water and microclimate																
9.0 Upload and Web-testing of Database and Information System																
9.1 Upload to web-portal, roll-out, testing																
9.2 Debugging and refinement of the developed systems																
10.0 Project Monitoring																
Activity 10.1 Monitoring and evaluation																

Annex 4. Estimated Budget Sheet

Instruction

- **Breakdown of Project Cost**

- Dispatch of Experts: Costs for sending experts to recipient organizations for technical cooperation and capacity building. (including reimbursable expenses such as on-site operational costs)
- Construction: Costs for design, construction, supervision and Construction Manager (CM), if the project has an activity that involves construction.
- Equipment: Costs for providing and installing equipment, including education costs.
- Invitational Training: Costs for capacity building activities in which partner country officials are invited to Korea to learn about Korea's development experiences and draw lessons for their country.
- Informationalization: Costs for business process reengineering and information strategy planning (BRP/ISP), system development and supervision, if the project has an activity that involves informationalization.
- Project Management: Costs for performance management, risk control, monitoring and evaluation and contingencies, which should be directly managed by KOICA.

- **Information provided by the partner**

Item	Necessary information
Dispatch of experts	<ul style="list-style-type: none"> ▷ Expert's technical grade (Junior-level, middle-level, senior-level) ▷ Expert's input (in M/M)
Construction	<ul style="list-style-type: none"> ▷ Building's size and space and projected costs ▷ Costs of similar buildings
Equipment	<ul style="list-style-type: none"> ▷ Item and number and whether it can be bought in the partner country ▷ Equipment specification
Invitational training	<ul style="list-style-type: none"> ▷ Type of courses (manager-level, working-level, others) ▷ Number of participants * Please, note that invitation training can accommodate maximum 15 participants per course due to logistical constraints.
Informatization	<ul style="list-style-type: none"> ▷ Information system's main functions ▷ Expert's input to complete system development (in M/M)

- **After reviewing the description above, the Estimated Budget Sheet should be filled out in consultation with KOICA country offices.**

- Calculation Basis describes how each item of the Budget Sheet is calculated.

Environment and Natural Resources Information System (ENRIS) SPATIAL DECISION SUPPORT for
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Item	Cost	Calculation Basis
Dispatch of experts	400	Insert Expert's grade and time input (in M/M)
Senior-level Expert	400	Project Manager: 20M/M Planning, procurement and execution of the project.
Middle-level Expert	-	Unknown
Junior-level Expert	-	Unknown
Construction		Insert the size of building and cost per m²
Design		N/A
Construction		N/A
Supervision		N/A
CM		N/A
Contingency		N/A
Equipment	2,580	Insert item, number and specification (Equipment may be listed in a separate sheet if there are too many)
Web Server(2ea)	35	CPU(8 Core, 2.1GHz), Memory(64GB), HDD(600GB*2), Power(500W*2), ODD(DVD)
Database Server(2ea)	35	CPU(8 Core, 2.1GHz), Memory(64GB), HDD(600GB*2), Power(500W*2), ODD(DVD)
GIS DB Server(2ea)	35	CPU(8 Core, 2.1GHz), Memory(64GB), HDD(600GB*2), Power(500W*2), ODD(DVD)
Was Server(2ea)	35	CPU(8 Core, 2.1GHz), Memory(64GB), HDD(600GB*2), Power(500W*2), ODD(DVD)
Integrated Authentication Server(2ea)	35	2 CPU(8 Core, 2.1GHz), Memory(64GB), HDD(600GB*2), Power(500W*2), ODD(DVD)
Storage(2ea)	40	SAN Array 3U 16 Bay, 2 x 8Gbps FC, 4 x 1Gbps iSCSI
Laptop(10ea)	20	CPU(i7, 4.7GHz), Memory(16GB), SSD(512GB), Graphic(Nvidia 3060), OS(Windows)
Workstation(2ea)	10	CPU(11 th gen core i7 3.0GHz), Memory(8 GB), SSD(512GB), Graphic(Nvidia 3060), OS(Windows)
Multi-functional Print(1ea)	10	(Heavy duty; scanner, copier and printer)
PC(5ea)	7	CPU(6 core, 4.3GHz), Memory(8GB), SSD(512GB), Monitor(24"), OS(Windows)
UPS(2ea)	20	10KVA
IPS/IDS(1ea)	40	CPU(8 core 2.9GHz), Memory(64GB), CF Memory(4GB), HDD(4TB), NIC (10/100/1000 Base-T 8port(MAX 32port), 1000Base-X 8port(MAX 32port)
Rack(3ea)	40	H:1800mm, W: 600mm, D: 1000mm, 36U
Firewall(1ea)	40	CPU(E5-2630*2, 6-Core 2.6GHz), Memory(32G), CF Memory(4G), HDD(2TB), SSD(256GB), NIC(10/100/1000-TX 8 Port, 1000BASE-SX 8 Port)
L3 Switch(2ea)	20	1/10 GBASE-T 12port, SFP fixed 1000/10000 SFP+ 4port
MS Office(15ea)	8	MS Office 2021
Micro-climate monitoring station(12ea)	1,300	12 Micro-climate monitoring stations : 3D supersonic anemometer, closed circuit gas analyzer(0~2,180mg/m ³ (CO ₂), 0~38g/m ³ (H ₂ O)) for eddy covariance Precipitation meter(1% @ 10mm/1h) Weather sensor(AWS and net radiometer for solar and earth radiation) Data logger(100Hz, 16-bit A/D Converter) and memory set Solar panel(100W) & sub-battery set, Data communication equipment(VHF modem and GSM modem) and Station installation expenses

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Item	Cost	Calculation Basis
Water level monitoring station(12ea)	400	12 Water level monitoring stations : Water level sensor(contact-free type microwave radar sensor, 20 second measuring time) Water level measure gauge(SPP or stainless type) Data logger(ARM Cortex-A5 533MHz) and memory set Solar panel(100W) & sub-battery set, Data communication equipment(VHF modem and GSM modem) and Station installation expenses
Soil monitoring station(12ea)	150	12 Soil monitoring stations : Soil monitoring sensor(Accuracy: 3% VWC typical in mineral soils / 1 Celsius degree) Data logger(6 channels / 8MB) including data collect modules and stands
Satellite images	300	Satisfied at least Resolution ≥ 1.5 meter
Invitational training	120	Insert courses and the number of participants
Management-level course	30	5 Participants / 7days Introduction of Korea's agriculture & advanced case study using GIS technologies and scientific decision making for agriculture
Working-level course	60	10 Participants / 15days Offering of specialized education to the staff to ensure efficient system operation and technology transfer
LGU Training course	30	15 Participants / 15days Database update & system operation/maintenance
Informatization	4,400	Insert system's main functions and expert's input (in M/M)
Informatization Master Plan	500	Expert: Senior-level (6 M/M), Middle-level (9 M/M), Junior-level (12 M/M) ·Current Situation analysis for agricultural land resource information management & implementation plan ·Work Process analysis & Future model Presentation ·Enhancement of strategy for Agro-ecosystem development ·Estimation of bio-economic Model/Scenario building for decision
Environment-cum-Agroecosystem database establishment	300	Expert: Senior-level (4M/M), Middle-level (6M/M), Junior-level (6M/M) ·Existing data collection, analysis, processing, editing, and integration ·Database for Agro-ecosystem soils information ·Database for Agro-ecosystem land information ·Database for Agro-ecosystem water resources information ·Database for Agro-ecosystem climate/microclimate information
Development of thematic maps and overlays (1/10,000 scale): ECAN map, ECAN resource-management map, Land Use map, PA, MPAs, CADC, CADT, Network of Protected Areas for Agriculture and Agro-industrial Development (NPAAD) and & Strategic Agriculture and Fisheries Development Zones (SAFDZ), Special Economic Zones (SEZ), among others	2,000	Expert: Senior-level (20M/M), Middle-level (50 M/M), Junior-level (50 M/M) ·Ortho-image production & editing ·Ground control point survey Field survey ·1/10,000 Land Use Map production ·NPAAAD/SADFZ production
Environment and Natural Resources Information System Development	1,600	Expert: Senior-level (25M/M), Middle-level (30 M/M), Junior-level (35 M/M) ·Land, Soils and agriculture information system ·Water resource development facilities geographic information system ·Organic facility geographic information system ·Prescription of fertilizer system ·Water stream management geographic information system ·Real-time micro-climate monitoring system ·Real-time water level monitoring system
Project management	500	5% - 10% of total project cost
Miscellaneous	250	· Publications and management cost, etc.
Local Expert Hire	250	·Utilization of local expert,

Item	Cost	Calculation Basis
TOTAL	8,000	Unit : 1,000 USD

Annex 5. Environmental Screening Checklist

Question 1. Related environmental impacts

1-1 Will the project include new construction or enlargement or repair of building?

☐ Yes ☒ No

1-2 Will the project change geographical features or land use?

☐ Yes ☒ No

1-3 Will the project use or develop water resources?

☐ Yes ☒ No

1-4 Will the project produce waste?

☐ Yes ☒ No

Question 2. Requirement of Environmental Impact Assessment (EIA)

2-1 Does the host country have Environmental Impact Assessment (EIA) related laws or guidelines?

☒ Yes ☐ No

2-2 Is EIA required for the project according to the laws or guidelines in the host country?

☐ Yes ☒ No ☐ Unknown

2-3 If the EIA is required, please mark the corresponding item.

☐ Implemented ☐ On going ☐ Planning

Question 3. Project's sensitive features

3-1 Does the project come under following sectors?

☒ Yes ☐ No

If yes, please mark the corresponding items.

☐ Hydropower, dams and reservoirs

☐ Urban development

- ☐ Roads, railroads and bridges
- ☐ Airports, ports and harbor
- ☐ Water supply, sewage treatment
- ☐ Solid waste treatment
- ☐ River/Sand control
- ☐ Power transmission and distribution lines
- ☐ Mining development
- ☐ Industrial development
- ☒ Forestry
- ☒ Fishery
- ☐ Tourism
- ☒ Agriculture (large-scale land-clearing or irrigation)

3-2 Is any of the following area located on or around the project site?

- ☒ Yes ☐ No

If yes, please mark corresponding items.

- ☐ National Park
- ☒ Protected area designated by the government (cultural heritage)
- ☒ Protected area designated by the government (coastal zone, wetlands, reserved area for ethnic or indigenous people)
- ☒ Habitat of valuable species protected by domestic laws or international treaties
- ☐ Virgin forests, tropical forests
- ☐ Buffer zone of protected area
- ☐ Ecological important habitat areas (coral reef, mangrove wetland, tidal flats)
- ☐ Likely salts cumulus or soil erosion areas on a massive scale
- ☐ Remarkable decertification trend areas
- ☐ Archaeological, historical or cultural valuable areas
- ☒ Living areas of ethnic, indigenous people or nomads who have a traditional lifestyle or special socially valuable areas

Annex 6. Gender & Development Screening Checklist

Question1.	Women/Girls as beneficiaries or participants
1-1	Does this project include women or girls as a target group as direct or indirect beneficiaries? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1-2	Do women or girls participate in implementing process as one of the decision makers? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1-3	Did this project proposal complete based on the needs assessment of men and women/boys and girls? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Question 2.	Relevance to women's empowerment
2-1.	What are the key gender issues in the sector/subsector that are likely to be relevant to this project or program? <u>disproportionate access to technology and information</u>
2-2.	Does the proposed project or program have the potential to make a contribution to the promotion of gender equity and/or empowerment of women by providing women's access to and use of opportunities, services, resources, assets, and participation in decision making? <input checked="" type="checkbox"/> Yes (→2-2-1) <input type="checkbox"/> No
2-2-1	If yes, what measures are included in the project design to promote gender equality and women's empowerment <input checked="" type="checkbox"/> Gender action plan <input type="checkbox"/> Other actions or measures <input type="checkbox"/> No action or measure
2-3	Can the proposed project have an adverse impact on women and/or girl or widen gender inequality? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2-4	Indicate the intended gender mainstreaming category*: <input checked="" type="checkbox"/> GEN (gender equity) <input checked="" type="checkbox"/> EGM (effective gender mainstreaming) <input type="checkbox"/> SGE (some gender elements) <input type="checkbox"/> NGE (no gender elements)

○ GEN: Gender Equity

- A project is assigned GEN, if the project outcome directly addresses gender equality and/or women's empowerment by narrowing gender disparities through access to social services(e.g. education, health, and water supply/sanitation); and/or economic and financial resources and opportunities (e.g. employment opportunities, financial services, land, and markets), and/or

- basic rural and urban infrastructure(e.g. rural electrification, rural roads, pro-poor energy distribution, and urban services for the poor); and/or enhancing voices and rights(e.g. decision making process and structures, political empowerment, and grievance mechanisms); and,
- the outcome statement of the project design and monitoring framework(DMF) explicitly mentions gender equality and women's empowerment and/or, the outcome performance indicators include gender indicators.

○ **EGM: Effective Gender Mainstreaming**

- The proposed project should have effective gender mainstreaming. Women and men are the most important under-utilized resources which programs and projects must incorporate for more effective and efficient achievement of development goals —since engagement of women and men are key factors in pursuing successful development initiatives. Their direct involvement in projects, both as beneficiaries and participants through adequate planning and designing based on proper understanding of gender differences can ensure that projects 1) achieve the immediate purpose and broad socio-economic goals and 2) maximize return on investments in these sectors. The approach emphasizes the importance of gender mainstreaming to ensure equality between women and men in economic analysis and policy development and of increasing women's equitable participation in decision making and economic independence.
- A project is assigned EGM, if the project outcome is not gender equality or women's empowerment, but project outputs are designed to directly improve women's access to social services, and/or economic and financial resources and opportunities, and/or basic rural and urban infrastructure, and/or enhancing voices and rights, which contribute to gender equality and women's empowerment.

○ **SGE: Some Gender Elements**

- (i) by its nature it is likely to directly improve women's access to natural resources and social services; and/or economic and financial resources and opportunities, and/or basic rural and urban infrastructure, and/or enhance their voices and rights(e.g. education, health, rural development, microfinance, water supply and sanitation, food security, and emergency food and rehabilitation assistance), but that included little, if any gender analysis and few or no specific design features; and did not meet the EGM criteria; or
- (ii) to directly improve women's access to social, economic or financial resources or opportunities, but significant efforts were made during project preparation to identify potential positive and negative impacts on women. Some gender features are included to enhance benefits to women (e.g. targets for employment of women in project construction work, provision of equal pay

for equal work, information campaigns on HIV/AIDS risk, gender training of executing/implementing agencies, and adherence to core labor standards, esp. child labor); and where resettlement is involved includes attention to women in the mitigation/resettlement plans (such as compensation payments to both men and women, joint-ownership of replacement land/housing, restoration of livelihood initiatives for women, and so forth).

○ **NGE: No Gender Elements**

- A project is assigned NGE, when it does not include any gender design features (e.g. no indicator or goal for gender equality, no women's participation or empowerment, no resource or no opportunity for women, etc.)

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**Sourced from ADB (2012) Guidelines for Gender Mainstreaming Categories of ADB Projects*