



# Sustainable Development Verified Impact Standard

## RIMBA RAYA BIODIVERSITY RESERVE PROJECT

DOCUMENT PREPARED BY ECOPARTNERS, LLC.

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# 1 SUMMARY OF SDG CONTRIBUTIONS

The project will generate unique benefits in terms of the planet, people, and their prosperity. The Rimba Raya Biodiversity Reserve is located in the tropical peat swamp forest on the southern coast of Borneo in Central Kalimantan province, Indonesia. The location of the project will allow for a unique contribution towards mitigating the effects of climate change because Indonesia ranks as one of the world’s largest emitters of greenhouse gases despite being a non-industrialized nation whose economy accounts for less than 1% of global GDP (World Bank and IMF Global Rankings - 2008).

The construction of palm oil plantations destroys more than 25,000 square kilometers of forestland that is home to dozens of endangered species as well as impoverished communities who face looming economic forces that threaten to appropriate land that has been their home for generations. Facing this crisis, Indonesia ratified the Paris Agreement in October 2016 and the current government has pledged to cut emissions by 29% to 41% by 2030. As such, the Rimba Raya Biodiversity Reserve Project is in a unique position to address this deforestation and help meet Indonesia’s climate goals.

In the table below, potential project-specific outcomes and impacts are discussed.

Table 1. Summary of Project SDG Contributions

Row Number	Estimated Project Contribution by the End of Project Lifetime	SDG Target	SDG Indicator	Net Impact on SDG Indicator	Section Reference	Claim, Asset, or Label
1	250 people are employed directly by the project	1.1	1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)	Increase	3.2 Impact #1, 3.3	Claim
2	Average salary of RRC employees is 300% higher than the national poverty line, and over 200% higher than the Seruyan minimum wage	1.1	1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)	Increase	3.2 Impact #2, 3.3	Claim

3	100% of households and public facilities have access to solar power energy	1.4	1.4.1 Proportion of population living in households with access to basic services	Increase	3.2 Impact #3, 3.3	Claim
4	100% of households have basic services through access to solar lantern	1.4	1.4.1 Proportion of population living in households with access to basic services	Increase	3.2 Impact #4, 3.3	Claim
5	9 operation chicken farms producing meat and eggs for diversified protein source	2.0	2 Diversified sources of protein	Implement activities to increase	3.2 Impact #5, 3.3	Claim
6	23,000 aluminum packages and 11,000 bottles of shrimp paste produced to diversify protein sources	2.0	2 Diversified sources of protein	Implement activities to increase	3.2 Impact #6, 3.3	Claim
7	Chicken farm participants generate additional income annually for their households	2.3	2.3.2 Average income of small-scale food producers, by sex and indigenous status	Increase	3.2 Impact #7, 3.3	Claim
8	Shrimp paste participants on average generate an additional 3 million IDR annually for their households	2.3	2.3.2 Average income of small-scale food producers, by sex and indigenous status	Increase	3.2 Impact #8, 3.3	Claim
9	All village members receive at least one medical diagnostic or treatment	3.8	3.8.1 Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the	Increase	3.2 Impact #9, 3.3	Claim

			general and the most disadvantaged population)			
10	All village women gain access to women's health services through floating clinic	3.8	3.8.1 Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity a	Increase	3.2 Impact #10, 3.3	Claim
11	All village members with vision impairment receive eyeglasses to improve their wellbeing	3.8	3.8.1 Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity a	Increase	3.2 Impact #11, 3.3	Claim
12	480 scholarships distributed to students for the completion of senior high school year	4.0	4.b.1 Volume of official development assistance flows for scholarships by sector and type of study	Increase	3.2 Impact #13, 3.3	Claim
13	100% of population in stakeholder villages attend trainings and improve their capacity due to diversified education opportunities	4.3	4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the	Increase	3.2 Impact #14, 3.3	Claim

			previous 12 months, by sex			
14	3 mangrove nurseries offering capacity building trainings and sustainability educational opportunities	4.3	4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex	Increase	3.2 Impact #15, 3.3	Claim
15	9 libraries developed that increase access to books, internet, and educational opportunities	4.3	4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex	Increase	3.2 Impact #16, 3.3	Claim
16	50% of all RRC employees are women	5.5	5.5.2 Proportion of women in managerial positions	Increase	3.2 Impact #17, 3.3	Claim
17	36 women run and receive economic benefits from chicken farming	5.5	5.5.2 Proportion of women in managerial positions	Increase	3.2 Impact #18, 3.3	Claim
18	100% women employees in Zuper Shrimp Paste Program	5.5	5.5.2 Proportion of women in managerial positions	Increase	3.2 Impact #19, 3.3	Claim
19	100% of households have improved access to clean water through water filter and purification system distribution	6.1	6.1.1 Proportion of population using safely managed drinking water services	Increase	3.2 Impact #20, 3.3	Claim
20	100% of malfunctioning or broken water filters are replaced	6.1	6.1.1 Proportion of population using safely managed drinking water services	Increase	3.2 Impact #21, 3.3	Claim
21	100% of all stakeholder villages receive training in water infrastructure maintenance	6.1	6.1.1 Proportion of population using safely managed drinking water	Increase	3.2 Impact #22, 3.3	Claim

			services			
22	500,000 mangrove seeds planted	6.6	6.6.1 Change in the extent of water-related ecosystems over time	Increase	4.2 Impact #1, 4.3	Claim
23	5000 hectares of degraded peat swamp area will be replanted	6.6	6.6.1 Change in the extent of water-related ecosystems over time	Increase	4.2 Impact #2, 4.3	Claim
24	9 solar power plants; one plant for each village	7.1	7.1..2 Proportion of population with primary reliance on clean fuels and technology	Increase	4.2 Impact #3, 4.3	Claim
25	100% of households have solar lantern	7.1	7.1.2 Proportion of population with primary reliance on clean fuels and technology	Increase	4.2 Impact #4, 4.3	Claim
26	100% of broken or malfunctioning solar lantern units replaced or maintained	7.1	7.1.2 Proportion of population with primary reliance on clean fuels and technology	Increase	3.2 Impact #25, 3.3	Claim
27	36 women running operational chicken farms	8.0	8 Increase in employment opportunities	Increase	3.2 Impact #27, 3.3	Claim
28	3 mangrove nurseries employing community members	8.0	8 Increase in employment opportunities	Increase	3.2 Impact #28, 3.3	Claim
29	5 nurseries employing community members	8.0	8 Increase in employment opportunities	Increase	3.2 Impact #31, 3.3	Claim
30	9 community centers	8.0	8 Increase in employment opportunities	Increase	3.2 Impact #32, 3.3	Claim

31	9 libraries employing community members	8.0	8 Increase in employment opportunities	Increase	3.2 Impact #33, 3.3	Claim
32	100% of all people in stakeholder villages receive training in the maintenance of solar power infrastructure	9.0	9 Increase in access to infrastructure. Increase in organizational capacity of communities and inclusivity	Increase	3.2 Impact #35, 3.3	Claim
33	36 women receive training to establish their own chicken farms	9.0	9 Increase in access to infrastructure. Increase in organizational capacity of communities and inclusivity	Increase	3.2 Impact #36, 3.3	Claim
34	9 community centers built	9.0	9 Increase in access to infrastructure. Increase in organizational capacity of communities and inclusivity	Increase	3.2 Impact #37, 3.3	Claim
35	50 individuals directly involved in Community Enterprise Funding Grants programs to jump-start sustainable development endeavors	9.3	9.3.2 Proportion of small-scale industries with a loan or line of credit	Increase	3.2 Impact #38, 3.3	Claim
36	100% of households have water filters, and 100% of stakeholder villages have a water purification system installed	10.0	10 Reduction of inequality within communities through the increase in percentage of households in project zone with access to clean water	Implement activities to decrease inequality, increase access	3.2 Impact #39, 3.3	Claim
37	100% of households and public facilities have access to solar power energy	10.0	10 Reduction of inequality within communities through the increase in percentage of households in project zone with	Implement activities to decrease inequality, increase access	3.2 Impact #40, 3.3	Claim

			access to clean water			
38	100% use of allocated budget to support TPNP's ongoing activities	11.4	11.4.1 Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage (cultural, natural, mixed and World Heritage Centre designation), level of government (national, regional and local/municipal), type of expenditure (operating expenditure/investment) and type of private funding (donations in kind, private non-profit sector and sponsorship)	Increase	3.2 Impact #41, 3.3	Claim
39	100% use of allocated budget to support OFI's ongoing activities	11.4	11.4.1 Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage (cultural, natural, mixed and World Heritage Centre designation), level of government (national, regional and local/municipal), type of expenditure (operating expenditure/invest	Increase	3.2 Impact #42, 3.3	Claim

			ment) and type of private funding (donations in kind, private non-profit sector and sponsorship)			
40	All school students increased their knowledge and awareness of sustainable development through school curriculum	12.8	12.8.1 Extent to which (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment	Increase	3.2 Impact #43, 3.3	Claim
41	5000 hectares of degraded area will be replanted	13.0	13 Reduction in emissions as compared to the baseline	Increase	4.2 Impact #6, 4.3	Claim
42	127,330,645 tCO2e of net estimated emissions reductions	13.0	13 Reduction in emissions as compared to the baseline	Increase	4.2 Impact #7, 4.3	SD Vista Labeled VCUs
43	6 fire towers constructed	13.1	13.1.3 Proportion of local governments that adopt and implement local disaster risk reduction strategies	Implement activities to increase	4.2 Impact #8, 4.3	Claim
44	100% of population in stakeholder villages	13.3	13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer,	Increase	4.2 Impact #9, 4.3	Claim

			and development actions			
45	3 mangrove nurseries employing community members	13.3	13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions	Implement activities to increase	4.2 Impact #10, 4.3	Claim
46	160 tonnes of garbage collected from the Seruyan River and its shores	14.1	14.1.1 Index of coastal eutrophication and floating plastic debris density	Decrease	4.2 Impact #12, 4.3	Claim
47	500,000 mangrove seeds planted	14.5	14.5.1 Coverage of protected areas in relation to marine areas	Implement activities to increase	4.2 Impact #13, 4.3	Claim
48	15,187 hectares of forest protected through community firefighting	15.1	15.1.1 Forest area is a proportion of total land area	Increase	4.2 Impact #14, 4.3	Claim
49	47,237 hectares of land protected from conversion to palm oil	15.1	15.1.1 Forest area is a proportion of total land area	Increase	4.2 Impact #15, 4.3	Claim
50	2,000,000 seedlings grown in nurseries for reforestation programs	15.1	15.1.1 Forest area is a proportion of total land area	Increase	4.2 Impact #16, 4.3	Claim
51	100% completion of monthly illegal logging patrols in Rimba Raya Reserve	15.2	15.2.1 Progress towards sustainable forest management	Increase	4.2 Impact #17, 4.3	Claim

52	5000 hectares of degraded area will be replanted	15.5	15.5.1 Red List Index	Implement activities to increase	4.2 Impact #18, 4.3	Claim
53	47,237 hectares of land protected as habitat for endangered species	15.5	15.5.1 Red List Index	Increase	4.2 Impact #19, 4.3	Claim
54	300 orangutans released from orangutan care facility	15.5	15.5.1 Red List Index	Increase	4.2 Impact #20, 4.3	Claim
55	9 community centers that will increase the ability of community members to attend meetings and receive formal or informal education	16.0	16 Increase in access to community gathering and public spaces	Implement activities to increase	3.2 Impact #44, 3.3	Claim
56	9 community centers that will increase organizational and inclusivity capacity of communities	16.0	16 Increase in access to community gathering and public spaces	Implement activities to increase	3.2 Impact #45, 3.3	Claim
57	100% community satisfaction rate with solar power infrastructure	16.6	16.6.2 Proportion of population satisfied with their last experience of public services	Implement activities to increase	3.2 Impact #46, 3.3	Claim
58	\$50,000 received from partnerships	17.7	17.7.1 Total amount of approved funding for developing countries to promote the development, transfer, dissemination and diffusion of environmentally sound technologies	Increase	3.2 Impact #47, 3.3	Claim

## 2 PROJECT DESIGN

### 2.1 Project Objectives, Context and Long-term Viability

#### 2.1.1 Summary of Project Sustainable Development Objective(s)

Between 1990 and 2005 Indonesia was losing just over 2% of its forest cover annually, a rate of nearly 1.9 million hectares a year. Today, that number has grown to more than 2,500,000 hectares annually<sup>P1P</sup> – an area roughly the size of Belgium (FAO 2006). Extensive loss of national forest cover has been brought about through clearing of forest areas with fire to open up land for agricultural use, especially palm oil. From 2000-2005 Indonesia's forest loss represented the second highest annual loss of forest cover by area of any country in the world (after Brazil). In this same time period, Indonesia planted 1.6 million ha of oil palm, increasing production by 87% (FAO 2006). As part of this conversion process, post-fire clearing and draining of peat lands has rapidly pushed the country to be amongst the world's largest emitters of greenhouse gases (GHGs). Today, Indonesia ranks just behind the U.S. and China as the third largest emitter of greenhouse gas emissions, despite being a non-industrialized nation whose economy accounts for less than 1% of global GDP. The destruction of Indonesia's forests, the 3rd largest expanse of tropical rainforest in the world, combined with massive peat-based GHG emissions is fueling local and global environmental concerns. The task that lay ahead for Indonesia and those who are seeking new solutions to value its remaining forests is to create new economic opportunity from these environmental challenges by linking local and national forest resources with the global market for environmental services. The Rimba Raya Biodiversity Reserve Project, an initiative by InfiniteEARTH, aims to reduce Indonesia's emissions by preserving 15,091 hectares of tropical peat swamp forest. This area, rich in biodiversity including the endangered Bornean orangutan, was slated by the Provincial government to be converted into four palm oil estates. Located on the southern coast of Borneo in the province of Central Kalimantan, the project is also designed to protect the integrity of the adjacent world-renowned Tanjung Puting National Park, by creating a physical buffer zone on the full extent of the ~90km eastern border of the park.

In the absence of the Rimba Raya Project, the project area would be converted to palm oil plantations by logging, burning to clear unused felled trees and remaining forest, and systematic draining of the peatland area. This would result in the release of both above and belowground carbon deposits. As a result, millions of tons of GHG emissions would be released into the atmosphere over the lifetime of the plantations. Increasingly scarce forest habitat supporting orangutans and more than 50 other endangered species would disappear completely. The 9 local forest communities along the eastern edge of the reserve would also face the threat of their land being appropriated by palm oil companies. InfiniteEARTH (IE), the principal project proponent, seeks to use the sale of carbon credits generated by the Voluntary Carbon Standard (VCS) through the Reducing Emissions from Deforestation and Degradation (REDD) Avoided Planned Deforestation (APD) mechanism to provide a sustainable revenue stream sufficient to curtail the clearing of Rimba Raya. The Rimba Raya Project will funnel substantial

and sustainable financial resources for project area protection, local community development, and provincial government infrastructure and support in order to create a viable alternative to forest conversion in Indonesia. The Rimba Raya Biodiversity Reserve Project recognizes that in order to launch and sustain a new mechanism for valuing forests on the ground, local community involvement is not just a sufficient feature of the project, it is a necessity. Local communities have been participating in and will continue to be integrally involved in the planning and development of various aspects of the project. Programs that Rimba Raya communities have expressed interest in helping to develop and implement, include: water filtration devices, distribution of clean stove technology, solar lighting, increased access to healthcare, early childhood development materials and tools including the one laptop per child program, training in project and reserve management, and environmental conservation education. The project will create local employment in protecting the Carbon Accounting Area, implementing an integrated fire management plan, and patrolling illegal logging and wildlife poaching. InfiniteEARTH aims to demonstrate that protecting endangered peat swamp forest is commercially, socially, and environmentally advantageous. The InfiniteEARTH vision is to develop a project that harnesses the global carbon market in order to successfully compete with commercial agricultural interests in order to provide social and environmental benefits that would not otherwise be attainable. Rimba Raya peat-swamp forests and the threats it faces are not unique, rather representative of environmental degradation of increasingly scarce forest and peatland resources in Indonesia. With the Rimba Raya Project, InfiniteEARTH is determined to create an operational, voluntary market and community involvement model that can be replicated in peat swamp forest ecosystems across Indonesia for decades to come.

#### Rimba Raya's Sustainable Development Objectives:

- Increase Agricultural productivity and incomes of small-scale food producers
- Undertake reforms to give women equal rights to economic resources
- Capacity-building support to developing countries in water- and sanitation-related activities and programmes
- Promote the implementation of sustainable management of all types of forest, halt deforestation, restore degraded forest and substantially increase afforestation and reforestation globally
- Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity, and protect and prevent the extinction of threatened species
- Achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.
- Increase substantially the share of renewable energy in the global energy mix
- Ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, help maintain ecosystems, and strengthen capacity for adaptation to climate change, extreme weather, drought, flooding, and other disasters and that progressively improve land and soil quality

- Support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services
- Ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision making in political, economic, and public life.
- Ensure universal access to affordable, reliable, and modern energy services
- Ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture’s contribution to sustainable development.
- Ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy
- Protect carbon stores and increase carbon sequestration to decrease global GHG emissions

### 2.1.2 Description of the Project Activity

The primary project activity has been to avoid the conversion of tropical peat swamp forest to oil palm plantations. Operationally this primary activity is achieved through the implementation of the following core project activities.

**1. RRC Employment.** Findings from the most recent socio-economic study indicated that the majority of the population in the project zone is experiencing high levels of deprivation as dictated by fluctuating income streams and the cost of food being the largest expenditure. These economic conditions and food security depend almost entirely on local natural resources – fisheries, water, fire wood and rice production – which can be inconsistently available or accessible at any given time.

The creation of the Reserve allows for continued community benefits such as sustainable, alternative, livelihood opportunities, equal opportunity employment for women and other marginalized groups, as well as sustainable food sourcing production. This is because the Reserve itself provides sustainable employment opportunities and agroforestry-based food production, among other community benefits that will remain permanently intact. This activity contributes to achieving SDG 1 – No Poverty, and SDG 5 – Gender equality through the provision of decent employment and the prioritization of equal opportunities for employment of women.

**2. Water Filtration Systems.** Over a billion people on the planet still do not have access to the most basic element needed to support life: safe drinking water. Every year, 1.7 million deaths – mainly among children under the age of five – result from diarrhoea caused by polluted water.

The project will provide water filtration systems to households throughout the project zone and will explore the potential of installed village water filtration systems. This program will improve the livelihoods of all community members, reduce the resources expended on medical treatment, and

indirectly remove some of the economic pressure driving deforestation in the Project Area. This project activity directly contributes to SDG 6 – Clean Water and Sanitation, and SDG 10 – Reducing Inequality, by ensuring that households and communities, and specifically vulnerable groups within the project zone have access to clean water. It is expected that the provision of water filters will also indirectly contribute to SDG 3 – Good Health and Well-Being by reducing the incidences of illness due to contaminated drinking water.

**3. Solar Power & Solar Lanterns.** Small Scale Solar Lighting will be provided to individual households. Additionally the project will explore installing village level solar power plants for village electrification. It is expected that this activity will provide positive and direct contributions to SDGs 1, 7, 9, 10, 16, and 17 through the provision of basic services to all households regardless of income, along with contributions in funding from international donors, the increase in positive perception of Rimba Raya’s presence throughout the project zone, and the increase in clean energy infrastructure throughout area.

**4. Chicken Farm & Zuper Shrimp Paste.** The Rimba Raya project has extended World Education’s ongoing programs for food security, access to government services, and capacity building within the project zone. By helping local households meet their food needs utilizing land already under cultivation and by educating them about their political rights, the Rimba Raya project has eliminated many of the incentives driving illegal logging and the unnecessary conversion of forest to agricultural land. In addition, capacity building efforts will be focused towards women’s working groups. Women’s working groups have been established and finances secured for shrimp paste in an effort to keep the price these products stable in the surrounding communities as well as to provide an alternative form of revenue with a lower ecological impact than palm oil plantations.

It is expected that these activities will directly and indirectly contribute to net positive impacts for SDGs 2, 5, 8, 9, and 13. While there is the potential that negative impacts could occur due to runoff from chicken farms could contribute to water contamination, the distribution of water filters can mitigate the negative impact that this could cause as it relates to human health and SDG 3. Additionally, the possible indirect negative impacts on SDG 12 that could be generated due to the packaging used for the shrimp paste production is also being mitigated through environmental education surrounding waste management as well as river clean-ups to minimize the amount of trash contributing to ocean pollution.

**5. Floating Clinic.** Project proponents will arrange for the construction, outfitting, and deployment of a floating medical clinic. In lieu of community clinics, a floating clinic was chosen for its mobility and the resulting ability to deliver medical services up and down the Seruyan River, effectively servicing all of the communities in the Project Zone.

InfiniteEARTH has chosen to use the Phinisi and its hand-crafted design in order to promote and preserve this traditional wooden shipbuilding industry. The ship will be constructed from sustainably harvested local hardwoods. It is expected that this activity will directly contribute to net positive impacts for SDG 3 – Good Health and Well-being.

**6. Trainings.** Planned training programs include nurseries, agroforestry plantations, community fire-fighting, chicken farms, shrimp paste production, environmental education, and forest patrols. Trainings will generate positive impacts to community groups by enabling community members within the project area to build alternative skills and livelihood capabilities. In expanding worker skills sets and abilities, community members located within the project zone will be able to advance their socio-economic status, generate greater community capacity, and increase their resilience.

It is expected that this activity will directly contribute to net positive impacts for SDG 4 – Quality Education and SDG 13 – Climate Action, by increasing the availability of informal educational opportunities to a wide variety of people throughout the project zone and by increasing the resilience and capacity of individuals to respond to climate disasters and reduce their climate impacts.

**7. Scholarships.** A portion of the revenue created by selling carbon credits will go toward educational scholarships. The objective of this education scholarship program is to create opportunities for students from less fortunate families to continue their education to senior high school level or equivalent for a period of 3 years. It is expected that this activity will directly lead to net positive impacts for SDG 4 through the increase in availability of higher education opportunities for children throughout the project zone.

**8. Mangrove Reforestation & Peat Swamp Reforestation.** The project proponents have committed to undertaking significant reforestation work inside the Project Area. The project proponents will carry out restoration activities, planting seedlings of native dipterocarp and other appropriate tree species in areas with an insufficient inventory of young trees. The project goal is to reforest and restore degraded mangrove and peat swamp forests, including increasing carbon stocks in the Project Area and providing additional habitat, thereby strengthening the physical buffer protecting TPNP.

It is expected that these activities will directly or indirectly contribute to net positive impacts for 4, 6, 8, 11, 13, 14, 15. The reforestation activities will provide educational opportunities, strengthen community resilience and capacity to respond to climate change, contribute to gainful employment throughout the project zone, increase habitat for endangered species, and improve the integrity of water-related ecosystems. It is possible that negative impacts may occur as it relates to SDG 2, as there may be less available land for agriculture purposes available for communities, however, this scenario does not differ when compared to the destruction of this area for conversion to palm oil, and the project is working to mitigate possible food insecurity through trainings on food production, agroforestry, and the support of chicken farms and shrimp paste enterprises.

**9. Community Enterprise Funding Grants.** Community Enterprise Funding Grants is the extension of very small grants to poor entrepreneurs and to others living in poverty. These individuals lack collateral, steady employment, and a verifiable credit history and therefore cannot meet even the most minimal qualifications to gain access to traditional credit.

IE hopes to provide many individuals inside the Project Zone looking to build small-scale and sustainable businesses with access to grants as a means to expand their livelihoods options and

improve their socio-economic status. Towards that end, IE will develop a targeted Community Enterprise Funding Grants program for Project Zone communities.

It is expected that the Community Enterprise Funding Grants program will generate direct positive benefits as it relates to SDG 9, through the fostering of small enterprises and encouragement of sustainable entrepreneurship. It is possible that the involvement of individuals in the Community Enterprise Funding Grants program could have indirect negative consequences as it relates to SDG 8, by increasing their economic vulnerability to fluctuations in market supply and demand. However, this potential negative impact is being mitigated by the program as the individuals receiving the grants are not held financially responsible for paying them back if the program or business fails, unlike normal forms of credit. The programs themselves also are often not the primary source of household income and rather serve as supplementary household income, which reduces potential experienced economic instability.

**10. Reading Glasses.** The Rimba Raya project will promote programs to provide community members and students with reading glasses to ensure accessibility to education to those with vision impairment. It is expected that this activity will generate positive net impacts for SDGs 3 and 4, by improving overall optometric health and increasing access to education for individuals with visual impairments.

**11. Community Firefighting.** In past years, largely due to the practices of palm oil plantations within the Project Zone, fires have periodically swept through the Project Area and the park during dry periods. The Rimba Raya project will create a fire response system, including training and equipping a fire brigade and developing a fire response plan for the reserve in conjunction with guard towers and stations. The Fire Plan will include an institutional component addressing capital, personnel, and organizational InfiniteEARTH is committed to protecting the concession of PT. Rimba Raya, and has contracted Marc Nicolas, an internationally- recognized expert experienced in peat swamp fire prevention and suppression, to develop and implement a fire plan for Rimba Raya. The document examines the current conditions of the concession and its degraded peat swamp forest at high fire risk.

The technical aspects of fire prevention, pre-suppression, suppression and post-suppression are explained in detail. Fire prevention includes cooperative agreements, prevention infrastructures and fire information system. Fire pre-suppression covers pre-attack planning, fire management organization, standard operating procedures, task forces (crews, equipment and training), awareness campaigns and patrols. Fire suppression includes fire command system, mobilization, firefighting and rescue operations. Fire post-suppression covers identification of burnt areas, damage assessment and rehabilitation.

It is expected that the this activity will generate net positive impacts for SDGs 8, 13, and 15, through the generation of employment, the increase in climate resilience, and the maintenance of key habitat for biodiversity as well as carbon stocks.

**12. Support for Tanjung Puting National Park.** The TPNP Authority currently has a staff of 56 personnel, working out of offices in Pangkalan Bun, Pembuang Hulu, Kuala Pembuang, and Kumai, whose job it is to protect over 400,000 ha of national park besieged by economic actors that would profit from its

destruction. The mere presence of the Rimba Raya project along the park's exposed eastern flank will greatly reduce the resource and administrative burden for this staff.

Beyond this, and as part of their commitment to developing a for-profit conservation model for underfunded national parks, the Rimba Raya project proponents will work to strengthen the co-management agreement already in existence between Tanjung Puting National Park and OFI.

A portion of the revenues from the sale of the project's carbon credits will be used to fund directly the park's management and conservation activities. Moreover, park personnel will have access to training and capacity-building opportunities, improved equipment for monitoring and communication, and the reserve's fire brigade.

OFI has been instrumental in funding and building a small network of guard posts along the perimeter of Tanjung Puting over the past two decades, with the bulk of these posts located along the park boundaries to the north and west. The Rimba Raya project will extend this network of guard posts to create comprehensive observation and communication coverage along the eastern side of the park and project area.

It is expected that this activity will directly contribute to SDGs 11 and 15 through the project's financial and technical support of critical natural habitat and cultural/biodiversity heritage for Indonesia.

**13. School Curriculum: Climate Change/Sustainability.** Rimba Raya will work with OFI and other stakeholders to develop a curriculum for surrounding communities that covers the concepts of climate change, REDD+, conservation, restoration, biodiversity, local endemism, and species identification. The project goal is to generate positive impacts for SDG 12 by increasing access to comprehensive environmental education and increasing stakeholder knowledge and support of the Reserve.

**14. Seruyan River Cleanup.** The communities in and around the project area depend on the Seruyan river and its tributaries for fisheries, aquaculture, and drinking water. The river is observed as a public place, so it is often used as a place to dispose of various types of garbage without recognizing the impacts of this disposal on the other communities living around the river, as well as on the riparian ecosystem. Rimba Raya Conservation together with the Seruyan District Environmental Agency will implement a community-based waste management project along with the 8 villages residing along the river from Ulak Batu Village to Kuala Pembuang. Through this campaign, RRC aims to generate positive impacts for SDG 14 by increasing environmental awareness, decreasing the amount of waste flowing into the ocean, increasing access to alternative waste management systems, and providing education surrounding the impacts of pollution on riparian ecosystems and the importance of these ecosystems to the health and livelihoods of all community members.

**15. Establishment and Protection of the Rimba Raya Reserve.** The primary project activity will be the establishment of the Rimba Raya Reserve, a privately-funded protected area comprised of peat swamp, lowland and kerangas forest along the eastern boundary of Tanjung Puting National Park. The management plan envisions the creation of a series of guard towers, a fire response plan and fire brigade, and a comprehensive monitoring system. These measures will help ensure the permanence of Project Area carbon stocks and biodiversity and the territorial integrity of TPNP. In addition, project

proponents will fund significant enrichment and rehabilitation work inside the Project Area, increasing carbon stocks and habitat available for biodiversity.

An essential element of the Rimba Raya project is the engagement of all stakeholders in the Project Zone in order to create a social buffer to the park and Project Area, thereby alleviating many of the external pressures that drive deforestation. The project proponents have created a process framework designed to disseminate information about project development and implementation, support community participation in all aspects of the project, and offer opportunities for capacity-building.

To create an effective social buffer, project proponents believe that a comprehensive approach to socio-economic development must be undertaken with the objective of addressing the root causes of community-based deforestation – namely poverty, hunger, disease, lack of adequate shelter, and exclusion. To that end, a slate of programs has been developed based on data from an initial social survey in the Project Zone and with reference to the Sustainable Development Goals. It is expected that this activity will contribute positively to many SDGs, but specifically will generate impacts as it relates to SDGs 8, 12, 13, and 15.

**16. Nurseries.** The project proponents will help fund and provide training for the development of community-based nurseries. The community nurseries will create community employment opportunities, training on agroforestry, and aid in the reforestation of degraded areas within the project area and project zone and are expected to generate net positive impacts for SDGs 15 and 8.

**17. Orangutan Care Facility.** Tanjung Puting National Park is one of the largest remaining protected habitats for the endangered Borneo Orangutan. For over twenty years, OFI has been rescuing orangutans orphaned by deforestation, rehabilitating them, and releasing them back into the wild, where they are monitored for research and education purposes. OFI has also managed Camp Leakey, a wild orangutan reserve and care facility inside the park, and its conservation activities have extended to securing park borders and educating communities around the park.

A portion of the revenues from the sale of the project's carbon credits will be used to fund OFI's ongoing activities; including new programs for reforestation of critical orangutan habitats and acquisition of viable habitat that does not currently meet REDD project requirements for additionality.

In addition, project proponents will build three new orangutan release centers and six feeding platforms at strategic locations inside the Project Area. Working with project proponents, OFI will use the release centers to reintroduce as many as 300 orangutans from their Orangutan Care Center and Quarantine (OCCQ) Rehabilitation Center near Pangkalan Bun, back into the wild, utilizing the reserve as a staging ground for their migration into the park. The feeding platforms will function as an integral component of the reintroduction process. By progressively moving the locations of feeding platforms farther away from the release centers, project proponents and OFI staff can monitor orangutan adaptation and exercise partial control over orangutan whereabouts for the first several months after release.

It is expected that this activity will generate net positive impacts for SDGs 11 and 15 through the financial support of organizations protecting key natural heritage of Indonesia as well as the direct support of activities to sustain and protect the endangered Bornean orangutan.

**18. Community Centers & Village Libraries.** Following the successful example of OFI with communities in the park's western region, project proponents will build community centers in strategically selected villages inside the Project Zone to act as a soft interface between the project and the communities. The community centers will offer facilities for park and project staff as well as for community organizations, and they will supply news and radio communication facilities, libraries, and social and agricultural training programs. It is expected that the facilities themselves as well as the services that they offer will generate net positive impacts for SDGs 4, 8, 9, and 16. While there may be some potential negative impacts as it relates to SDG 16 through possible increases in inequality between communities with and without the centers, the centers are being built strategically in areas with the highest accessibility, and plans are in place to construct centers in numerous villages to allow for increased access.

**19. Development Donations.** The project goal is to raise \$50,000 in development donations by project end date, especially towards solar power and peat swamp reforestation efforts. The project will continue to bolster sustainable development partnerships. The objective of gathering donations and developing partnerships will be to promote the development, transfer, dissemination and diffusion of environmentally sound technologies and will contribute to the project's positive impact goals for SDG 17.

### 2.1.3 Implementation Schedule

Start Date	Finish Date	Milestone(s) in the Project's Development and Implementation	Activity Description / Relevancy
20-Mar-08	21-Mar-08	Meeting with Orangutan Foundation Intl.	Determine synergy between orangutan conservation objectives and avoided deforestation
21-Mar-08	23-Mar-08	Visit potential project site area	Survey current condition of forest, assess immediate local threat from palm oil
21-Mar-08	25-Mar-08	Meet independently with three members of Commission 4 (development) of the Provincial legislature	Discuss new land-use plan that intends to convert Production Forests to Palm Oil
25-Mar-08	25-Mar-08	Meet with Provincial Governor	Determine possibility of his support given historical support of palm oil
8-Apr-08	8-Apr-08	Meet with Conservation Dept. of the Ministry of Forestry (PHKA)	Meet with "Head of Sub-Directorate" of the dept. in order to build support at lower levels within the agency.

9-Apr-08	9-Apr-08	Meet with Conservation Dept. of the Ministry of Forestry (PHKA)	Meet with the "Director of Area Conservation" and "Director General" to explicitly outline the project plan and ask for support
10-Apr-08	10-Apr-08	Deliver LOI to Ministry of Forestry	Lay out plan. Demonstrate common goals with OFI and define project area.
12-Apr-08	12-Apr-08	Meet with Minister of Forestry	Determine level of support for the project. Ask for advice on how to proceed
1-Jun-08	15-Aug-08	Commission "Desk Top Study"	Contract ForestCarbon to conduct a Desk Top Study of the Project area
15-Sep-08	1-Oct-08	Application for "Area verification"	Local branch of the National Forestry Dept determines current legal status of project area and issues letter of approval if no legal conflicts with title or proposed activities
15-Sep-08	18-Sep-08	Meet with Chiefs of the local villages	Determine level of support for the project. Discuss community concerns and needs
1-Oct-08	31-Dec-10	Establishment of offices	Administrative offices established in Jakarta and Pangkalanbun and field office established in Seruyan
1-Oct-08	15-Mar-09	Project Design	Design & Development of the Rimba Raya REDD Project
15-Oct-08	18-Oct-08	Meet with Bupati of the Seruyan Regency	Determine level of support for the project. Discuss regency needs.
1-Nov-08	30-Nov-08	Bupati's Letter of Recommendation	Bupati of Seruyan Regency signs letter of approval and recommendation of the project
1-Nov-08	15-Jan-09	Biodiversity Monitoring	Commission Biodiversity Study of project area
1-Dec-08	1-Feb-09	Community Assessment	Commission Assessment for all communities in the project area to determine land tenure analysis, socio-economic status and needs, etc
1-Dec-08	15-Mar-09	Governor's Letter of Recommendation	Governor of the Central Kalimantan province signs letter of approval and recommendation of the project
1-Dec-13	31-Mar-12	Orangutan Care Facility	Four Orangutan release stations will be built inside the project area.
23-Dec-08	23-Dec-08	Village Heads Meeting	OFI sponsored meeting of Project Zone Village Heads to discuss conservation issues.

23-Dec-08	28-Dec-08	Daemeter Social Survey	Daemeter field team visits villages in the Project Zone to gather info and elicit opinions on proposed project activities
15-Feb-09	15-Jun-10	Agreement with carbon buyers	Contract for the purchase of REDD credits
1-Mar-09	15-Mar-09	Technical Proposal	Submit Technical proposal (Project Operational Plan) to Dept of Forestry for review
15-Apr-09	1-May-09	Technical Proposal	Present Technical proposal (Project Operational Plan) to Dept of Forestry and field questions & concerns.
1-May-09	1-Jun-10	Community Firefighting	Design and Implementation of comprehensive fire prevention and response plan
1-May-09	31-May-09	PDD Pre-validation	PDD submitted for pre-validation review
1-May-09	31-May-09	PDD Translation and Dissemination	PDD translated into Indonesian and distributed to all stakeholders for the CCB public comment period
1-Jun-09	30-Jun-09	Minister's Letter of Recommendation	Concession approved contingent on compliance with administrative steps
1-Jun-09	15-Jan-09	Monitoring Plan	Design & Development of Monitoring Plan
1-Jun-09	15-Jan-10	Daemeter Phase 2 Biodiversity and Community Assessments	CCB validation and verification
1-Jun-09	15-Jun-10	CCB Validation	PDD posted to CCB website and project validation commences, triggering public comment period
1-Jun-09	15-Jul-10	2nd Validation of project	Receive 1st validation of project receive 2nd validation
1-Jun-09	15-May-10	Public comment meetings	Meetings in Project Zone communities to describe project and elicit comments
1-Jun-09	17-Nov-68	Orangutan Care Facility	The coordinated release of 300 rehabilitated orangutans into the project area
1-Jan-10	15-Apr-10	Environmental Impact Assessment	Conduct Environmental & Social Impact Study per Dept of Forestry Regulations for final approval
1-Aug-09	31-May-10	Community consultations	Series of meetings with Project Zone communities to elaborate and prioritize social programs
1-May-10	31-May-10	Community consultations	Initial (1 of 2) Public Comment Period
1-Sep-10	30-Sep-10	Community consultations	Formal CCBA Public Comment Period

1-Sep-09	15-Jul-11	Minister's Decree granting IUPHHK Concession Rights	Final approval of the Rimba Raya rehabilitation and restoration concession license
1-Jan-10	15-Jun-11	Establishment of community committees	Establish system of community involvement in day-to-day operations, process and procedural rules for decision making, arbitration, etc. using existing socio/political/judicial structures (village counsels, tribunals)
15-May-10	Pending	IUPJL Business License	Application & Approval of Business License for trading Carbon Credits (under compliance scheme only)
15-Feb-10	15-Aug-10	VCS Verification	VCS verification
1-Jun-09	17-Nov-68	Community Forest Patrols	Build guard posts at strategic locations across the Reserve
1-Jan-13	17-Nov-68	Community Forest Patrols/RRC Employment	The community forest patrol involves the monitoring fire and illegal activities with participation of local villagers
1-Jun-10	31-Dec-15	Community Firefighting/RRC Employment	The community firefighting involves fire prevention and suppression activities with participation of local villagers
1-Jun-10	17-Nov-68	RRC Funding for Tanjung Puting National Park	Become an additional party to the existing and historical co-management agreement between OFI and TPNP
1-Jun-14	17-Nov-68	Orangutan Care Facility	Four supplemental Orangutan feeding platforms will be built inside the project area
1-Jun-11	17-Nov-68	Synergistic work with Widya Erti Indonesia	Joint effort with Widya Erti Indonesia to improve capacity building and social development with community activities in project zone
1-Jun-11	17-Nov-68	RRC Funding for Tanjung Puting National Park	Grants to fund TPNP conservation activities
1-Jun-11	17-Nov-68	Trainings	Bring in outside training personnel to adequately train and equip staff
1-Jun-11	17-Nov-68	Commencement of annual grants to OFI	Grants to fund OFI orangutan conservation and rehabilitation activities
1-Jun-11	17-Nov-68	Community Centers/Community Libraries	Create the enabling conditions to children, youth and adults to have access to education services and tools as well as spaces for organizational development
1-Dec-10	17-Nov-68	Water Filtration Systems	Development of community based clean filtration system

15-Jun-09	17-Nov-68	Orangutan Care Facility	Design and implementation of orangutan monitoring study
15-Mar-09	2011	CCB Verification	Receive CCB Gold Validation
1-Jun-11	17-Nov-68	Community Centers	The construction of community centers aim to be utilized by the village government and members for social development, health and education activities
1-Jun-11	17-Nov-68	Trainings	Trainings developed based on program needs for both community members and local RRBR employees in aspects related but not limited to community development, biodiversity and climate monitoring components
1-Jun-09	17-Nov-68	Implementation of Monitoring Plan	Execution of Monitoring Plan
15-Mar-09	29-Feb-20	Construction of fire towers	Build fire towers at strategic locations across the Reserve
1-Jun-11	17-Nov-68	Community Enterprise Funding Grants	Provide micro-finance program to local communities for agriculture, aqua-culture and other enterprise endeavors that aim to creates a sustainable livelihood
1-Jun-12	17-Nov-68	Floating Clinic	Provide healthcare services to every community member along the Seruyan river
1-Jun-12	17-Nov-68	Tree Planting Initiative	Rehabilitation of degraded habitat via a multi-story mixed indigenous species natural forest & community based cash crop agro-forestry approach
2014	2017	Nursery	Replanting activities are required in the area, which requires educational materials for villagers to use to develop a nursery in some villages.
2016	17-Nov-68	Chicken Farm	A chicken farm is operational for egg and meat production within the village of Baung
2015	2017	Zuper Shrimp Paste	This is an effort to keep the price of shrimp paste stable in the area through a women's group in charge of packaging the paste for later use.
20-Jul-18	17-Nov-68	Solar Power	Access to solar power supply that fulfills the local needs for sustainable development in the villages

16-Jul-18	1-May-21	Education Scholarship for Seruyan Children	These merit-based scholarships award high school students from extremely low-income families in the project area
18-Oct-18	17-Nov-68	Mangrove Reforestation	Rehabilitation of mangrove areas that have been historical deforested or degraded
1-Mar-13	17-Nov-68	Peat Swamp Reforestation	Rehabilitation and enrichment of peat swamp areas that have been historical deforested or degraded
5-Mar-16	17-Nov-68	Solar Lanterns	Distribution of solar lanterns to houses in villages that do not yet have access to electricity
6-Sep-17	23-Oct-19	Reading Glasses	The distribution of eyeglasses is prioritized for members of the community, above 40 years old, whom economic conditions are very low
25-Jul-16	17-Nov-68	School Curriculum: Climate Change/Sustainable Development	Local content curriculum which adopts sustainable agricultural and conservation activities in the community
1-Feb-19	17-Nov-68	Biodiversity Monitoring	Installed 25 camera traps in the Project area to monitor wildlife and species distribution within the Rimba Raya Area to inform management and monitoring recommendations.
4-Feb-19	17-Nov-68	Seruyan River Cleanup	Remove waste from the Seruyan River and its shores and to implement community awareness to highlight the associated consequences to human health and the surrounded natural ecosystem.
18-Nov-08	17-Nov-68	Development Donations	The project goal is to raise \$50,000 in development donations by project end date. The project will continue to bolster sustainable development partnerships.

#### 2.1.4 Project Proponent

<b>Organization Name</b>	InfiniteEARTH
<b>Role in the Project</b>	Project Proponent

<b>Contact Person</b>	Todd Lemons
<b>Title</b>	Founder and Non-Executive Chairman
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### 2.1.5 Other Entities Involved in the Project

<b>Organization Name</b>	Orangutan Foundation International (OFI)
<b>Role in the Project</b>	Forest Protection, Ground Surveying
<b>Contact Person</b>	Dr. Biruté Galdikas
<b>Title</b>	President, Head of Field Operations
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<b>Telephone</b>	+62 0532-24778
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<b>Organization Name</b>	World Education Indonesia (World Education, WE, or WEI)
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<b>Role in the Project</b>	Community Development, Education, Technical Advising and Consultation
<b>Contact Person</b>	Edy Hartono
<b>Title</b>	Country Manager - Indonesia
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<b>Organization Name</b>	ecoPartners LLC
<b>Role in the Project</b>	Remote Sensing, Land Use Change Analysis, VCS/CCB verification support services
<b>Contact Person</b>	Paz Lozano
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### 2.1.6 Project Type

The Rimba Raya project follows the framework of Reducing Emissions from Deforestation and Degradation (REDD) through Avoided Planned Deforestation (APD). This project is not a grouped project.

### 2.1.7 Project Location

The project is located in the Seruyan Regency, in the province of Central Kalimantan, Indonesia. The Project lies between 112°01'12" - 112°28'12" east longitude and 02°31'48" - 03°21'00" south latitude and is bounded by Tanjung Puting National Park in the west, the Java Sea in the south, the Seruyan River in the east, and a palm oil concession in the north. The project area can be seen within greater regional area in the image below (Figure 1).



Figure 1: The Regional Location of the Rimba Raya Project

## 2.1.8 Baseline Scenario

### RRC Employment

Indonesia Central Bureau of Statistics calculates the poverty line by city or district based on the amount of IDR required to access adequate food (2100 kCal/day), housing, clothing, education, and health per capita. The poverty line in Indonesia was 1,990,170 IDR/day in 2019, which is below the minimum wage of 2,840,000 IDR in the Seruyan District; however opportunities for employment are low in the rural regions surrounding the project area and opportunities for steady income are not available.

In addition, there is a large gender gap in the Indonesian workforce. This gap is reflected in the proportion of seats held by women in national parliaments and local governments, 15% being held by women and the remaining 85% by men, other genders are not reported. RRC will implement an Anti-discrimination Recruitment Policy ensuring that the hiring and recruitment process does not discriminate based on gender and ensures that an adequate number of women and members of other underrepresented groups are encouraged to and have the opportunity to apply. More generally, the project aims to increase well-paying employment opportunities by hiring community members to work on the various project activities and monitoring.

## Water Filtration Systems

During stakeholder consultations, access to clean drinking water was one of the highest priority items for community members. RRC will implement two strategies in order to increase access to clean water. The project aims to install water purifying systems in all surrounding villages capable of filtering 2000 liters of water in 4-5 hours. This will require training for each community on how to install and use the purifying system. In the short-term, the project will distribute water filters to all surrounding villages. The implementation of this activity will increase access to adequate quantities of clean drinking water throughout the project zone and ensure village members have the resources and skills to maintain these systems.

## Solar Power & Solar Lanterns

Access to electricity is extremely limited in the rural areas near the project area. In the rare case that households do have access to electricity, unsustainable options for electrification are used, such as gasoline generators. The project will distribute and assist in the operation of solar powered generators, solar lanterns, and batteries to communities and households surrounding the project area. Providing solar generators and lanterns will not only provide a form of sustainable electricity and increase access to a basic service, but it also has the potential to indirectly reduce air pollution and increase light hours for students and families to study and read.

## Chicken Farm & Zuper Shrimp Paste

In the Seruyan district, agriculture is the largest contributor to the GRP making up just over 50%. However, much of this agriculture is unsustainable, ecologically destructive, and privately-owned. The project will create opportunities for community-based employment which will contribute to alternative livelihoods and increasing food security in the villages in the project region.

## Floating Clinic

Limited access to health services in rural communities around the working area of Rimba Raya Conservation is due to the geographical location, the villages are difficult to reach as lack of transportation facilities and infrastructure. While river transportation that connects villages to the service centers is very limited and expensive.

Another thing that is challenging in the effort to fulfill the health services requirement to the local community besides transportation problems is in the form of limited health facilities and infrastructure, such as the availability of health care personnel (doctors and nurses).

The development of public health programs through floating clinic services is expected to improve the health services for local communities located around Rimba Raya Conservation on a regular basis, in collaboration with Seruyan government.

## Trainings

The Seruyan district offers some educational employment training courses, however the average number of trainings over the past 3 years has been three trainings per year. The trainings offered have only been accessed by an average of 33 people per year. However, there is no external support for

capacity building programs that aim to develop skills and competency management for economic endeavors in the project area or surrounding villages. In addition, working groups that empower women to be involved in any type of economic activity are non-existent. The project will offer trainings on a diverse range of applicable skills. Examples of trainings that may be offered include:

- Solar power electrification education and operation
- Water purification systems education, construction and operation
- Hydroponic and polybag cultivation trainings
- Scholarship process trainings
- Biodiversity monitoring trainings
- Community firefighting trainings

These trainings will be offered in order to support the inclusion of community members in project activities and decision making processes and to provide increased access to educational opportunities. The project aims to increase access to all village members but especially to women and other underrepresented groups, who have historically had little access to educational opportunities and employment.

### Scholarships

Less than 50% of 15-year-old students in Indonesia achieve a minimum proficiency level in literacy. Education can act as a catalyst for achieving basic development goals only if children have the access to it. While the majority of villages surrounding the project area have access to primary education, there is still very little access to secondary education. The project will fund scholarships for local youth to attend high schools in surrounding villages. The scholarships will assist with all aspects of attending school, such as educational materials and resources as well as transportation. By creating these scholarship opportunities the project aims to increase literacy and access to education in the villages surrounding the project area.

### Mangrove Reforestation & Peat Swamp Reforestation

Indonesia is losing more than 2,500,000 hectares of forest annually, the vast majority of this loss due to the growing palm oil industry. In an effort to increase critical habitat for vulnerable and endangered species and enhance the benefits of ecosystem services, RRC will implement reforestation strategies in the project area. Reforestation of mangrove and peat swamp forests will also create employment and educational opportunities for local villages and may lead to increased local air and water quality.

### Community Enterprise Funding Grants

The Seruyan district is dominated by privately owned large industrial palm oil plantations and while they are devastating for the natural ecosystems and environment, they remain an attractive form of employment due to their lucrative nature. RRC will provide Community Enterprise Funding Grants to community working groups, such as chicken and shrimp production, in order to create more sustainable revenue generating industries as well as opportunities for safe, empowering employment.

## Reading Glasses

Many students and elderly members of the surrounding villages do not have access to the prescription glasses necessary to continue their daily routines, such as fishing, sewing, reading and writing, and farming, etc. RRC will fund and distribute reading glasses to members of the local villages that require them.

## Community Firefighting

Human-caused fires are one of the leading drivers of deforestation in the project area. There is currently no system in place to deter and extinguish these fires and as climate change rapidly progresses, it is likely that these fires, though human-caused, will be even more destructive. RRC will work with members of the surrounding communities to develop and implement community-based firefighting and patrols to prevent and respond rapidly to forest fires or illegal activity in the project area. This program will also include trainings surrounding forest fire ecology, safety, equipment use, and environmental awareness. In addition, this activity is critical for the preservation of carbon stocks in the project area and protection of habitat for vulnerable and threatened species.

## Support for Tanjung Puting National Park

Rimba Raya is adjacent to the Tanjung Puting National Park, which contains critical habitat for around 6,000 wild Orangutans. A key objective of the national park is to protect and preserve orangutan habitat, as well as rescue, rehabilitate, and release orangutans that have been displaced by Palm Oil plantations and other illegal forest activities. Unfortunately, not all orangutans are rescued. An estimated 1,000 to 5,000 orangutans are killed in palm oil concessions each year. The Eastern border of the park is at high-risk of commercial-scale illegal logging and there is a lack of funds for creating environmental and social development programs from the surrounding villages. The establishment of Rimba Raya will add 14% more orangutan habitat directly adjacent to Tanjung Puting and create a buffer on the Western boundary of the park, reducing the possibility of encroachment by nearby palm oil concessions. Rimba Raya will also work with stakeholders of Tanjung Puting, such as OFI, to create a biodiversity monitoring program and build release and feeding platform in the project area.

## School Curriculum: Climate Change/Sustainable Development

While many villages have access to primary education, they are lacking forms of higher education as well as any formal environmental education. Environmental education is imperative to increasing stakeholder investment and support of the project. When surveyed, some community members are concerned about the impacts of deforestation on their livelihoods but many other community members expressed support for the palm oil industry due to the number of jobs that it provides. Education surrounding the long and short-term ecological impacts of industrial palm oil plantations may help increase stakeholder support for Rimba Raya's mission of conservation and preservation of natural resources. Rimba Raya will work with OFI and other stakeholders to develop a curriculum for surrounding communities that covers the concepts of climate change, REDD+, conservation, restoration, biodiversity, local endemism, and species identification.

## Seruyan River Cleanup

The Seruyan River passes the Rimba Raya concession area and 14 stakeholder villages - streaming from Ulak Batu village to the estuary of the river bordering the Java Sea, in Sungai Undang village. The river is observed as a public place, so it is often used as a place to dispose of various types of garbage without recognizing the impacts of this disposal on the other communities living around the river, as well as on the riparian ecosystem. It is not only the riverside communities who use the river as a waste management system, but it has also been suggested that some palm oil processing factories dispose of their waste into the Seruyan River. Rimba Raya Conservation together with the Seruyan District Environmental Agency will implement a community-based waste management project along with the villages residing along the river from Ulak Batu Village to Kuala Pembuang. Through this campaign, RRC aims to increase environmental awareness, increase access to alternative waste management systems, and provide education surrounding the impacts of pollution on riparian ecosystems and the importance of these ecosystems to the health and livelihoods of all community members.

### Establishment and protection of Rimba Raya Reserve

Bordering the eastern boundary of the Tanjung Puting National Park in the Seruyan River watershed, Rimba Raya is rich in biodiversity and provides numerous ecosystem services for the surrounding communities. Rimba Raya is comprised of terrestrial and aquatic ecosystems that house hundreds of species of flora and fauna and provide habitat for many rare and endangered species, including the Bornean orangutan. A previous study of the project zone documented high biodiversity including 361 species of birds, 122 species of mammals, and 180 species of trees and woody plants likely to be present in the project zone. Under the baseline scenario, the project area was slated by the Provincial government to be converted into four palm oil estates.

While about three quarters of Indonesia's oil palm production comes from Sumatra, the provinces with the greatest potential for continued growth are Kalimantan and Irian Jaya, due to the relative availability of land for conversion to plantations. According to the Indonesian Chamber of Commerce, in 2006 East and Central Kalimantan together accounted for over 30 percent of the remaining land area in Indonesia suitable for conversion to oil palm plantations. This has resulted in an increasing area within Central Kalimantan that supports industrial oil palm, going from no formal plantations in 1967 to 200-300,000 ha of planted area in 2002. The Indonesian Chamber of Commerce reports that palm oil area in Central Kalimantan grew from 240,000 hectares in 2003 to nearly 270,000 hectares in 2005. In the baseline scenario, the Carbon Accounting Area would have been deforested and drained, releasing vast amounts of CO<sub>2</sub> into the atmosphere and having massive impacts on the livelihoods of local communities who depend on the ecosystem services provided by the forest.

Although there are no communities living within the Rimba Raya project area, adjacent communities were considered key stakeholders in project development. Adjacent communities live in chronic poverty, often needing to prioritize short-term economic survival over long-term ecological consequences. This project aims to strike a balance between conserving critical ecological resources without marginalizing access to natural resources that the adjacent communities depend upon for their livelihoods.

### Nurseries

The reforestation project activity necessitates local access to native plants, which is not currently available in the project area. Rimba Raya will work with surrounding villages to develop community-run nurseries that will help make the reforestation activities possible by providing a local, sustainable source for native seedlings. This activity will also provide community members with trainings surrounding plant propagation, agroforestry techniques, and nursery management.

### Orangutan Care Facility

For over twenty years, OFI has been rescuing orangutans orphaned by deforestation, rehabilitating them, and releasing them back into the wild, where they are monitored for research and education purposes. OFI has also managed Camp Leakey, a wild orangutan reserve and care facility inside the park, and its conservation activities have extended to securing park borders and educating communities around the park. To support this effort, RRC will be allocating a portion of the revenues from the sale of the project's carbon credits to be used to fund OFI's ongoing activities; including new programs for reforestation of critical orangutan habitats and acquisition of viable habitat that does not currently meet REDD project requirements for additionality.

In addition, project proponents plan to build orangutan release centers and feeding platforms in the Project Area in partnership with OFI.

### Community Centers & Community Libraries

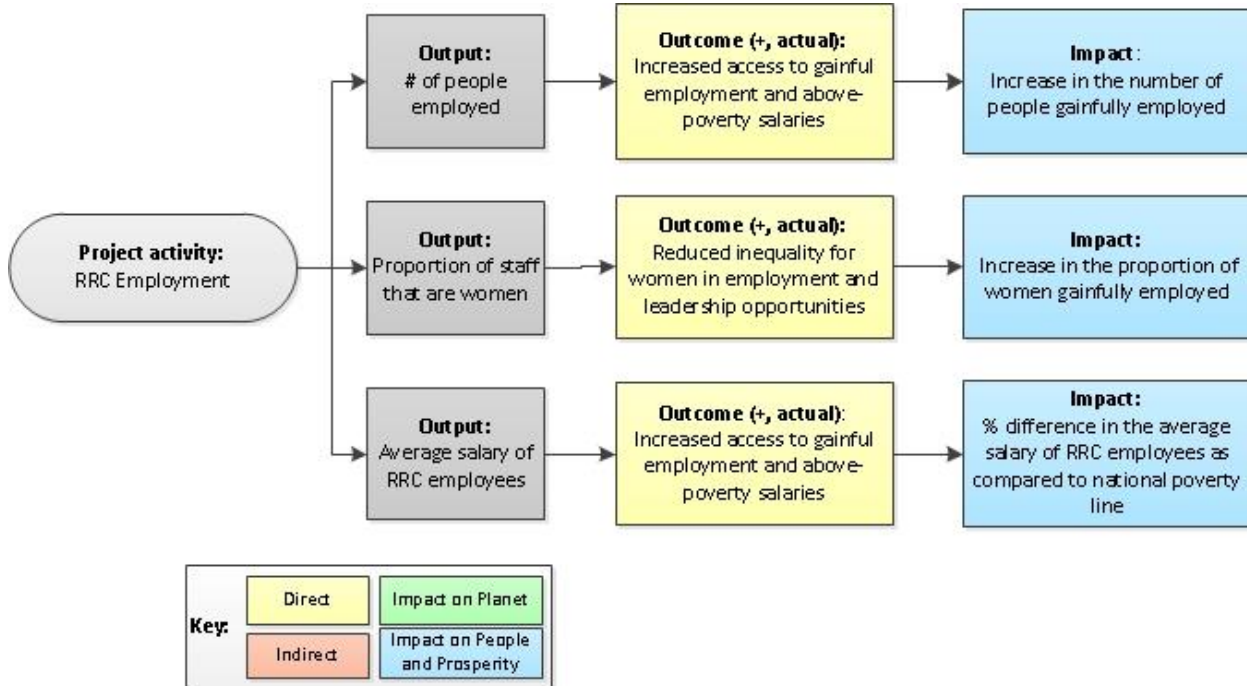
As discussed earlier in this section, access to education is limited for both women and youth in the project area and adjacent villages. In addition to a lack of access to formal and informal education, there are not any libraries in the project area for community members to access books and project information readily. The project aims to increase access to education, both formal and informal, through the construction of community centers and libraries. The community centers and libraries will support the aforementioned environmental education initiatives and create an accessible route for disseminating project information.

### Development Donations

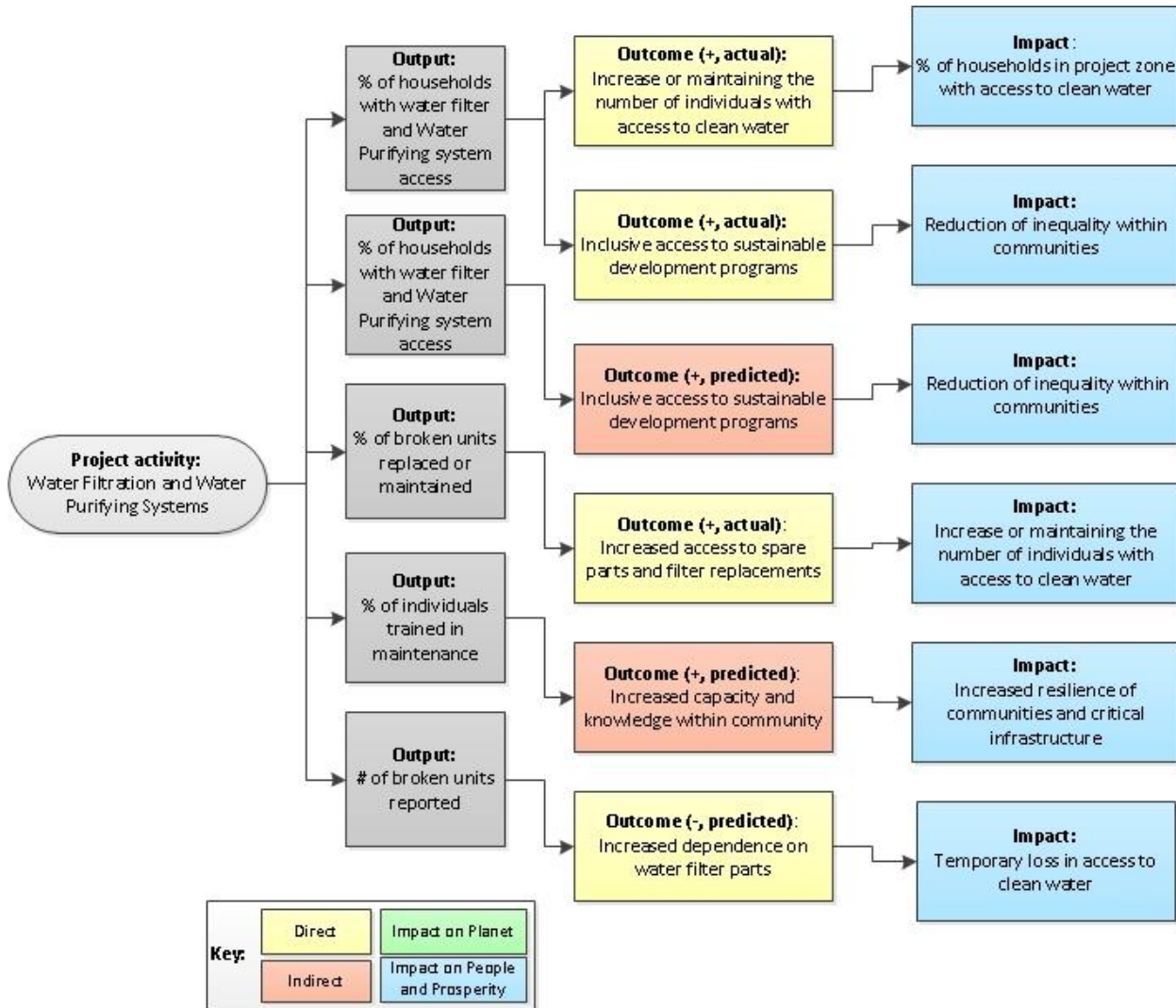
Communities within the project area face financial barriers to implementing sustainable development programs. The project aims to increase funding for projects that could significantly impact the livelihoods and wellbeing of communities in the project zone. Donations and funds raised through established partnerships will be put toward activities that generate positive impacts for both planet and people, which would not be accessible to project area communities without development donations and partnerships.

2.1.9 Causal Chain(s)

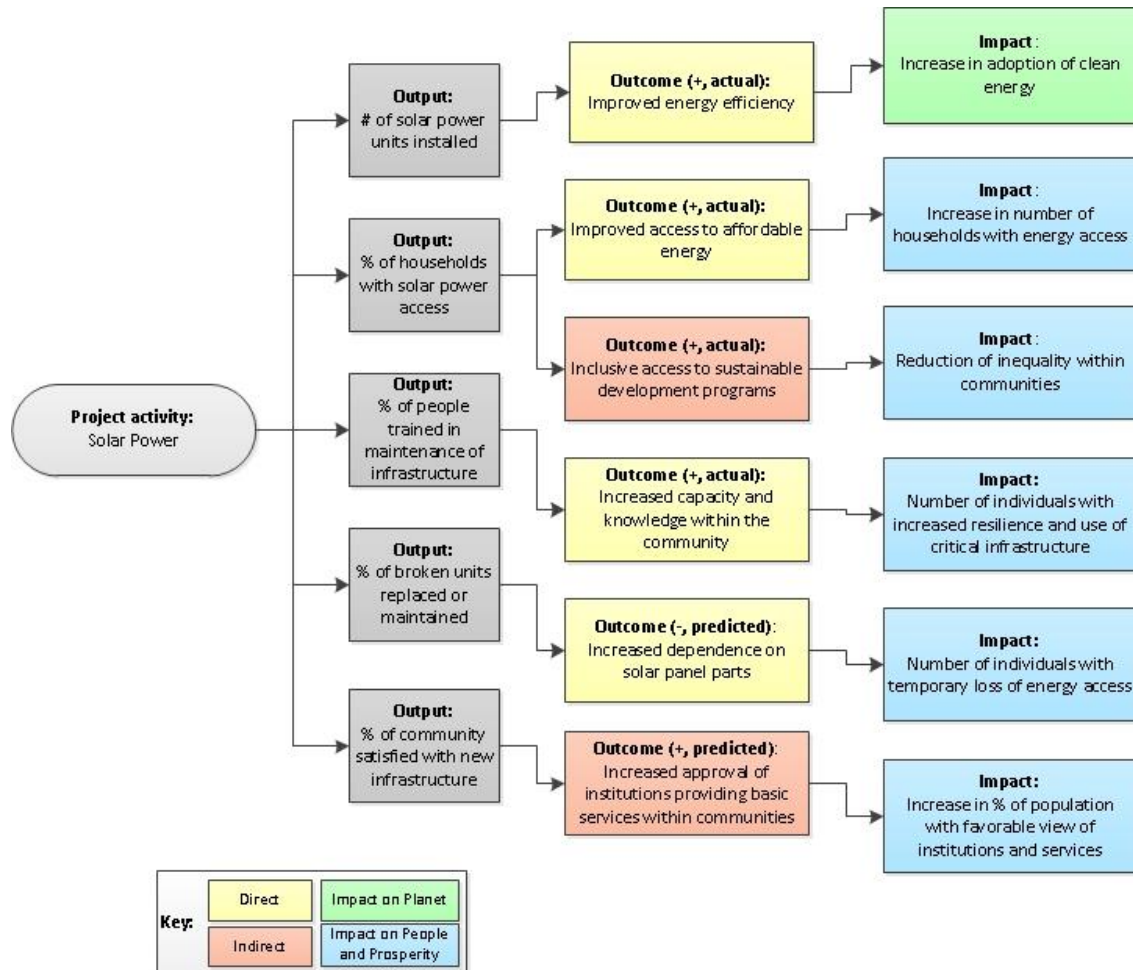
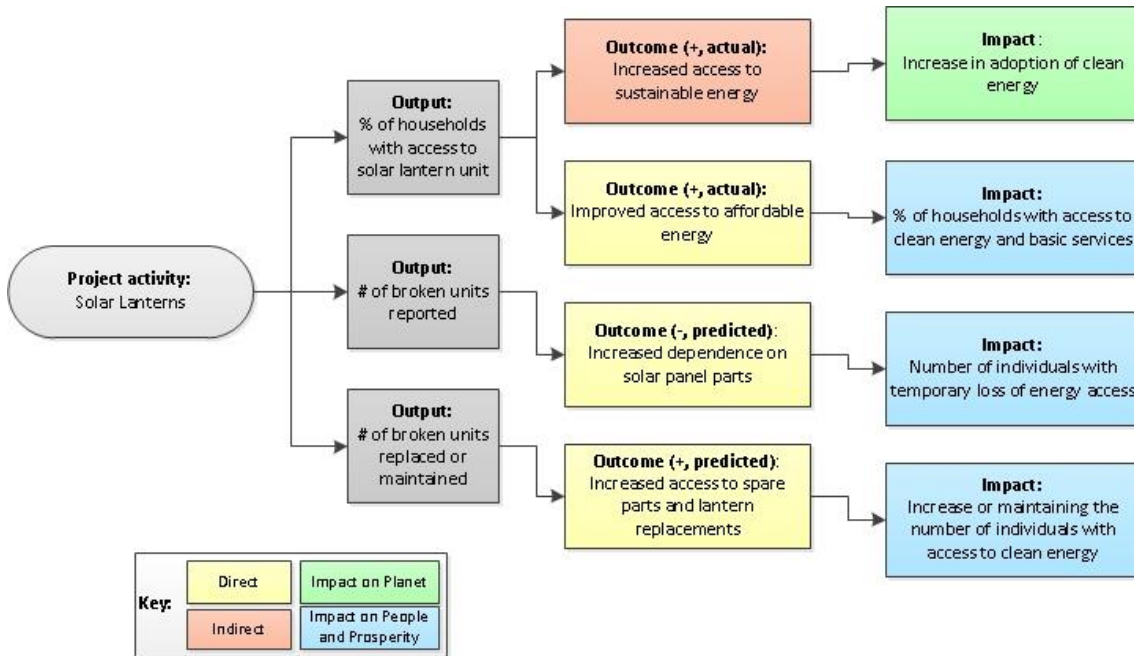
RRC Employment



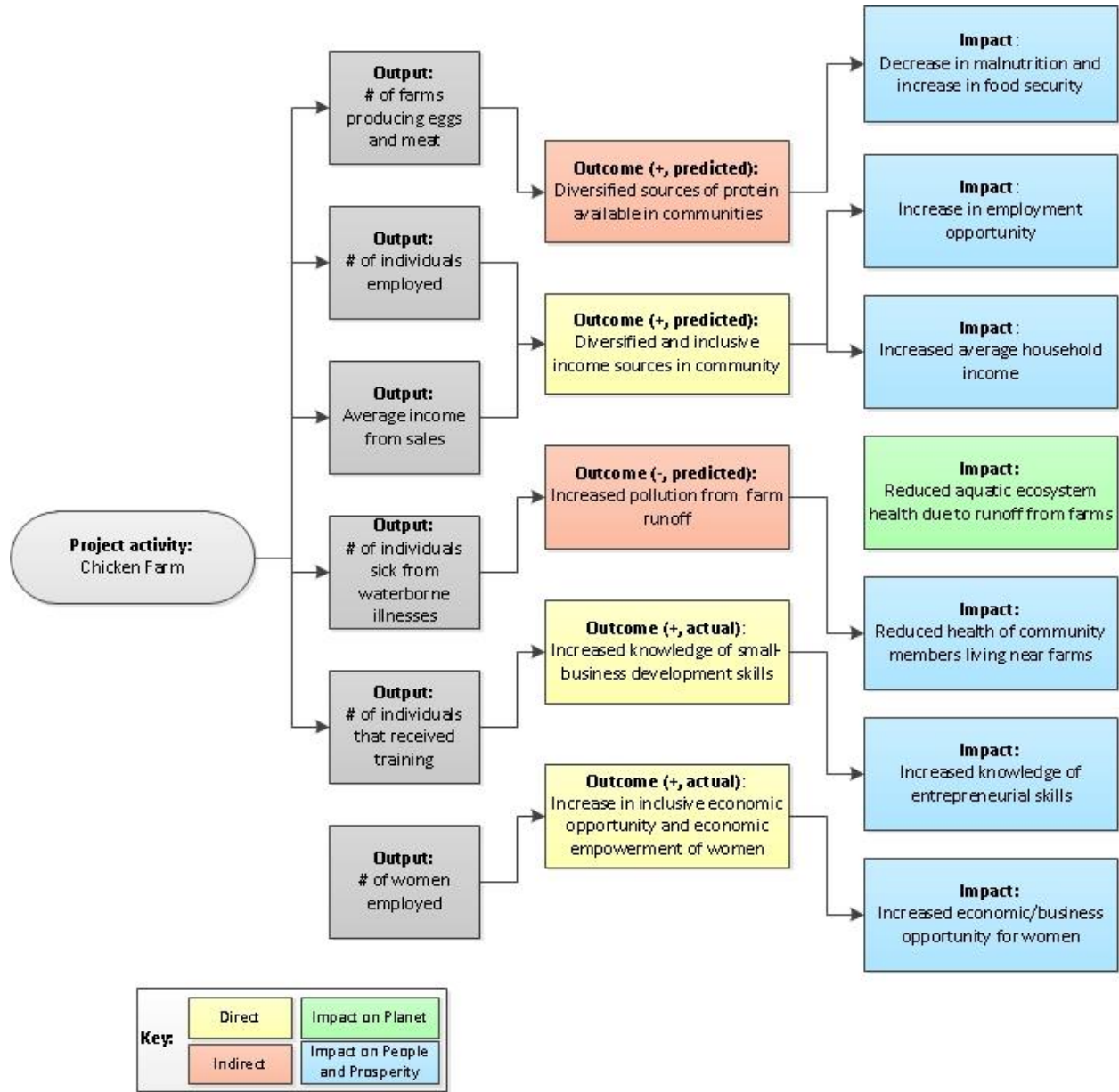
Water Filtration Systems

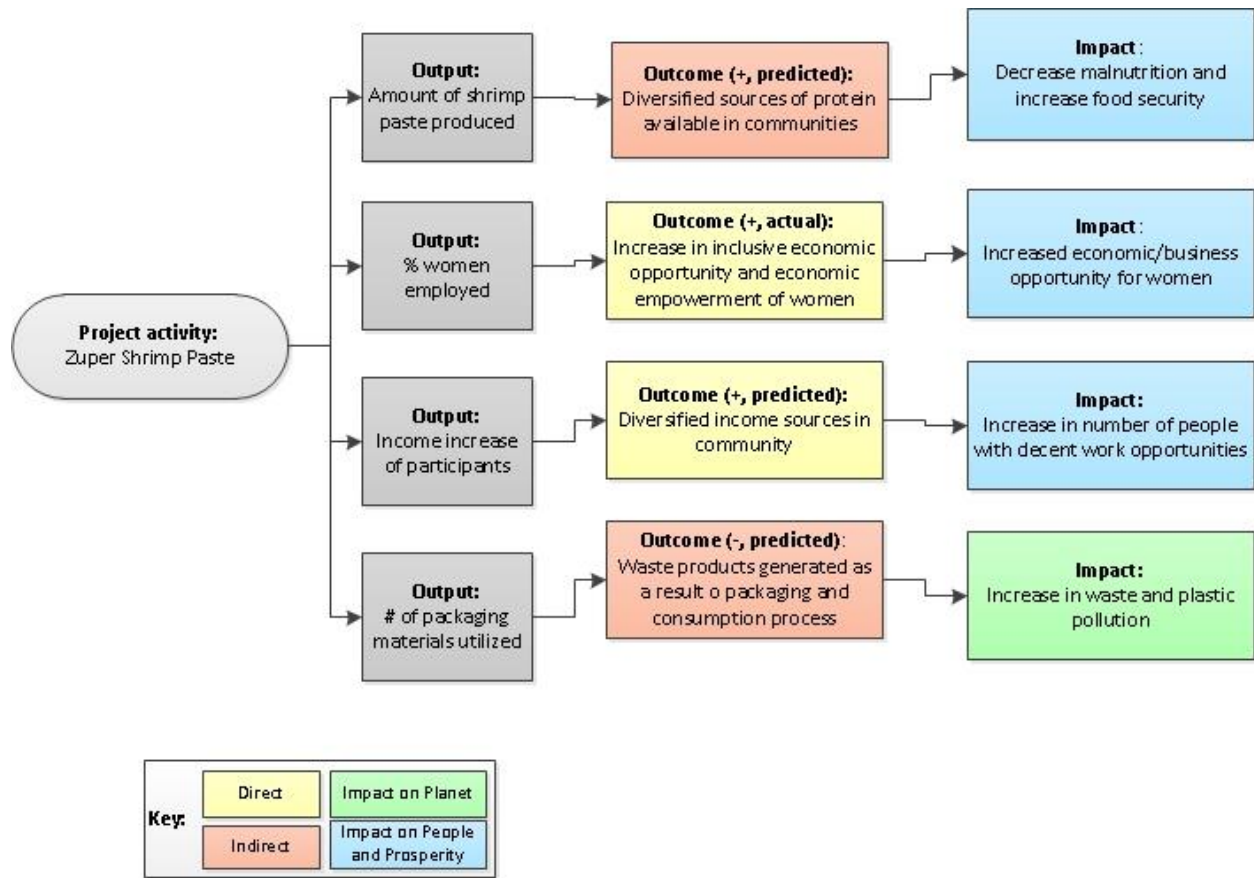


## Solar Lanterns &amp; Solar Power

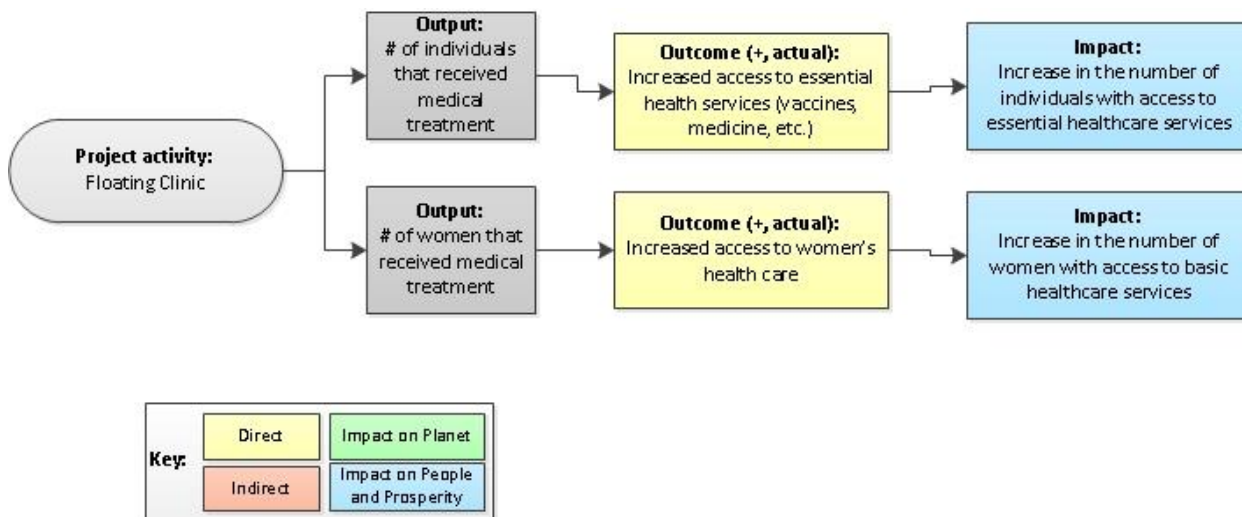


Chicken Farm & Zuper Shrimp Paste

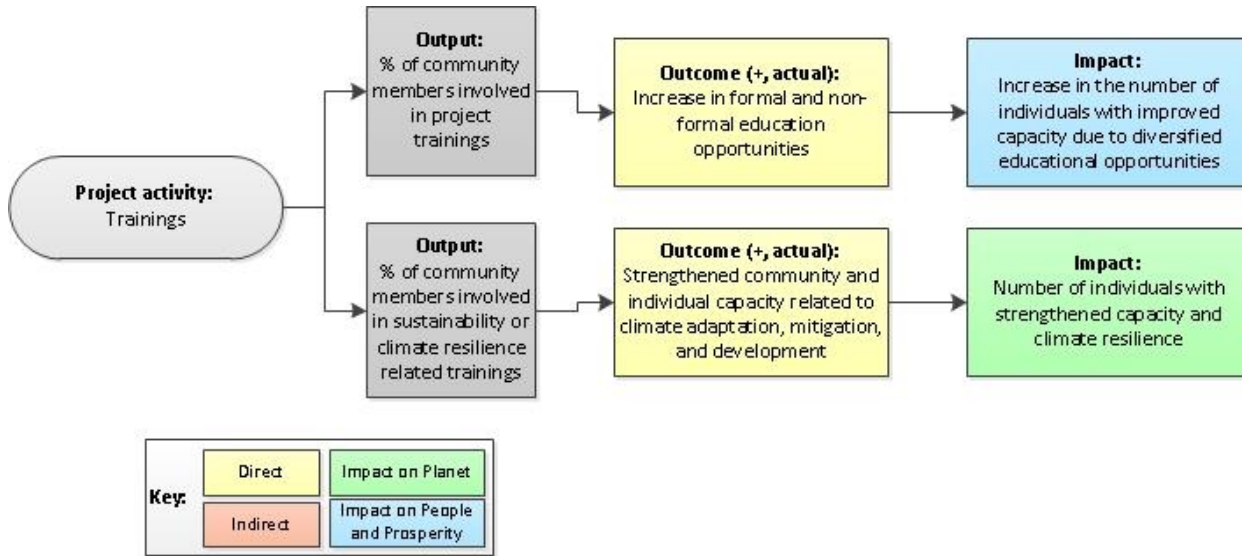




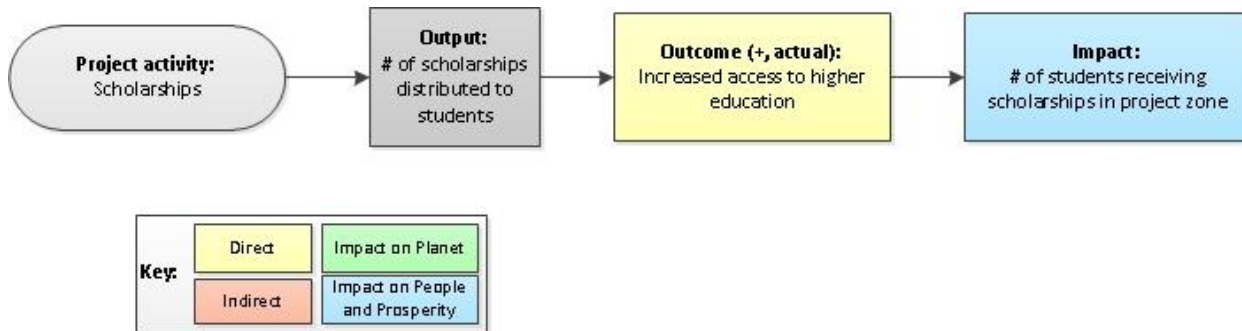
### Floating Clinic



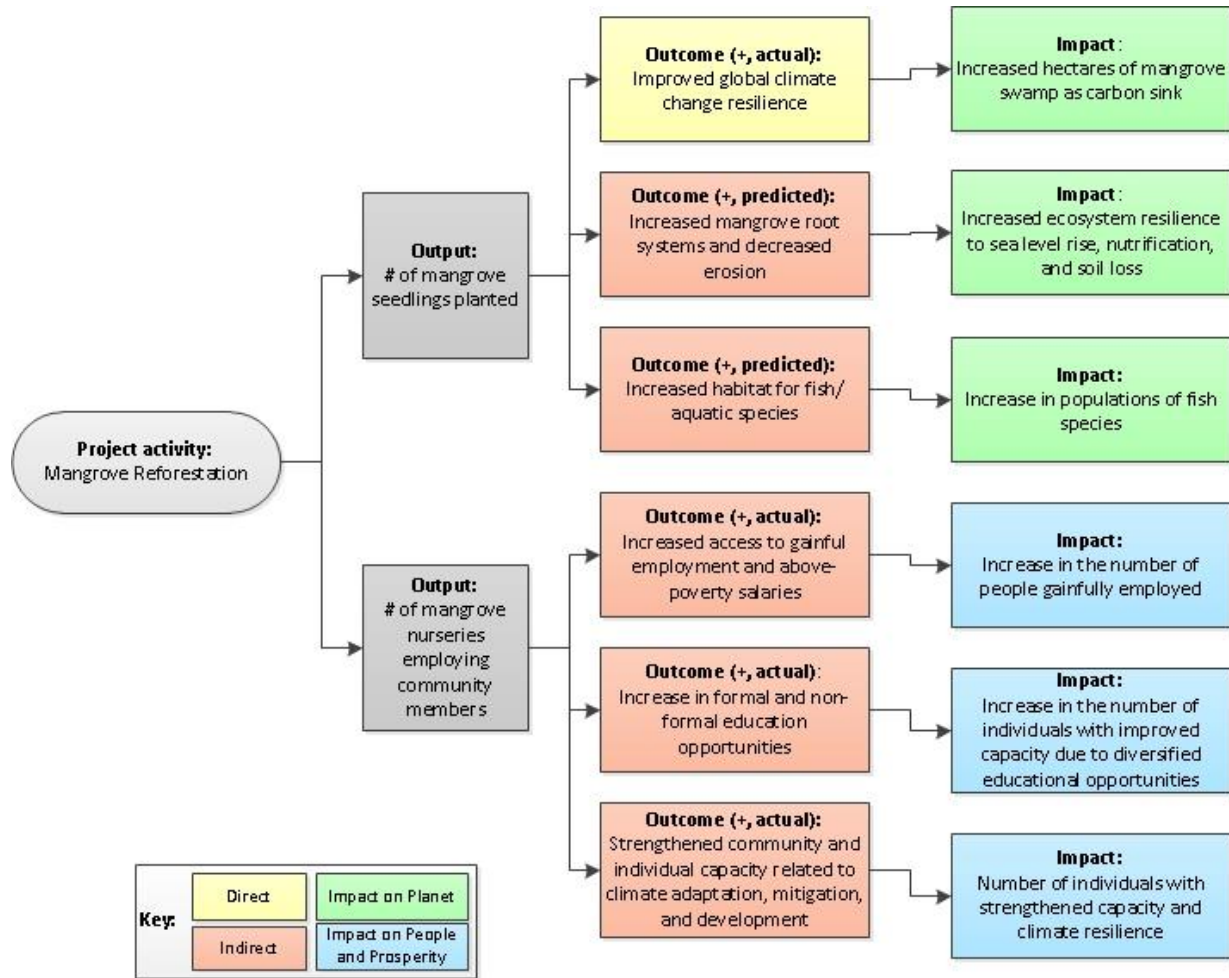
### Trainings



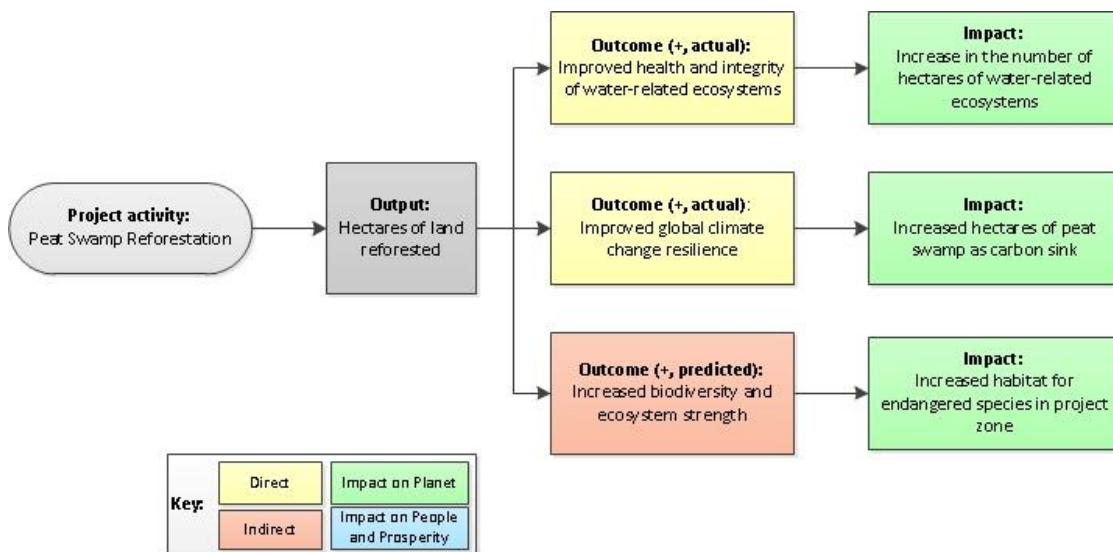
### Scholarships



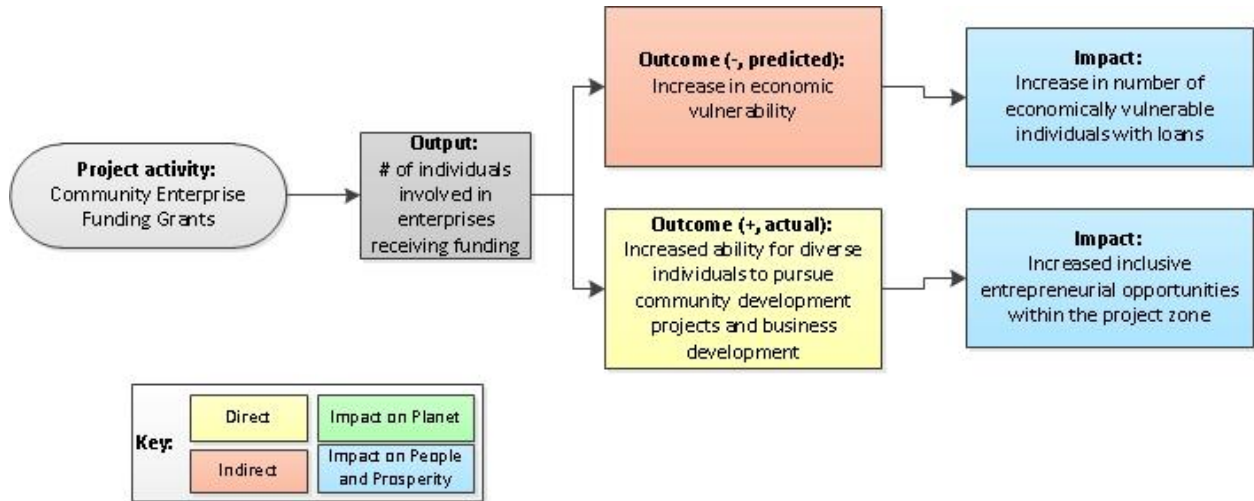
### Mangrove Reforestation



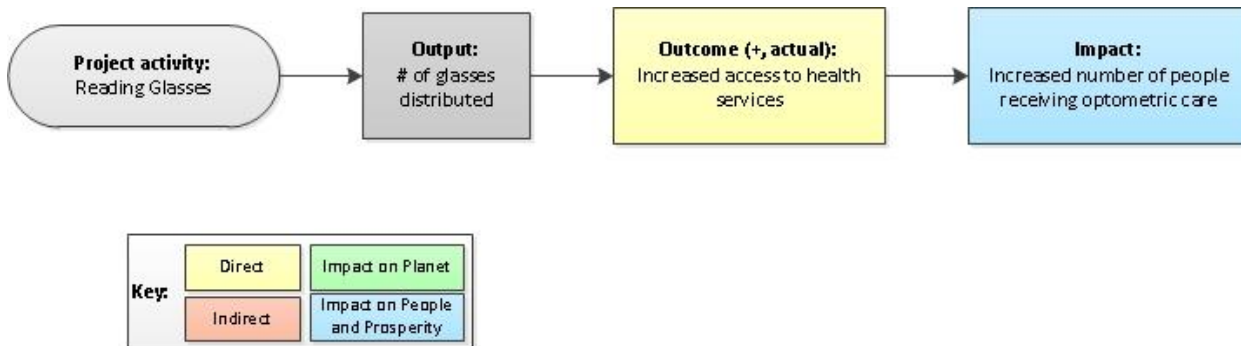
### Peat Swamp Reforestation



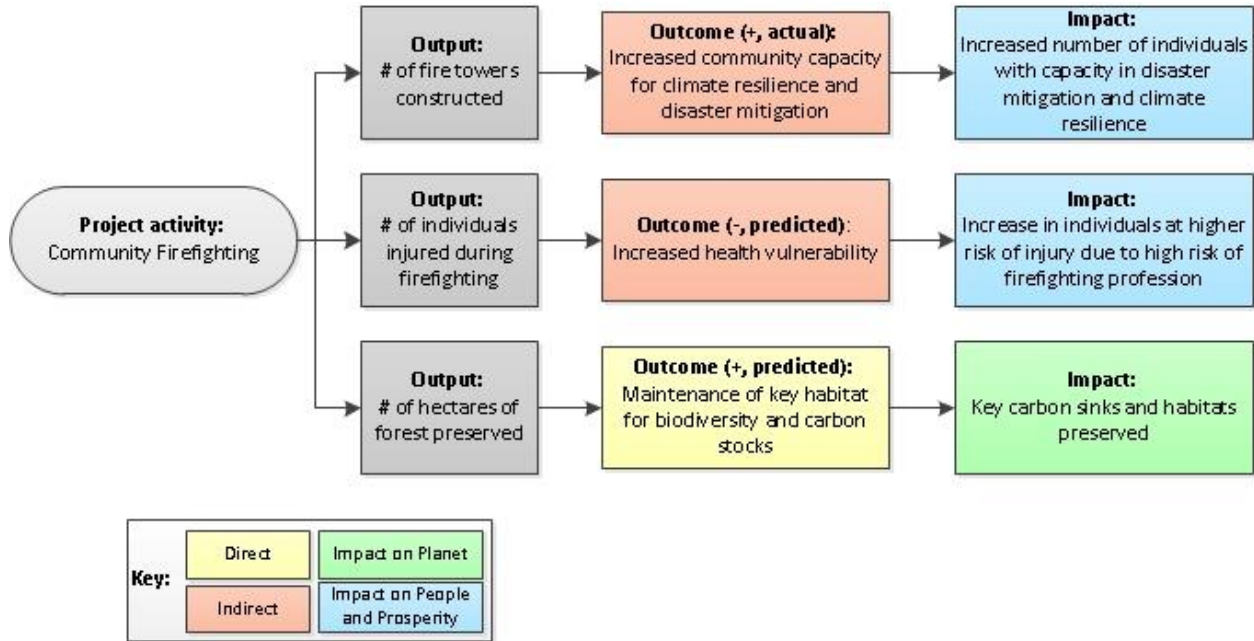
### Community Enterprise Funding Grants



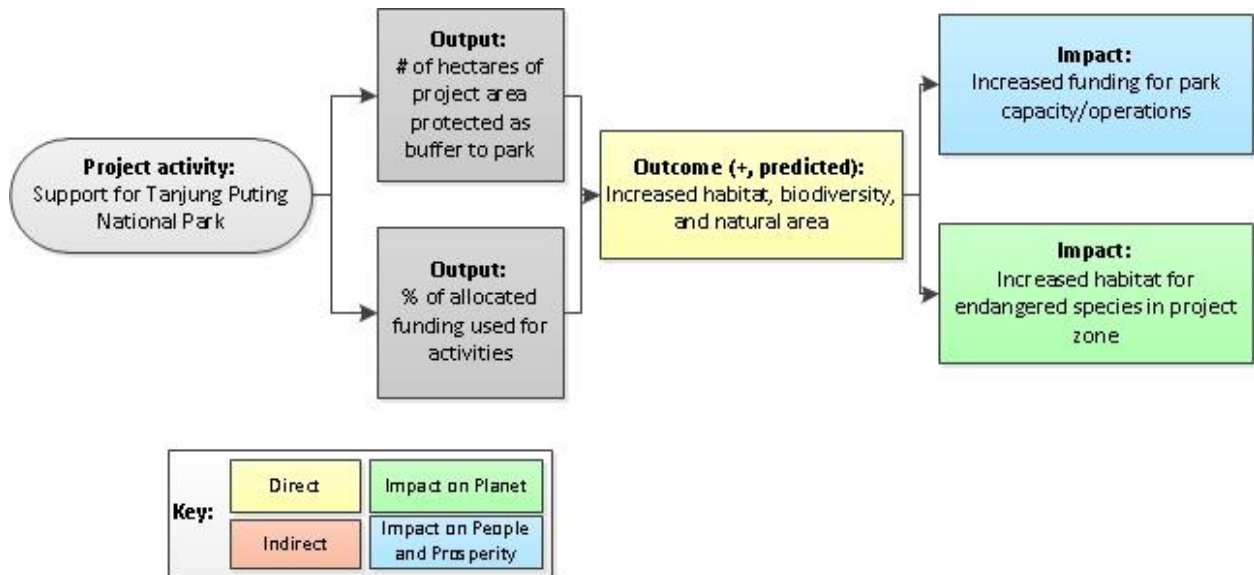
### Reading Glasses



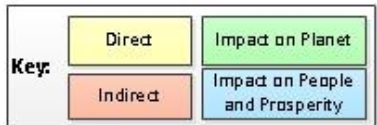
### Community Firefighting



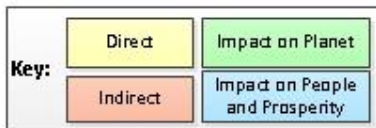
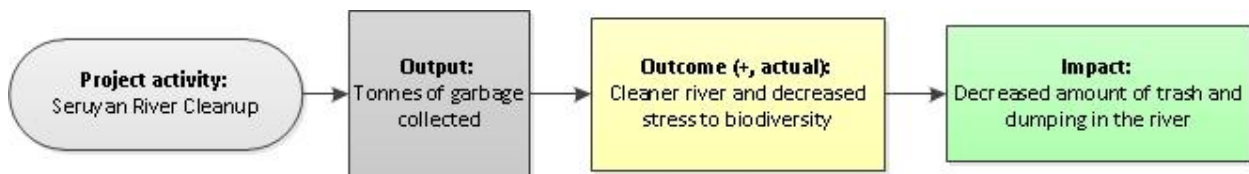
### Support for Tanjung Puting National Park



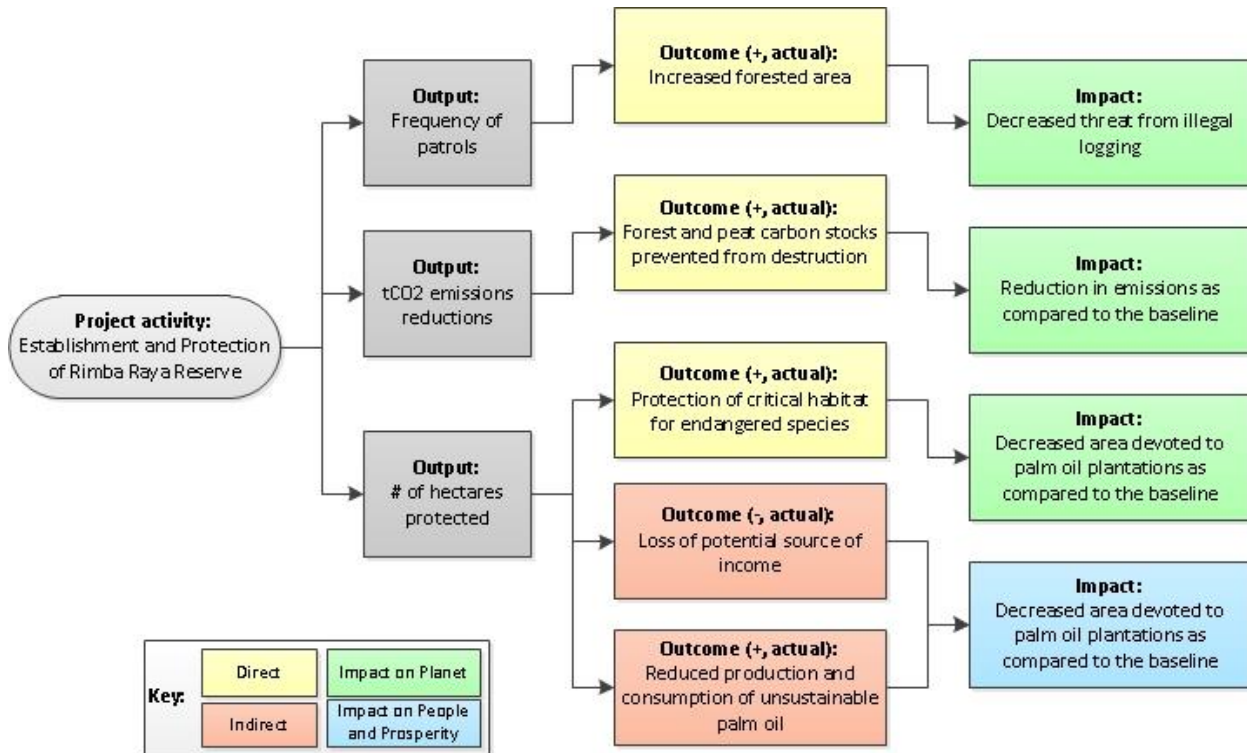
### School Curriculum: Climate Change/Sustainability



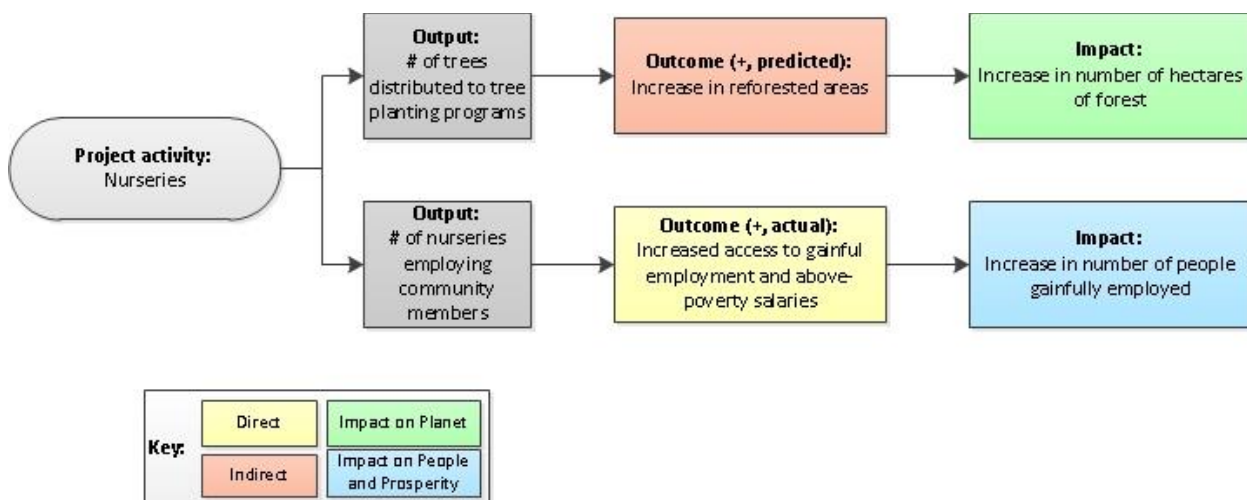
### Seruyan River Cleanup



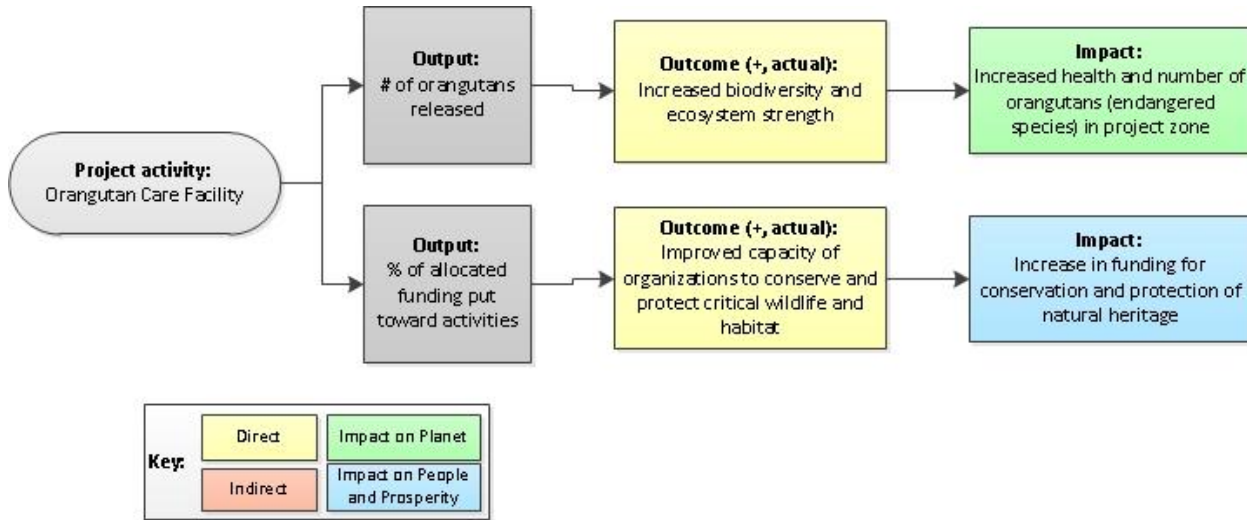
### Establishment and Protection of Rimba Raya Reserve



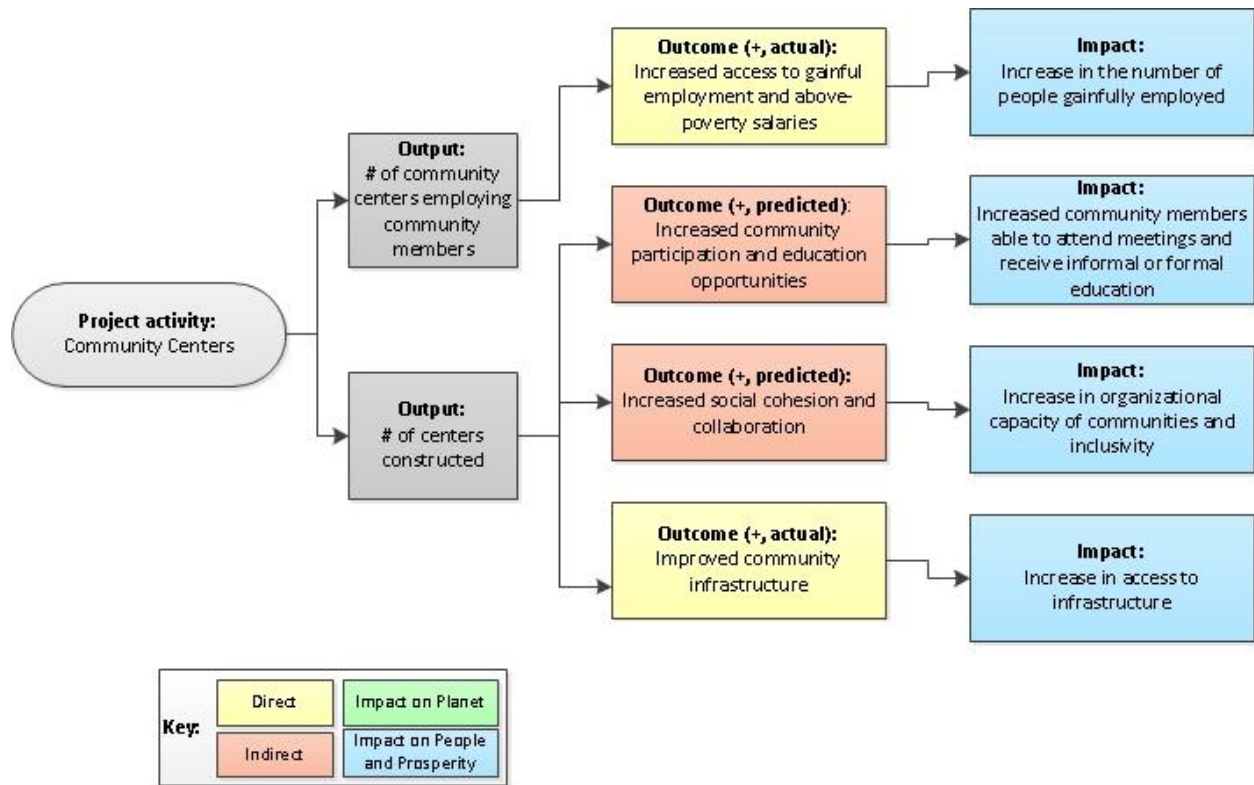
### Nurseries

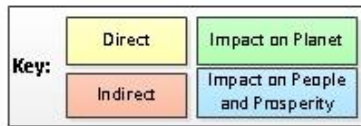
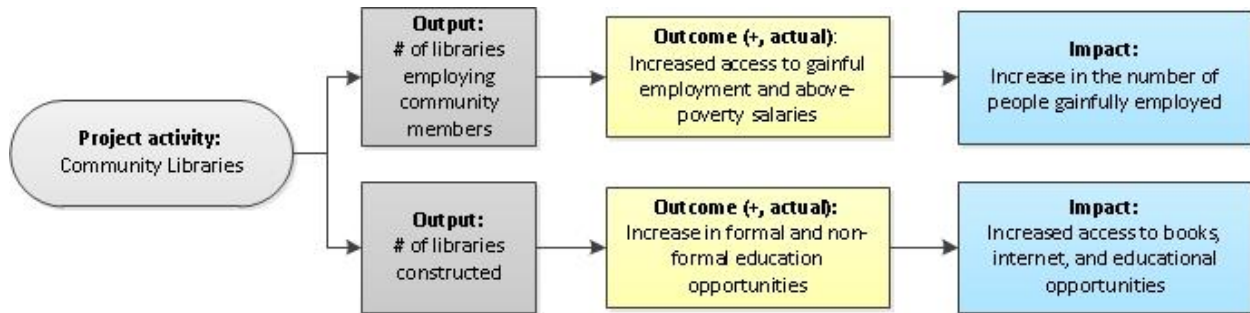


### Orangutan Care Facility

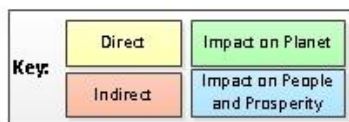


### Community Centers & Libraries





## Development Donations



### 2.1.10 Threats to the Project

The main identified risks to the project benefits are loss of carbon stocks due to ongoing pressure from oil palm expansion in the northern boundary and from fires lit by bordering communities to clear land and expand agriculture. These risks (whether natural or human-induced) would be expected to impact climate, community, and biodiversity benefits during the project lifetime. Fire has an impact on climate benefits through the release of carbon emissions from aboveground forest and belowground peat deposits, and can be expected to negatively impact biodiversity benefits through destruction of habitat. Fire can also negatively impact local communities as the smoke can cause respiratory illnesses and reduce the amount of overall GHG emissions reductions from the project, thereby reducing the project's funding.

Through the utilization of carbon funding, the Rimba Raya Biodiversity Reserve Project has expanded and enhanced the patrol and protective work being undertaken in the area since 1971 by OFI. This funding has increased the patrols to act as a deterrent and the physical presence through marking of boundaries as well as the installation of posts and fire towers in order to efficiently monitor and respond to threats. Forest patrols protect the forested area from illegal activities by way of community socialization. Communities around the project area are included in patrols, thus the communities are made aware that such illegal activities are forbidden. Patrol activities are conducted by monitoring vulnerable areas either on foot, by motorcycle or by cessa (small boat for 2 – 4 persons). In addition, funds are available for enterprise development to reduce the pressure on agriculture expansion and oil palm expansion with the ambition to maintain and enhance the climate, community and biodiversity benefit beyond the life of the project.

While community firefighting provides alternative livelihoods through critical protection to forest resources and ecosystem services, it also introduces a threat to those providing these services. The community firefighting activity may increase the number of individuals at higher risk of injury due to the inherent danger in this profession. To mitigate this threat, the project will conduct trainings which clearly outline safety protocols for firefighting, provide all necessary personal protective equipment, and increase access to healthcare from floating clinics.

The project has continued to make the necessary investments in job creation and income generation activities for the local communities from the sale of credits in the voluntary market so that agricultural expansion is less sought after. Building capacity for alternative livelihoods and food security also come with the potential for indirect negative impacts, such as increased pollution from chicken farm runoff and waste production from the Zuper shrimp paste operation. While these small operations are predicted to have very little impact when compared to industrial operations, the project plans to mitigate these possible impacts by implementing various Seruyan river clean-up campaigns throughout the project lifetime.

Threats on people and their prosperity have also been identified in the project. The main threats arise from the implementation of the chicken farm program. The chicken farm program has the potential to cause an oversupply of eggs and meat, which could increase economic vulnerability for marginalized groups. There is the potential that the project will not be able to find a market for the increased production of meat and eggs. To combat this, the project proponent plans to work closely beside small scale farmers to gather input on programs. The project proponent also ensures that if these programs do not benefit farmers, these small scale farmers are not on hold for the expenses of such programs.

In addition, the chicken farm program also has the potential to increase pollution in nearby waterways, which will subsequently negatively impact community health. The project proponent plans to mitigate this risk by teaching sustainable and healthy farming practices, increasing access to healthcare, and increasing access to clean drinking water by distributing water filters.

Another foreseen threat to people and their prosperity stems from the Water Filtration Systems and solar power programs, which will increase communities' dependence on specific replacement parts. Those who do not have access to these parts may face a particular economic burden or will continue to

have unclean drinking water or temporary loss of access to electricity. Because of this, this program may increase economic vulnerability in marginalized groups. The project proponent plans to combat this by working to equitably distribute parts, as well as increase access to certain parts within communities. This is also anticipated by ensuring procurement of equipment and devices that can be acquired within a buffer area of 80-130 km from unit offices and storage of sufficient inventory in case of market disruption scenarios. Likewise, Rimba Raya has established community-based management groups in villages, who are directly responsible to oversee and train the daily operation and maintenance of the facilities (accompanied by the monitoring system). Additionally, communities will not be on hold for program expenses should the program fail.

Creating equal access to community centers and libraries in the surrounding communities is a goal for the project. However, as these resources are built, we may see a rise in unequal access and possibly discontent in communities without access to these resources. To mitigate this threat, the project plans to build community centers in most accessible areas, and plans to continue construction of centers in other villages to increase accessibility.

Unforeseen decision from governmental agencies at the national-level to suspend the license to operate the ecosystem restoration concession could be a threat to Rimba Raya project employment. As a result, the rates of household income at the village level would decrease, including reduced economic activity triggered by Rimba Raya Conservation operations and programs. To mitigate this issue, the rights over the land are legally bound for a period up to 60 years with the opportunity to renew for an additional 30 years. Likewise, Rimba Raya on a yearly basis is diligently complying and reporting based on national policies and regulations derived from forest protection and monitoring activities.

#### 2.1.11 Benefit Permanence

In order to maintain and enhance the climate, community and biodiversity benefits beyond the project lifetime, the project proponent has developed a model that will protect the Rimba Raya Project area in perpetuity. In the creation of this Reserve, the carbon stocks and biodiversity of the project area are intended to remain intact beyond the lifetime of the project because the Reserve itself will be protected from conversion to palm oil plantation indefinitely. In this protection, critical habitat is safeguarded for numerous species and carbon stocks present in forest and peatland swamps remain intact.

The creation of the Reserve, as well as the revenue made from the sale of carbon credits, has and will continue to fund community-based action so that benefits are experienced during the lifetime of the project and that they positively impact future generations of the community. The creation of the Reserve allows for continued community benefits such as sustainable livelihood opportunities, equal opportunity employment for women and other marginalized groups, as well as sustainable food sourcing production. This is because the Reserve itself provides sustainable employment opportunities and agroforestry-based food production, among other community benefits that will remain permanently intact.

The financial benefits of selling carbon credits during the 30-year crediting period is aimed to create the enabling conditions within the Ecosystem Restoration Concession capable to perpetually change

the dynamic between communities and the forest. The organization is committed to work towards a paradigm shift in the activities that implies that stakeholder villagers rethink and redefine their economic growth and wellbeing. As a result, the concession is constantly developing participatory and self-sustained operations and programs with the tenet that forest loss cannot be a component of long-term planned development.

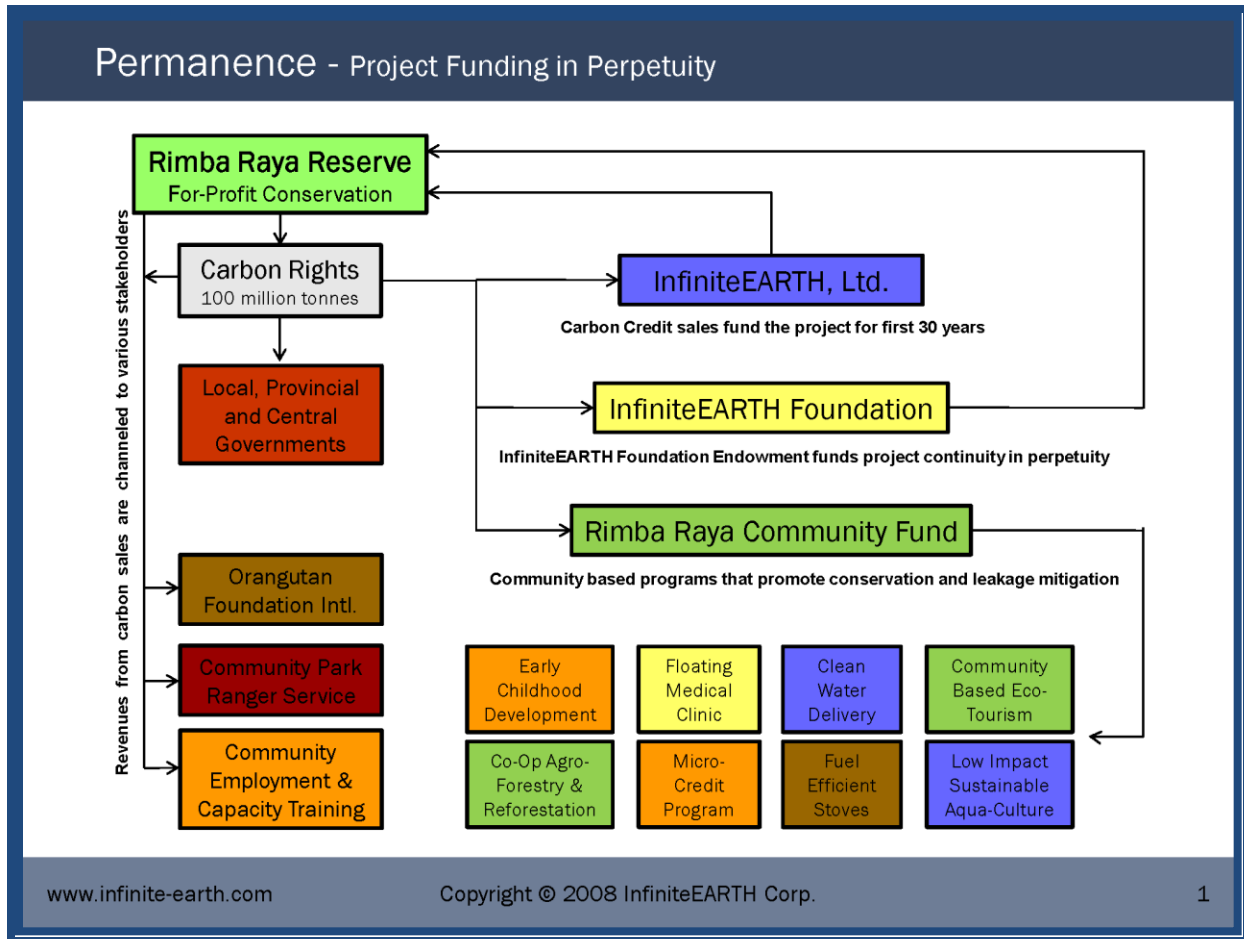


Figure 2: Outline of project permanence in terms of funding

## 2.2 Stakeholder Engagement

### 2.2.1 Stakeholder Identification

The stakeholder identification process was carried out by determining which organizations, government entities, and communities might be impacted by project activities or conversely, might have an impact on the project itself.

To determine the community groups that were stakeholders, the project assessed the presence of communities within the Project Zone, as the individuals living within these communities were most

likely to impact the Project Area and to be impacted by various project activities. Many of these communities use the project area for fishing or occasional timber extraction, and since these uses had the potential to be impacted by conservation activities implemented by the project, it was considered critical to engage with any communities that were in close proximity to the Project Area.

The project additionally determined the varying levels of government with which contact and consultation would need to be maintained, including village, district, and provincial levels. Bordering the project area on the west is the Tanjung Puting National Park, and where Orangutan Foundation International plays a large role in managing this area. As the project shares boundaries with this national park, it will be important to ensure congruency between conservation efforts, especially with regards to orangutan relocation.

The project also identified oil palm companies as a stakeholder in the project, as there have been plans and threats to the project by oil palm corporations within and directly outside of the project area.

### 2.2.2 Stakeholder Description

Stakeholder Category	Description	Channels of Communication
<b>Villagers</b>	Recipients and beneficiaries of any program implemented in Project Zone villages, including students, village youth, and women	Verbal communication from village head;  Written invitation from village head for meetings with oil palm companies, higher-level government officials, etc.
<b>Farmers groups</b>	Organization with common goal of improving member's welfare	Word of mouth; Letters and other written media; Announcement board in village office or mosque
<b>Formal Village Leaders</b>	Village heads, Village secretaries, and BPD Chairmen	Word of mouth; Letters and other written media; Direct visit to Village Office
<b>Informal Leaders</b>	Village members with influence in the village, often approached to facilitate communication	Word of mouth; Letters and other written media; Announcement board in village office or mosque
<b>World Education</b>	Community organizer that implements community development programs	Internet (including email and instant messaging); Telephone
<b>OFI</b>	Community facilitator working to raise stakeholder's awareness of conservation	Internet (including email and instant messaging); Telephone

<b>Government Offices</b>	License oil palm plantation companies; monitor their progress; implement programs at the village level; facilitate conflict resolution for any village dispute	Official letter; Telephone; In-person visit
<b>Oil Palm Companies</b>	Plantation development, with limited social programs for local communities	Official letter; Telephone; In-person visit
<b>Tanjung Puting National Park</b>	National Park bordering the project area that works in close collaboration with OFI	Internet (including email and instant messaging); Telephone
<b>Women's groups</b>	Organization with common goal of improving member's welfare	Word of mouth;  Letters and other written media;  Announcement board in village office or mosque

### 2.2.3 Stakeholder Consultation

Despite the absence of communities or families living within the boundaries of the Carbon Accounting Area, the Rimba Raya Reserve project has, through a series of formalized meetings, gained local approval of the project by including communities bordering the buffer zone of the Carbon Accounting Area as stakeholders in the project development process. These meetings and community approvals are summarized in Table 2. InfiniteEARTH views local stakeholder participation as the key to the project's success in terms of preventing illegal logging and fires.

In order to engage local communities, the project proponent formed a partnership agreement with World Education, a well-known development organization that has been working with communities in the area since 2003 on a project funded by USAID. This organization in conjunction with Daemeter Consulting conducted an initial baseline survey to assess community development needs, local uses of the surrounding forests, and community land use. A large population of community members in the Project Zone was interviewed through this process.

Survey findings related to development needs have been incorporated into the development strategy of the Rimba Raya project so that program goals match local needs. In terms of local land use in the buffer zone, it was found that local communities were highly dependent on the waterways for transport and also fishing. Community members consistently mentioned access to clean river water as an important priority and voiced their concern about the potential threat of their rivers becoming polluted with sediment and chemicals if oil palm plantations expanded in the area. Non-timber forest products

were also collected for local use and these rights will be respected by the project as they promote the sustainable use of the forest. In terms of community land use, farmers use land that lies to the east of the Seruyan River, which is outside the Carbon Accounting Area and borders the Project Zone. However, there are a few exceptional cases where farmers are cultivating small plots in the Project Zone. These land rights have been recognized by the project in order to avoid local conflict, although none of these conflicts with the Carbon Accounting Area.

InfiniteEARTH has also developed a strategic partnership with the renowned conservation organization Orangutan Foundation International, which has a major role in managing the neighboring Tanjung Puting National Park. This strong relationship has allowed InfiniteEARTH to benefit from the many years of experience OFI has in managing a large-scale conservation projects and securing community support for this type of project.

In terms of engaging the Indonesian government, InfiniteEARTH has created partnerships with the government at all levels including the village, district, and provincial level. At the village level, approval from village heads has been obtained in the form of letters encouraging the further development of the Rimba Raya Reserve. The district head along with the governor have both formally approved the project and recommended it to the Ministry of Forestry. At the national level, the project has engaged the local BKSDA (forest conservation) section of the Ministry of Forestry on developing an effective fire management plan. The project proponent has taken the approach of extensive collaboration and communication with government bodies to avoid confusion and create a more transparent process for all involved parties as this will ultimately lead to a successful project implementation.

Table 2. Overview of Stakeholder Meetings during Project Development

Date	Name(Village or Organization)	Purpose of Meeting	Conducted by
December 23-26 2008	8 Villages	Initial Community Survey	Daemeter
October 16 2009	Tanjung Hanau	Developing agriculture, especially for woman group with 14 women	World Education
November		Zero-burning agriculture development (rice field demonstration plot)	
December 8, 2009	Ulak Batu	Planning to develop a community forest (Jelutung and Gaharu plantation) with 11 communities	World Education
October 13 2009		Developing agriculture, especially for woman group with 16 women	
November 2009			

		Community fisheries development	
December 10 2009 November 15 2009	Baung	<p>Planning to develop a community forest (Jelutung and Gaharu plantation) with: village head and 4 community members</p> <p>15 communities members a joint survey was conducted</p> <p>5 communities to determine the site of jelutung forest demo-plot</p>	World Education
November 2009		Community fisheries development	
November 20, 2009		Zero-burning agriculture development (rice field demonstration plot) with 11 communities	
October 2009 and November 2009		Forest protection, where a joint survey was conducted on determine the cause of previous forest fires	
2009.12.8-10	Tanjung Rengas	Planning to develop community forest (Jelutung and Gaharu plantation) with 7 communities	World Education
2009.12.22	Muara Dua	Planning to develop community forest (Jelutung and Gaharu plantation) With 2 communities	World Education
2008.11. 16		Community fisheries development With 11 communities	
2009.10.10 and 2009.11.12		Forest protection, where a joint survey was conducted on determine the cause of previous forest fires	
2000.11.6-11	Bahaur, Tanjung Rengas, Baung, Paren, Parang Batang, Tanjung Hanau, Paring Raya	Supporting Letter from Villages	RRC, WE

2010.01.13-14	World Education, Tanjung Puting National Park and OFI	Discussion about Rimba Raya plan of activities and sharing information with Stakeholder	RRC
2010.01.15-19	3 villages Ulak Batu, Baung, Muara Dua	Village visit to share more about PT RRC	RRC
2010.02.07-08	Agriculture Department Seruyan District  Department of Forestry and Plantation Seruyan District	Additional talks about Rimba Raya to government agency	RRC
2010.02.09-10	Seruyan Government, 5 Villages (Muara Dua, Baung, Palingkau, Ulak Batu and Tanjung Hanau	Stake Holder Meeting	World Education
2010.02.26-28	3 villages (Bahaur, Telaga Pulang, Muara Dua)	Focus Discussion Group (FGD) regarding socialization of Rimba Raya	RRC, PT Focus
2010.02.25 – 2010.03.01	Hanau sub-district, Danau Sembuluh sub-district, and Seruyan Hilir sub-district	Preparation forum of socialization and to make sure location of the meeting and scheduling	RRC
2010.03.08-11	9 villages in 3 sub districts (Seruyan Hilir sub-district, Danau Sembuluh sub-district and Hanau sub-district)	Socialization of Rimba Raya Conservation on three sub-district (Seruyan Hilir, Danau Sembuluh and Hanau)	RRC, PT Focus
2010.03.22-23	Forestry agency district level	Distribution of UKL UPL Document	RRC

	Head of Seruyan Hilir sub-district,  Environment agency (Badan Lingkungan Hidup) District level		
2010.03.28-30	Forestry agency district level, Province level, Environment agency District level, Province Level	Presentation UKL UPL PT. Rimba Raya Conservation, held on BLH Province level at Palangkaraya.	RRC, PT Focus
2010.05.17-19	5 villages (Baung, Muara Dua, Jahitan, Tanjung Rengas, Telaga Pulang)	Mini Solar Light Assistance program	RRC
2010.06.18-19	4 villages (Bahaur, Palingkau, Ulak Batu, Cempaka Baru)	Mini Solar Light Assistance program	RRC
2010.06.26-27	5 villages (Parang Batang, Paring Raya, Tanjung Hanau, Banua Usang, Paren)	Mini Solar Light Assistance program	RRC
2010.07.12-13	4 villages (Tanjung Rengas, Muara Dua, Jahitan, Baung)	Fire Training	BKSDA and RRC
2010.05.1-30	9 villages	Initial Public Comment Period Field-activities	RRC and World Education
2010.09.1-30	9 villages	Formal CCB Public Comment Period Field-activities	RRC and World Education

Despite the absence of communities or families living within the boundaries of the Carbon Accounting Area, the Rimba Raya Reserve project has, through a series of formalized meetings and studies, gained local approval of the project by including communities bordering the buffer zone of the Carbon Accounting Area as stakeholders in the project development process.

The project proponent has worked to create effective means of communication and consultation with the community so that their input can help to steer the project. In partnership with World Education, a well-known development organization that has been working with communities in the area since 2003, the project proponent has engaged local communities to assess community development needs, local uses of surrounding forests and community land uses. Socio-economic studies were carried out throughout the course of project development and implementation. The most recent study, conducted in 2017, provided an updated look into the lives of stakeholders living in the project zone in terms of physical, financial, social and natural capital indicators (See Rimba Raya Endline\_QUICK SURVEY\_Edy September 2017.xls). The results from the study's consultation and survey components provided a deeper understanding of community needs and were incorporated into the development of the project so that program goals match local needs.

Findings from the most recent socio-economic study indicated that the majority of the population in the project zone is experiencing high levels of deprivation as dictated by fluctuating income streams and the cost of food being the largest expenditure. These economic conditions and food security depend almost entirely on local natural resources – fisheries, water, fire wood and rice production – which can be inconsistently available or accessible at any given time. Because palm oil plantations act as a large provider of reliable employment for local stakeholders, they are viewed as predominately positive among community members. These trends are also observable among education and health sectors. Also notable in the recently completed study was the variability amongst the eight villages surveyed concerning the outlined indicators, despite their geographic closeness. This has reinforced the appropriateness of the project's approach in how it designs its development and implementation; intensive community-based interventions that are tailored to the local needs of the local communities are necessary for successful and effective projects.

Stakeholders were welcomed and encouraged to provide feedback to OFI and WE and well as to IE directly. One method of ensuring this communication occurred was through the creation of village agreements. Village agreements between the Rimba Raya Reserve and a community (as a partner of Rimba Raya) contained mutually agreement upon points in order to ensure benefit sharing was implemented for village communities. Figure 3 below shows the process for appropriately carrying out village agreements. Community members are encouraged to report any concerns, possible issues, suggestions, or advice to a unit manager or member of the community development staff. Each village has at least one such person who has been trained to respond to these by bringing the concern to Rimba Raya in order that a proper response can be made.

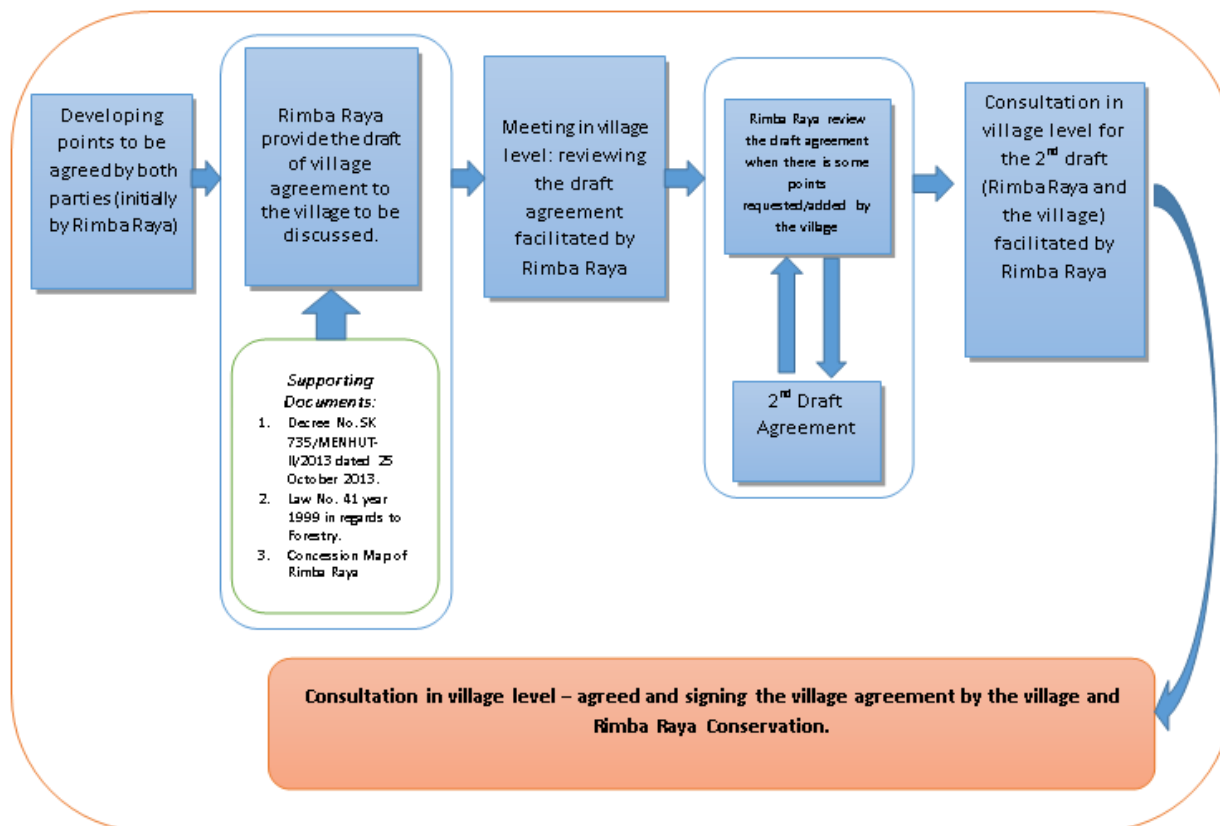


Figure 3: Agreement Process between Rimba Raya and Project Participants at the Project Level

Participatory mapping among communities will be used as a tool to engage stakeholders in the project consultation process. The participatory mapping activities will consist of sketching project activities of community areas based on traditional utilization patterns. This activity was carried out and directly managed by Rimba Raya, which engaged with WEI as a community development consultant beginning in 2015. Rimba has focused on involvement between community members, community government and local leaders.

Participatory mapping was carried out in several villages and included numerous participants. More details are included in the table below (Table 3). Additional proof of participatory mapping in the above communities may be provided upon request.

Table 3. Location, Date, and Participation of Villagers in Participatory Mapping

No	Village	Duration	Participants Number
1	Muara Dua	14 – 16 Des 2015	105
2	Baung	11 – 13 Feb 1016	119
3	Tanjung Rangas	2 – 4 March 2016	145

4	Jahitan	14 – 15 March 2016	102
5	Pematang Limau	23 – 25 March 2016	139
6	Telaga Pulang	6 – 8 April 2016	103
7	Ulak Batu	15 – 16 Sep 2016	70

The goals of participatory mapping included the following:

- 1) To sketch information on community management areas (traditional utilization) and spatial planning of villages around Rimba Raya Conservation.
- 2) Obtain information on the development areas of district level program in relation with the utilization of the area around Rimba Raya Conservation.
- 3) Act as the basic ingredients in the development planning of Rimba Raya Conservation along with village and district development.
- 4) Act as a learning media for the community and village government in the process of n village planning development.
- 5) Act as a learning media for community development staff in utilizing the participatory planning methods.

In working to accomplish these objectives, community members were able to voice their opinions and experiences, consequently influencing the direction of the project. Project proponents recognize the value of community input and strive to have community input influence the project. Through adaptive management, feedback from community members was used to change certain aspects of the project.

## The Scheme of Participatory Mapping on Land and Pattern

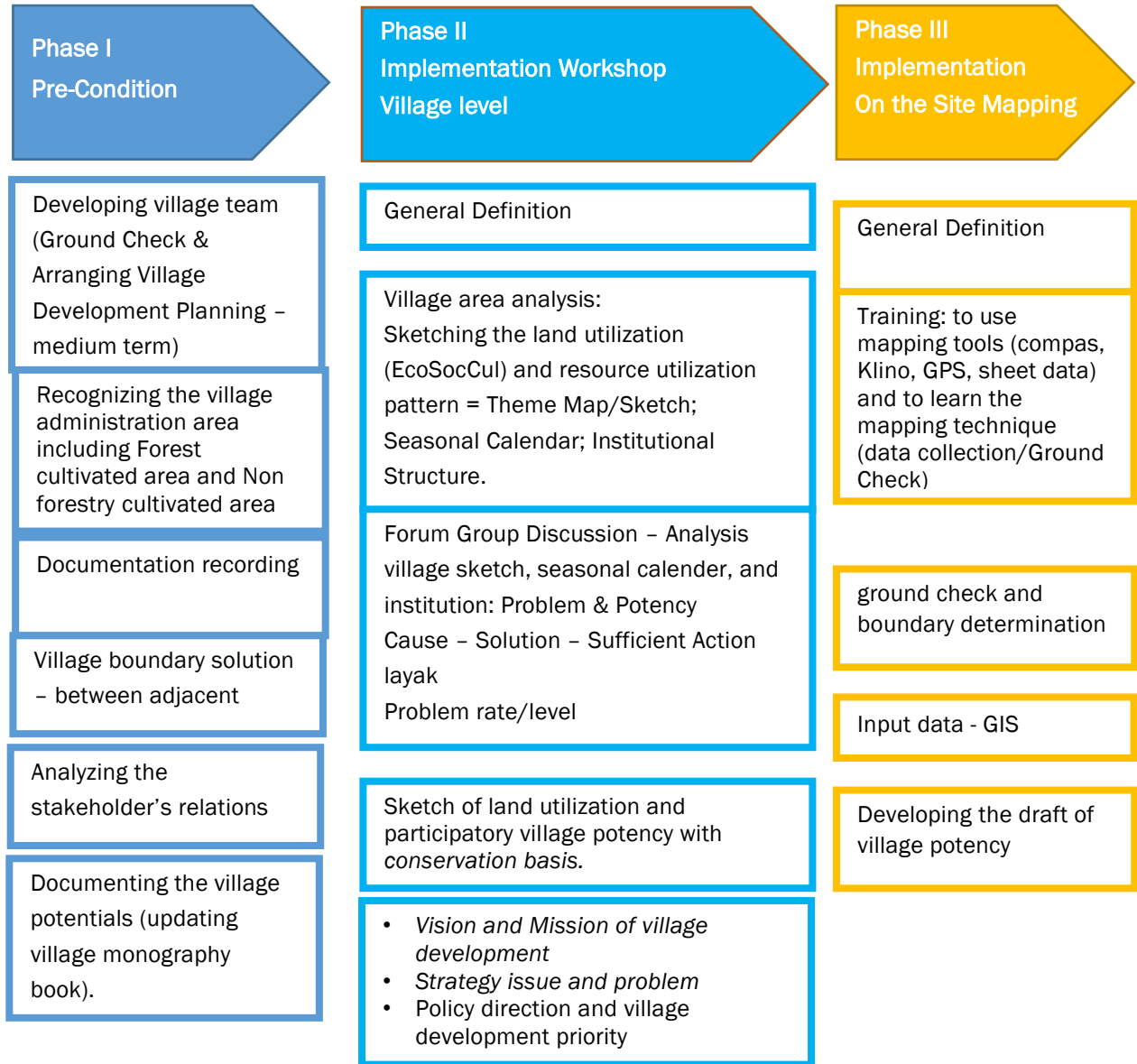


Figure 4: The Participatory Mapping Process for Community Involvement

Other, more general, methods of communication to inform stakeholders included postings on the “village board,” announcements at the mosque as well as other publicized written media. Stakeholders

will be able to provide feedback through telephone calls, email/instant messaging, letters and of course, in-person visits with project proponents and other project partners.

A summary of reports will be prepared and copied for distribution in all of the villages within the Rimba Raya operational area as well as district and sub-district seats. Notices will be placed in all villages about the availability of these summaries in each of the villages and announcements included within local newspapers where Rimba Raya has a presence. World Education and Rimba Raya office locations have copies of any summaries to distribute to community members that make a request, and efforts were made by all staff when working with the community members on other components of the programs to share that these were available.

The socioeconomic study as well as other social surveys, participatory mapping exercises, collective village agreements, and other forms of dialogue with community stakeholders allow for the inclusion of their feedback into project decision making. Through adaptive management, stakeholder feedback will be used during project development and implementation in order to influence the project.

#### 2.2.4 Continued Consultation and Adaptive Management

Prior to the social survey and dialogues with community stakeholders, project proponents intended to offer a limited set of social programs targeted directly at reducing community impacts on the Project Area. These early programs, building on work by OFI and World Education in the region, focused on conservation education and increased crop yields.

The results of the social survey made it clear that these measures would be insufficient. The development of oil palm in the region appears to be following the same course as in other parts of Indonesia, suggesting that the region will see an increase in conflicts and a diminishment in environmental services, even if the 'without project' scenario is successfully avoided. Already the region's ability to sustain traditional livelihoods is in decline. Fishing yields have decreased over the past few years with the rise of flooding, clean water is a scarce commodity, and oil palm companies have commenced a campaign of land seizures that will likely end only when all viable land has been usurped.

In discussions with community members, time and again access to clean water was listed as the top priority for any development program. After survey results were compiled, project proponents immediately began researching appropriate programs, and Potters for Peace was selected as the best candidate given local needs, project goals, and available resources.

Once project proponents understood the impoverished state of Project Zone communities, a more comprehensive effort at development commenced under the theory that only a broad-based, comprehensive socio-economic program would reduce the impact of Project Zone communities on the Project Area in a meaningful and permanent way. At this stage, project proponents adopted the Sustainable Development Goals for Indonesia as a roadmap to community engagement. A number of additional programs linked explicitly to these goals (and referencing the needs of Project Zone communities as indicated in the social survey) were researched, budgeted, and incorporated as major

project activities. Going forward, communities will again be consulted in order to refine, elaborate, and prioritize these programs.

### 2.2.5 Anti-Discrimination

The Rimba Raya Recruitment Policy does not discriminate based on gender and ensures that an adequate number of women and members of other underrepresented groups have the opportunity to apply. The employment policies for Rimba Raya along with the code of conduct policies are listed below:

- Pedoman Perilaku Bisnis Rimba Raya Conservation (BILINGUAL)
- Peluang kerja Rimba Raya Conservation (BILINGUAL)

### 2.2.6 Worker Training

A number of the activities (Reserve patrol, Fire response, Orangutan care) include a degree of risk inherent to those activities. Design and implementation of those activities will include measures to minimize risks to worker safety. In all cases, workers will be informed of risks and trained in best work practices to reduce them. We have composed our “RR\_SOP\_OSHE\_Worker Safety\_Eng\_2010-07-20 (translated)” which details our plans and policies for worker safety.

Capacity building and worker training are critical elements in the operation of the Rimba Raya project’s social service program. In order for these initiatives to succeed, members of the community need the skills necessary to effectively implement project activities. It has therefore been imperative for the social service provisions to not just create additional employment, but also provide training in the skills required to maximize these opportunities. Training and capacity building efforts will be designed in collaboration with the communities to ensure that they address current community concerns and prioritize community needs.

The design of the trainings responds to the foundational principles and elements of the company’s policies and Standard Operating Procedures (SOPs) as well as the capacity-building needs to perform the project activities. Likewise, their implementation is set up based on the Annual Work Plan (AWP).

These trainings are accessible to all levels of Rimba Raya’s employees; with emphasis in employees recruited from the stakeholder villages. This statement is found in the ‘Employment Opportunity Policy’ where it indicates “Training program shall be developed by the company to field staff recruited from the local community”. Also, these trainings are ingrained as part of the daily operations such as Fire Control Trainings (Basic and Advance) which is found in the SOP of Fire Fighting and Fire Monitoring Communication and Coordination. Similarly, trainings include measures to minimize risks to worker safety which are listed in the Health, Safety, Security in Working Environment and Emergency Status SOP.

### 2.2.7 Equal Work Opportunities

Job announcements for the local villages will be distributed one month before the hiring of our permanent field crews and a series of interviews will be conducted in the villages where these crews are to be located. The project proponent will advertise applicable employment opportunities by

contacting village heads and by posting to announcement boards in village offices and mosques. Partner organizations OFI and WE also will disseminate employment information.

The Rimba Raya Recruitment Policy ensures that members of project zone communities are given priority for all project-related positions. Priority is given to community members with skillsets that meet those required for the posted positions. As training for most staff is budgeted, prior technical experience is not imperative for some positions. In many cases, specialized local knowledge and relationships are more important than technical knowledge. For each position, once a proper applicant base is acquired – including adequate representation from women and other minority groups – an interview process featuring verbal and written consultations with multiple IE staff will be held with the goal of selecting the best candidate for the position.

The project will use community members as field guides and will make an effort to train community members in the skills of measuring peat and using such technical tools. Community members will be recruited for positions such as firefighting personnel and fire brigade, forest monitoring agents, reserve guards, orangutan care providers, conservation managers, field operations managers, administrative personnel and other monitoring staff. Further, community development staff will be recruited from villages to assist in implementing community development programs within their villages.

The Rimba Raya Recruitment Policy does not discriminate based on gender and ensures that an adequate number of women and members of other underrepresented groups have the opportunity to apply (see Peluang kerja Rimba Raya Conservation (BILINGUAL).docx). The project aims to increase gender participation during the employment process since many of the women in the villages have greater long-term interest in how their communities develop and how opportunities for their family arise.

### 2.2.8 Workers' Rights

The main body of Indonesian law governing the relations between workers and employers is UU No. 13/2003.

In addition, the following conventions of the International Labour Organization have been ratified by Indonesia:

- C81 – Labour Inspection Convention, 1947
- C87 – Freedom of Association and Protection of the Right to Organize Convention, 1948
- C98 – Right to Organize and Collective Bargaining Convention, 1949
- C100 – Equal Remuneration Convention, 1951
- C102 – Social Security (Minimum Standards) Convention, 1952
- C105 – Abolition of Forced Labour Convention, 1957
- C111 – Discrimination (Employment and Occupation) Convention, 1958

- C138 – Minimum Age Convention, 1973
- C169 – Indigenous and Tribal Peoples Convention, 1989
- C182 – Worst Forms of Child Labour Convention, 1999

Project proponents have maintained their strong commitment to inform all stakeholders of their rights with respect to the project. The Rimba Raya project has exceeded all local labor requirements and ensured that all workers were apprised of their rights.

Rimba Raya has company regulations that are required by law for any Indonesia company, foreign or national that has more than 10 employees. These company regulations are de facto regulated “labor agreements” that have been developed through negotiation between management and employees and have been ultimately approved by the Department of Manpower, which is the national regulatory department in charge of worker safety. They check to ensure they met all legal requirements.

The national government has passed two new laws relevant to worker’s rights for the project:

Government Regulation No. 45 on 30 June, 2015, on the Arrangements for Guaranteed Pensions Program

This law requires employers to register their employees with the Social Security Employment Agency and to participate in the Pension Guarantee Program. This requires the employer and employee to invest 2% and 1% of the employee’s monthly wages, respectively, into the pension fund.

Government Regulation No. 46 on 30 June, 2015, on the Implementation of Old-Age Savings Program

This law requires employers to register their employees into a retirement fund for each employee. This requires the employer and employee to invest 3.7% and 2% of the employee’s monthly wages into the retirement fund.

Both these laws have been followed for all employees in the Rimba Raya project starting on 7 September 2015.

Every employee has signed an employment agreement and has been provided a copy of the company regulations so they are aware of their rights, the policies of the company and can ask questions on any part they may have concerns with. Additionally, periodic reports have been provided to the Department of Manpower relating to employee relations, numbers of employees and locations in which any issues relating to labor laws can be identified and corrected. Salaries have been currently set at and will always exceed government mandated minimum wage for the areas that are being worked in.

### 2.2.9 Occupational Safety Assessment

Inherent risks arise for workers during project implementation and while a majority of project activities will not entail extraordinary risk, there are some which include a degree of risk that is inherent to their nature.

The majority of worker related risks stem from the project activities of reserve patrol, fire response/brigade, and orangutan care. These risks may include violent confrontation with illegal loggers/poachers/palm oil personnel, a multitude of serious and non-serious injuries from patrolling/traveling within the reserve itself, fire burns, smoke inhalation, orangutan bites/marks/scratches and infection which may follow most of the above listed possibilities. Design and implementation of these project activities includes measures to minimize risks to worker safety.

Risks will be minimized by informing workers about risk, properly training workers with best practices in order to minimize risks, and providing adequate equipment/tools. Verbally informing workers of these risks and how to minimize them is included as part of worker training, orientation conversations and training refreshment courses.

Additionally, SOPs have been composed for occupational safety and health, proper use of personal protective equipment (PPE), as well as emergency situation responses (see RR\_SOP\_OSHE\_Worker Safety\_Eng\_2010-07-20 (translated)). This SOP will be made available to project employees in the local language. PPE will be provided for staff and will continue to be provided and emphasized from the standpoint of safety in the field. First aid and medical kits will be provided to carry into the field when conducting field operations and larger ones will be placed in each of the permanent field offices.

Retraining/refresher safety courses will be carried out periodically for RRC staff. By providing safety training, informing workers of potential risks, and supplying workers with protection equipment and first aid, project risks related to occupational safety will be minimized.

#### 2.2.10 Feedback and Grievance Redress Procedure

A formal grievance/conflict resolution process will be instituted and publicized (see SOP-Handling Conflicts and Grievances.docx). It has all elements needed in the process to make sure it meets with standard conflict resolution protocols. Additional conflict resolution measures will be implemented that will hand additional responsibilities to local community members. For example:

- Managed by a Third party – local villagers that will be trained as community development staff have the responsibility for receiving and mediating between the communities and Rimba Raya. WEI will train these villagers with funding from Rimba Raya on how to be productive facilitators within the village and how they should be addressed.
- Formal Process – World Education will inform all villages on the process of contacting them to submit a grievance or resolve a conflict. Posters will be posted publically by community development staff at a more local level.
- Publicized - All communities and stakeholders will be informed of the 3rd party mediation of WEI. Stakeholders will be informed in face to face meetings by Rimba Raya personnel. Work will be completed to inform villagers on the transfer of responsibility from WEI to local community development staff.

During community consultations, the project proponent explained the conflict resolution process and provided clear verbal and written guidance on how grievances can be raised to the proponent. More

information can be found in SOP-Handling Conflicts and Grievances.docx. These issues are handled in the following manner:

- Each community is provided with a method and contact details for a third-party intermediary who represents the project proponent. Often times this is World Education.
- When a grievance is lodged, the third-party intermediary notifies the project proponent and contacts stakeholders who lodged the grievance within one week after submission to discuss their concerns.
- The stakeholder lodging the grievance meets independently with a designated Indonesian representative of the third-party intermediary organization to identify concerns and discuss potential solutions. The intermediary documents the nature of the grievance, the actions being requested and the list of potential solutions that are discussed at the meeting with the stakeholder.
- Where a significant grievance is lodged, the third-party intermediary then reports to the project proponent about the grievance being lodged.
- The third-party intermediary and the project proponent meet to decide on the appropriate course of action to address the issue.
- The third-party intermediary then reports back to the stakeholder to present the solution.
- This exchange of information continues until the dispute has been resolved.
- The time frame should be no longer than 30 days.
- Project proponents then prepare a report on the resolution process, which is made accessible to stakeholders.

In addition to this process, the Early Warning Early Responses (EWER) procedural community conflict resolution process will be implemented by Rimba Raya in the following way:

- If field staff finds a potential problem, they are to notify the Unit Manager.
- If field staff receives a complaint from a community member, they are to notify the Unit Manager.
- The Unit Manager analyzes whether they can resolve it in the field themselves.
- If the Unit Manager can handle the issue, they have the authority to resolve it, but still must report it to the General Manager.
- If they can't handle the issue, the General Manager will respond to the issue.
- If the General Manager needs additional support to resolve the issue, higher management is notified.
- A legislative hearing will be completed if needed.

With the decentralization of responsibility from WEI staff to trained community members, villagers should be more likely to come forward with any complaints or grievances. Additionally, trained community development at a more local level will have a better understanding of these issues and be able to properly address them.

### 2.2.11 Feedback and Grievance Redress Procedure Accessibility

The feedback and grievance redress procedure will be socialized and publicized to communities throughout the project zone on community bulletin boards, and be made available for access within the Rimba Raya monitoring units located in the North, South, and Central zones of the project.

### 2.2.12 Stakeholder Access to Project Documentation

All project documentation is prepared and copied for distribution on the community information board in all of the villages within the Rimba Raya operational area as well as district and sub-district seats. Notices will be placed on the community information boards within all villages about the availability of any summary or important project documentation and announcements were included within local newspapers where Rimba Raya has a presence. World Education and Rimba Raya office locations have copies of this summary and all other key documentation to distribute to community members that make requests and efforts will be made by all staff when working with the community members on other components of the programs in order to share the information that these are available. All project summary reports and information will be made available in the local language. Project documents will be made available to palm oil companies as well, as the project documentation is available online as per Verra requirement.

### 2.2.13 Information to Stakeholders on Assessment Process

A summary of the project description, auditor visitation plans, and future monitoring results has been prepared and copied for distribution on the community information board in all of the villages within the Rimba Raya operational area as well as district and sub-district seats. Notices have been placed on the community information boards within all villages about the availability of any summary or important project documentation and announcements were included within local newspapers where Rimba Raya has a presence. World Education and Rimba Raya office locations have copies of this summary and all other key documentation to distribute to community members that make requests, and efforts were made by all staff when working with the community members on other components of the programs in order to share the information that these were available. All summary information was made available in the local language.

## 2.3 Project Management

### 2.3.1 Avoidance of Corruption

The Rimba Raya project and organization has policies in place to inform management and employees about the avoidance of corruption, code of conduct, and business ethics. These policies are applied by all Rimba Raya project staff, including company management to ensure that the organization is run in accordance with all legal requirements and is held to the highest standards of operation.

The Rimba Raya policies covering the avoidance of corruption, conflict of interest, and code of business conduct are as listed:

- Kebijakan Anti Penyuapan dan Korupsi – Rimba Raya Conservation (BILINGUAL)

- Kebijakan Perihal Konflik Kepentingan – Rimba Raya Conservation (BILINGUAL)
- Pedoman Perilaku Bisnis Rimba Raya Conservation (BILINGUAL)

### 2.3.2 Statutory and Customary Rights

During interviews, community members reported no traditional or customary land claims in the project zone. Unlike Dayak elsewhere in Kalimantan, the villages did not have to adapt (indigenous) rules governing the management of land. Instead, land rights are privately managed, even though ownership rights continue to be retained by the national government. Though community members do not have formal documentary evidence of management rights, they have been passed down through generations and are locally acknowledged, with different parties aware of common boundaries between adjacent properties. Community members therefore reported that they have never had local conflicts over the land tenure amongst themselves.

In the area there is another category of land status called Hutan Desa or Lahan Desa, which appears legally to belong to the Desa, or administrative township. If this is forested it is called Hutan Desa. If it is deforested it is called Lahan Desa. This land can be claimed and used by individuals for agricultural purposes, but first they need to coordinate with the desa administration to do so. This entails requesting a Surat Keterangan Tanah (SKT), which, once received means the land rights become privately held.

### 2.3.3 Recognition of Property Rights

#### Project Ownership

Rimba Raya maintains the right of use for the project area. Rimba Raya's right of use to the project area is demonstrated in the 'working area map' presented below. The project has not required people to relocate and has preserved the local communities' right to access the project area for fishing, small scale removal of trees and collection of non-timber forest products. The project has

pledged to never re-locate any people that could conceivably encroach on the project area lands.

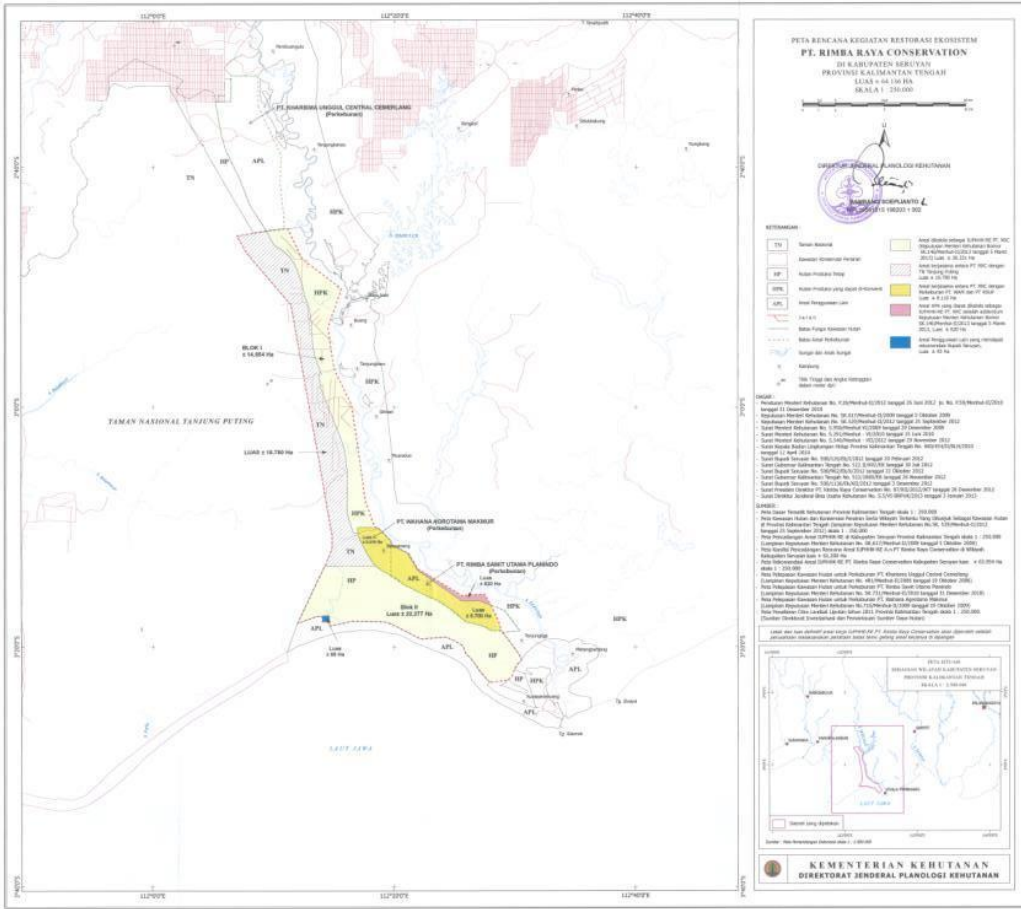


Figure 5: Original Agreements with PT Best for Conversion to Palm Oil

Decree number SK 146, grants concession of the project area comprising 36,331 hectares where right of use is specifically stipulated in the third stipulation (subsection 1), which states “(1) Conduct activities and acquire benefits from the results of its business in accordance with this license.” The specifics of the license are spelled out within the decree and are defined by the allowable forest management activities (IUPHHK-RE – forest ecosystem restoration). Additionally the Collaborative Agreement between Tanjung Puting National Park and PT Rimba Raya Conservation includes verbiage defining the carbon rights, as well as its connection to government decree number SK 146. Article 1 (section 10) states “Full responsibility to fund the operation and conservation areas (including fire protection) will be borne by PT Rimba Raya Conservation, where PT Rimba Raya Conservation project will last for a period of 30 years (+30 years) and all the emission reductions due to conservation in this area will be recognized as rights of PT Rimba Raya Conservation.” In addition, article 1 (section 8) states “Creating buffer zone for Tanjung Puting National Park as set in the Technical proposal IUPHHK-RE PT. PRC which delivered on October 20, 2009 at the Directorate General of Forestry Production.”

The final parcels of the right of use areas identified in the working area map approved by the Director General of the Planning Department were attained by the project through an agreement between PT Rimba Raya Conservation and PT Best. Three main documents are relevant to these lands; MoU BEST-RRC\_Land-authority Transfer, government Decree number SK 716, and government decree number SK 731. As concession of the final two parcels of the project area was initially granted to holding companies of PT Best (PT Wahana Agrotama Makmur Perkasa (2,394 hectares) and PT Rimba Sawit Utama Planindo (6, 512 hectares)), the concession holder created a contract giving control of these lands to PT Rimba Raya Conservation. The transfer of these rights to PT Rimba Raya has the approval of the Forestry Minister and the Director General of Planning as noted by the signed working area map.

Therefore the Project has all necessary documents in place that demonstrate user rights and the support of the Forest Authority and Director General of Planning and as part of the agreement is legally required to protect the areas defined in the working area map. The circa 8,800 hectares currently under MOU with PT BEST are currently undergoing the formal process of conversion to IUPHHK-RE – forest ecosystem restoration, however the working area map represents the official project and government position on the long term protection of this area.

The project has continued to uphold its legal requirements as part of the IUPHHK-RE license with the formal approval of both an annual work plan and a 10 year management plan that have been provided to verifiers.

The project proponents have secured provisional tenure to the Carbon Accounting Area in accordance with government procedures for obtaining an ecosystem restoration license (IUPHHK-RE). According to Regulation No: P-61 (2008) Provisions and Procedures for Issuing Ecosystem Restoration Permits, the Ecosystem Restoration license is granted through applications and regulated by the Minister of Forestry based on Article 35 paragraph (3), Article 36 paragraph (5), Article 62 and Article 68 of Government Regulation GR No. 6 (2007) in conjunction with Government Regulation GR No. 3 (2008) on Forest Arrangement and Formulation of Forest Management and Utilisation Plans.

The IUPHHK-RE license confers carbon rights to the project proponent as specified in Article 33 of GR No. 6 (2007) and GR No. 3 (2008):

#### Article 33

- (1) The utilization of environmental service in the production forest as meant in Article 31 paragraph (2) letter b shall be done through, among others, business activities of:
  - a. utilization of water bank;
  - b. utilization of water;
  - c. eco tourism;
  - d. protection of biological diversity;
  - e. environmental rescue and protection; or
  - f. absorption and/or storage of carbon.

Independent legal opinion confirms the relevance of these regulations and verifies that the IUPHHK-RE confers carbon trading rights.

The major milestones of the license process are described below (Table 4) and shown in the flow diagram (Figure 7) illustrating the procedure for obtaining the IUPHHK-RE. Key regulatory documents and government letters produced for the Rimba Raya Ecosystem Restoration license will be provided to auditors. Additional supporting documents related to the project proponent's carbon ownership are available for review by project validators.

The application for the Rimba Raya Restoration Concession has been approved by the Seruyan District (Nov 2008), Central Kalimantan Province (Jul 2009) and Indonesian Ministry of Forestry (Dec 2009), and the final decree is in the process of being issued. While District and Provincial approval are not federally regulated, these provide important assurances for project land use rights on the ground.

The Area Verification Map (Figure 5) issued by the Ministry of Forestry specifies the concession boundaries or Project Management Zone. Note that the Indonesian government does not differentiate the (smaller) carbon project boundary inside the PMZ (Figure 6) but instead recognizes the entire concession within which carbon trading activities are allowed. Following Area Verification, the Minister of Forestry allocated the Rimba Raya concession for Ecosystem Restoration use and instructed Forestry Planning to make an immediate change to the forest use designation from HPK (conversion forest) to HP (production forest) which bars conversion to palm oil and enables an RE license to be granted. Forestry Planning complied with this request indicated in their letter changing the designation of the Rimba Raya concession to HP forest use.

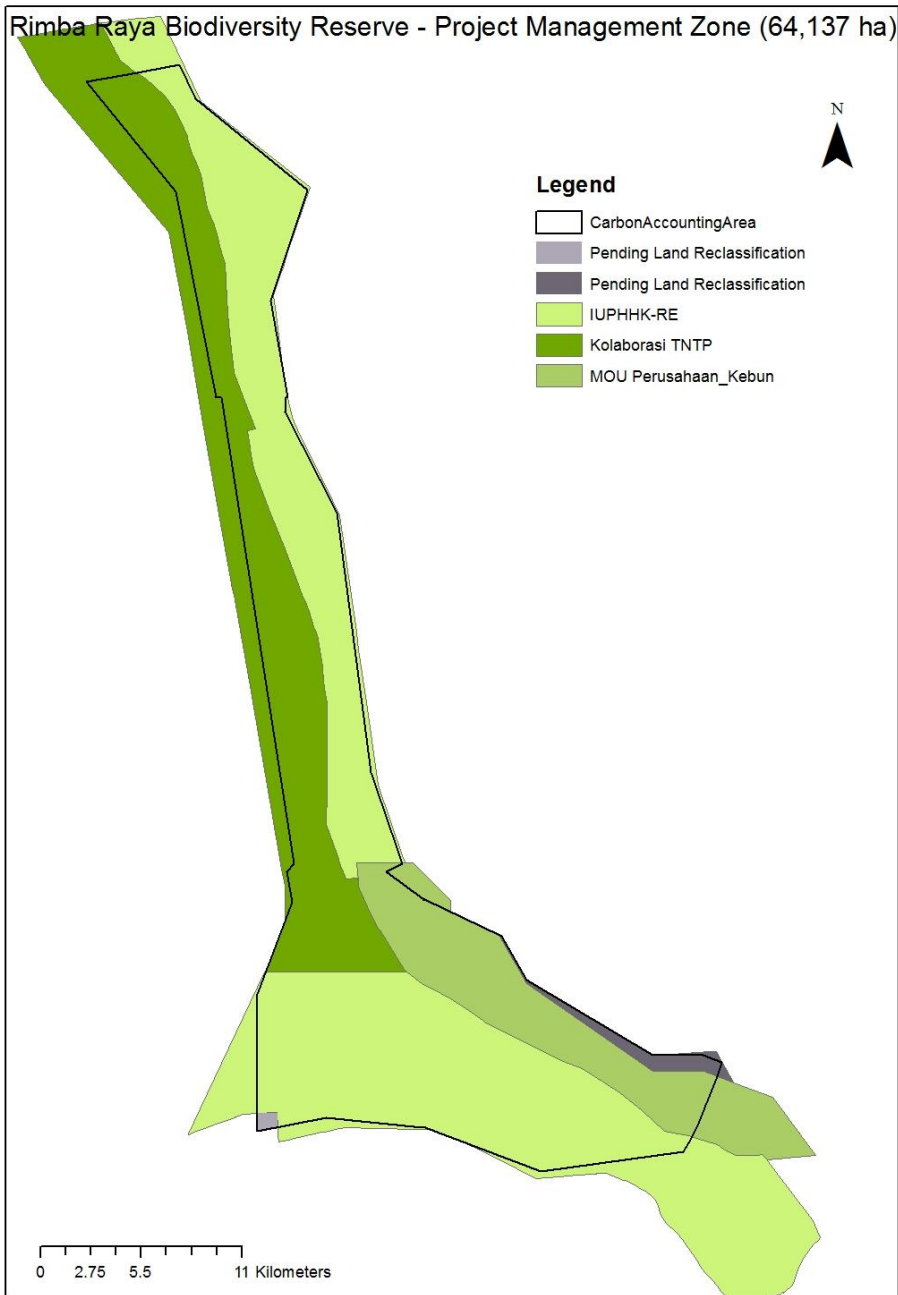


Figure 6: Rimba Raya Carbon Accounting Area as Compared to Total

Following the Area Verification process, the Minister of Forestry conditionally approved the Rimba Raya concession and instructed project proponents to complete an environmental review, indicated in the SP1 letter. The SP1 confers exclusive (although perpetually provisional) rights to use by the concession holder, as it bars all other applications according to Article 9 of Regulation P-61. After Rimba Raya successfully completed the Environmental Impact Assessment (UKL/UPL), the Minister then approved the Rimba Raya Environmental Report (UKL/UPL) as ordered by the SP1 and confirmed that project proponents had met all requirements necessary to obtaining the ecosystem restoration license

(IUPHHK-RE) as indicated by Ministerial Letter SP2. In the final major step of the licensing process, the Minister has ordered the Working Area Map to be formalized in the permanent records of the department and has instructed the legal department to draft the final decree for his signature.

Note that tenure is perpetually conditional, being reviewed every 5 years by the Minister as the basis for continuation of the permit in accordance with Article 17 of Regulation P-61.

Table 4. Milestones in the IUPHHK-RE License Process for Rimba Raya

Milestone	Description	Regulation	Date	Document
<b>Application &amp; Technical Proposal</b>	Concession applicants are required to develop a comprehensive operational plan and present it to a panel of 12+ members of the Ministry of Forestry. Copies are submitted to the Governor (Seruyan District) and Head of the Provincial office (Central Kalimantan).	P-61 Art 4,5	submitted Sep 15, 2008	Technical Proposal (available for review)
			approved Oct 13, 2009	Lm. 147 Letter (Annex 12B)
<b>Area Verification</b>	Government-issued letter and map indicating the license area boundaries and confirming that there is no conflicting recognized claims to the Project Area.	P-61 Art 6	Oct 10, 2008	S. 897 Letter (Annex 12B)
			Oct 5, 2009	SK-617 (Annex 12B)
			2009	Boundary Map (Figure 5)
<b>Allocation of area for Ecosystem Restoration</b>	Letter from Ministry of Forestry (SK-617) allocating the entire Rimba Raya concession for Ecosystem Restoration (RE) use and ordering a forest use re-designation from HPK (conversion forest) to HP (production forest) in order to meet the requirement of an RE license.	P-61 Art 2	Oct 5, 2009	SK-617 Letter (Annex 12B)
<b>Re-designation of Land Use</b>	Letter from Forestry Planning acting on the SK-617 instruction from Ministry of Forestry and changing the forest use designation from HPK (conversion forest) to HP (production forest) as required by the RE license	P-61 Art 2	Nov 24, 2009	S-1046 Letter (Annex 12B)
<b>Approval by the District Governor</b>	Letter of approval for the Rimba Raya IUPHHK-RE license by the Head of Seruyan District. Grants support for the project and recommends that the national government issue the Ecosystem Restoration license.	not Federally Regulated	Nov 18, 2008	522.1/368 Letter (Annex 12B)
<b>Approval by</b>	Letter of approval for the Rimba Raya	not Federally	Jul 16,	522/896 Letter

<b>the Provincial Governor</b>	IUPHHK-RE license by the Head of Central Kalimantan Province. Shows support at the Provincial level and recommends that the national government issue the Ecosystem Restoration license.	Regulated	2009	(Annex 12B)
<b>Approval by the Central Government (SP1)</b>	National-level approval of the project by the Minister of Forestry. This document is given after the Minister approves the technical proposal and bars all other applications for the Project Area. This document signals official sanction of the project and gives the holder provisional rights to use pending completion of administrative steps. The SP1 also instructs the project proponent to complete the UKL/UPL environmental study.	P-61 Art 8	Dec 29, 2009	S.958 (SP1) Letter (Annex 12B)
<b>Environmental &amp; Social Impact Study (UKL/UPL)</b>	Project proponents engaged PT Focus Consulting Group, a licensed third party consultant to conduct a comprehensive environmental impact assessment (UKL/UPL) and formal community presentations as required by the SP1.	P-61 Art 11	April, 2010	Report available for review
<b>Approval of UKL/UPL by Provincial Government</b>	The UKL/UPL must be approved in writing by the Provincial Environmental Department.	p-61 Art 11	Apr 12, 2010	No.660 Letter (Annex 12B)
<b>SP2 Letter</b>	Upon completion and approval of the UKL/UPL, the Minister of Forestry issues this internal document instructing the Director General of Planning to formalize the Working Area Map, which will serve as the final map for the concession license.	P-61 Art 12	Jun 15, 2010	S.291 (SP2) Letter (internal government document furnished to validators)
<b>Final Working Area Map</b>	After receiving instructions via the SP2, the Head of Forestry Planning finalizes the Working Area Map, which will accompany the Minister's Decree.	P-61 Art 12	2013	PETA REVISI KEGIATAN RE PT RRC
<b>SK (Decree)</b>	Minister's Decree officially authorizing the IUPHHK-RE	P-61 Art 12	2018 2013	SK 23, SK 146, SK 735

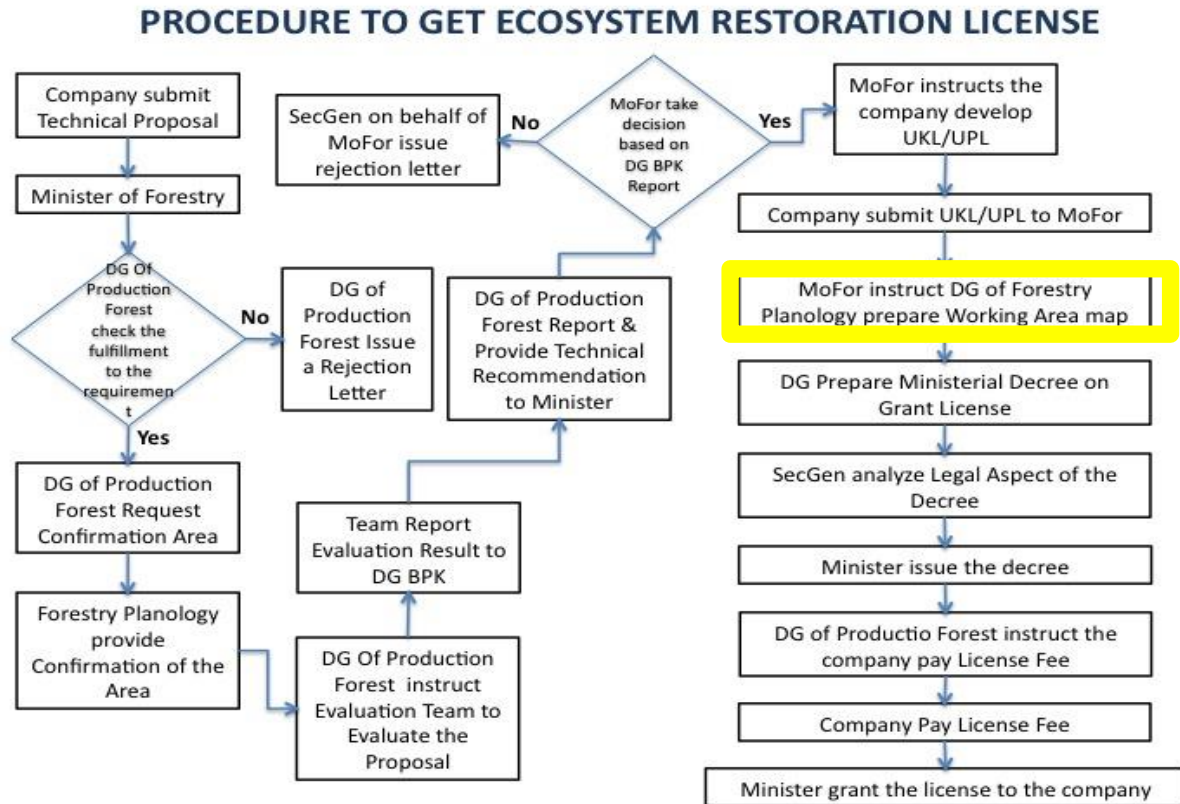


Figure 7. Flow chart for obtaining the Conservation & Restoration Concession License in Indonesia.

### 2.3.4 Free, Prior and Informed Consent

The project has not encroached uninvited on private, community or government property. The project has not required people to relocate and has maintained the local communities' right to access the area for fishing, small scale removal of trees and collection of forest products. The project has pledged to never re-locate any people that could conceivably encroach on the project area lands, although this has been actively prevented from occurring through patrols and education.

Because no parties' lands have been affected by the project, restitution or compensation has not needed to be allocated.

One area of concern relating to the above arose in the previous monitoring period through the discovery of people from Kuala Pembuang that bought land (not legally) along the government road running through the southern part of the concession from the town to the port and established either temporary or permanent structures within the boundaries of the concession. Options for dealing with this issue were discussed with the local government and involved several possibilities including but not limited to; reimbursement by Rimba Raya for money paid for the land subject to a valid receipt, relocation to another area by local government with an equal area of land, allowing "occupied" residents to remain and employing them as security and monitoring, and relocation of the road so that it is outside of the

concession boundaries, thus less attractive from a development perspective. This issue was resolved through the signing of a new a boundary document by the MoEF, District, Sub-District, and Provincial governments. Additionally, a procedure was developed in which local communities may make individual claims to the District Land Agency by submitting all evidence they have demonstrating their ownership, and this agency is in charge of resolving the matter. However, no claims with regards to land ownership have been made at this time.

Based on consultations with community representatives, project proponents were able to determine that, with few exceptions, village and communal property lies to the east of the Seruyan River, inside the project zone but outside the project area. To the extent that community or individual villager property lies within the project area, project proponents have offered the option of integrating the property into the project's Community Agro-Forestry program or excising the land from the project area.

All project area land belongs to the Government of Indonesia, and the appropriate licenses and authorizations for management rights were put in place prior to commencement of major project activities.

### 2.3.5 Restitution and/or Compensation for Affected Resources

Because no parties' lands have been affected by the project, restitution or compensation has not needed to be allocated.

### 2.3.6 Property Rights Removal/Relocation of Property Rights Holders

Rimba Raya maintains the right of use for the project area. All project area land belongs to the Government of Indonesia, and the appropriate licenses and authorizations for management rights were put in place prior to commencement of major project activities. The project has not required people to relocate and has preserved the local communities' right to access the project area for fishing, small scale removal of trees and collection of non-timber forest products. The project has pledged to never relocate any people that could conceivably encroach on the project area lands.

### 2.3.7 Identification of Illegal Activities

The illegal activities that may be conducted from time to time in the project area and could affect the project's impacts include logging, deforestation and drainage by oil palm companies. In order to reduce these instances, the project proponent will implement preventive measures and project activities aimed at identifying and mitigating the effects of illegal activities. The following subsections describe the activities and mitigation measures further.

#### **Encroachment by Palm Oil Plantations**

The principal illegal threat to the project's benefits has continued to be encroachment by the oil palm plantation inside the project zone, specifically to the north of the project area. The plantation has already expanded its operations beyond authorized boundaries, destroying valuable forest habitat. Moreover, the plantation's drainage canals threaten nearby peat deposits inside the project area.

Due to additionality requirements of REDD projects, the relationship between project developers and palm oil concessionaires was necessarily adversarial at project commencement. Upon project implementation, however, the relationship has become collaborative to avoid leakage. Project proponents have engaged the palm oil company with a series of steps designed to defuse threats. First, a guard post was built on the northern boundary, which serves as both a way to inhibit fire prevention and encroachment. Additionally, a pineapple plantation was built in this area between the project area and plantation, which serves as a fire break protection the forest.

### **Illegal Logging**

There is a history of illegal logging inside the project area, and some indication that logging in the southern part of project area and extending into Tanjung Puting National Park has been ongoing. Social surveys of project zone communities indicate that this threat has not arisen from within the project zone, but rather from outside communities that have no legal or traditional stake in project area forests.

To mitigate this threat, project proponents plan to establish a comprehensive network of guard towers and patrols to ensure the territorial integrity of the project area and prevent access by loggers.

### **Resource Use Surrounding Communities**

Although minor in comparison to the threat posed by both legal and illegal palm oil plantations, the surrounding communities have placed some pressure on the physical integrity of the Rimba Raya Reserve. Anecdotal evidence suggests that community members have engaged in limited hunting and fishing inside the project area and have occasionally logged trees for timber.

Since 2003, World Education has been working with farmers around TPNP to achieve food security and alleviate pressure on proximate forest land. In 2005, these efforts expanded into the Seruyan, beginning with the introduction of rice block management techniques to greatly reduce the impact of crop pests in four villages on the east side of TPNP. Five Seruyan villages (Tanjung Hanao, Ulak Batu, Palingkao, Buang, Muara Dua) have been participating in a program intended to yield rice self-sufficiency and diversify crops by introducing agroforestry. Where viable, WE has sought to introduce community gardens and aquaculture. One such project is the development of a pineapple plantation near the northern border of the project. This project provides co-benefits in the form of additional food security and a cash crop for community members, as well as acting as a buffer against encroachment from palm oil plantations near the area.

Under the auspices of the Rimba Raya project, this program will be expanded and extended to villages throughout the Project zone. Beyond that, project proponents have designed a slate of socio-economic programs to address poverty issues at the root of this threat. These programs, described in the Community Section, will create a social buffer and reduce this threat to project benefits.

With the exception of the oil palm encroachment, project partner, OFI has had a long and successful track record of monitoring the project area and deterring would be loggers and threats of fire such as hunters and shifting agriculture before they can do significant damage to the ecosystem, and dealing

with the offenders using non-violent methods. The project field team has worked with the same techniques and in many situations along-side OFI to continue this approach so that these instances have been reduced and have been effectively managed when they occurred.

The Project does not and has not benefited from any illegal activity.

### 2.3.8 Ongoing Conflicts or Disputes

There are no existing conflicts or disputes within the project area.

### 2.3.9 National and Local Laws and Regulations

In May of 2009 the government of Indonesia began formal regulation of REDD projects with the creation of a REDD project procedural document. This procedural regulation gives a legal allowance for voluntary carbon market project development. The project is following these REDD procedures in accordance with the following listed regulations:

1. Ministry of Forestry Regulation No. P.68/Menhut-I/2008 on the Implementation of Demonstration Activities on Reduction of Emissions from Deforestation and Degradation.
2. Ministry of Forestry Regulation No. P.30/Menhut-II/2009 on The Procedures for Reducing Emissions from Deforestation and Forest Degradation (REDD), dated 1 May, 2009.
3. Ministry of Forestry Regulation No. SK.159/Menhut-II/2004 on Ecosystem Restoration in Production Forest Areas.
4. Ministry of Forestry Regulation No. P.6/Menhut-II/2007 concerning work plan and annual work plan of utilization of timber forest products in natural forest and ecosystem restoration in natural forest within a production forest.
5. Ministry of Forestry Regulation No. P.61/Menhut-II/2008 concerning provisions and procedures for the application and granting of a business license for wood forest products in a forest ecosystem restoration of natural forests in a production forest.

The project will continuously be in compliance with all national and local laws and regulations of Indonesia that are relevant to the project activities, including the two new laws discussed above.

### 2.3.10 Grouped Projects

This is not applicable because this is not a grouped project.

## 3 BENEFITS FOR PEOPLE AND PROSPERITY

### 3.1 Condition of Stakeholders at Project Start

Stakeholder Category	Description	Condition at Project Start
<b>Villagers</b>	Recipients and beneficiaries of any program implemented in Project Zone villages	<ol style="list-style-type: none"> <li>1. Discontinued flow of income and lack of formal employment opportunities with a local company</li> <li>2. Social instability as villagers concerned about the conversion of native standing forest to palm oil plantations and the direct negative impacts to the environmental services; specially the ones related with water regulation and quality for optimal fishing conditions.</li> <li>3. Non-existent environmental and social development programs in the villages.</li> </ol>
<b>Farmers groups</b>	Organization with common goal of improving member's welfare	<ol style="list-style-type: none"> <li>1. There is no external support for capacity building programs that aim to develop skills and competency management for economic endeavors.</li> <li>2. Farmer groups do not have sufficient knowledge to include environmentally friendly activities to their operations.</li> </ol>
<b>Formal Village Leaders</b>	Village heads, Village secretaries, and BPD Chairmen	<ol style="list-style-type: none"> <li>1. There is no external channel of communication to access to information about the benefits to conserve forest for the village wellbeing.</li> <li>2. As head of the village, emotional distress for the future of their generations in the village because there was a massive and rapid expansion of palm oil plantations around the RRBR.</li> <li>3. Difficulties to show socio-economic development through partnerships with local companies.</li> </ol>
<b>Informal Leaders</b>	Village members with influence in the village, often approached to facilitate communication	<ol style="list-style-type: none"> <li>1. There is no external channel of communication to access to information about the benefits to conserve forest for the village wellbeing.</li> <li>2. Emotional distress for negative impact in water quality.</li> </ol>
<b>World Education</b>	Community organizer that implements community development programs	<ol style="list-style-type: none"> <li>1. Non-existent of a detailed social baseline data in the stakeholder villages.</li> <li>2. There is no Village Development Plans that incorporates environmental and biodiversity components as well as community</li> </ol>

		development-based organizations in order to become self-sustained villages.
<b>OFI</b>	Community facilitator working to raise stakeholder's awareness of conservation	<ol style="list-style-type: none"> <li>1. Insufficient funds to rescue rehabilitate and release orangutans threatened by the expansion of palm-oil deforestation.</li> <li>2. Lack of personnel and equipment to develop forest rehabilitation programs suitable for orangutan reintroduction.</li> <li>3. Non-existent partnerships with organizations working in the eastern flank of the Tanjung Putin National Park.</li> <li>4. Low number of potential areas to construct orangutan release centers and feeding platforms.</li> </ol>
<b>Government Offices</b>	License oil palm plantation companies; monitor their progress; implement programs at the village level; facilitate conflict resolution for any village dispute	<ol style="list-style-type: none"> <li>1. Risk of facing a large-scale and long-term environmental impact in terrestrial and aquatic ecosystems.</li> <li>2. Reputational risk of the governmental authorities to approve a massive conversion of forested deep peatland into palm oil plantations instead of a landmark forest conservation project.</li> <li>3. Non-existent partnership with local and private companies to conserve the diversity and richness of ecosystems forest areas adjacent to the Tanjung Putting National Park.</li> </ol>
<b>Palm Oil Companies</b>	Plantation development, with limited social programs for local communities	<ol style="list-style-type: none"> <li>1. Lack of social programs to boost the economic activity in the villages</li> <li>2. Employment opportunities for local residents are limited</li> <li>3. Confrontational attitude towards the strengthening of the RRBR</li> </ol>
<b>Tanjung Puting National Park</b>	National Park bordering the project area that works in close collaboration with OFI	<ol style="list-style-type: none"> <li>1. High-risk of commercial-scale illegal logging in the eastern border of the park</li> <li>2. Insufficient partnerships to co-manage the fully extent of the park</li> <li>3. Lack of funds to promote environmental and social development programs in the surrounded villages</li> </ol>

<b>Women's groups</b>	Organization with common goal of improving member's welfare	<ol style="list-style-type: none"> <li>1. There is no external support for capacity building programs that aim to develop skills and competency management for economic endeavors.</li> <li>2. Non-existent woman working groups for any type of economic activity.</li> </ol>
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In December 2008, a socioeconomic and cultural survey was conducted by Daemeter Consulting to identify and describe communities present in and near the Rimba Raya Project Area.

### **Methodology**

The methodology used for collecting data included individual interview and small group discussion. The village head, deputy village head, village secretary, Chairman of BPD (Badan Perwakilan Desa, Village Representative Body), informal leaders, elders, youth, and women leaders represented the target contacts, as these individuals and groups have the greatest access to village-specific information. In some cases, members of these groups were interviewed individually, allowing for the repetition of certain questions to gauge consistency across interviewees. In other cases, the small group format facilitated discussions, allowing for the collaborative elaboration and refinement of information as it pertained to a specific village.

The interviews addressed topics as described in the CCB Standards with the goal of collecting relevant data and information, but they were otherwise unstructured, emphasizing topics of interested to interviewees.

### **Overview**

Eight villages (*desa*) in the project zone were identified during the original baseline assessment, from Ulak Batu down to Kuala Pembuang, the capital of Seruyan District (southeast of the Project Area). Administratively, these 8 villages fall under the same district (*Kabupaten* Seruyan), but three different subdistricts (*kecamatan*). The villages and their subdistricts are: Ulak Batu, Palingkau, Cempaka Baru, and Telaga Pulang located in Danau Sembuluh Subdistrict; and Baung, Jahitan, Muara Dua and Tanjung Rengas located in Seruyan Hilir Subdistrict. Table 5 below provides population data for the villages visited.

Most community members residing in the 8 villages surveyed rely on the Seruyan River for their basic needs, cash income, and transportation. Before the 1990s, forests provided for the communities' basic needs and cash income. Villagers cleared forests to make their *ladang* and plant rice and rubber. They also logged the forests and sold logs to markets in Baung, Telaga Pulang, and Segintong Luar. However, after the operations of Hutan Lestari, conducted by the Ministry of Forestry in the late 1990s to control illegal activities within state forests, logging became the least favored livelihood option for villagers. There were (and still are) some illegal logging cases resulting in elite village officials or their family members being jailed.

Villagers' access to forests has become even more restricted with recent oil palm plantation development. In the villages surveyed, it was common to hear complaints of oil palm companies operating in a manner that caused land tenure disputes. This form of conflict reportedly never occurred in the past, when land use issues were resolved by visiting villages and asking for permission to operate in the area. Only a few companies have had the good will to resolve such conflicts by negotiating with the villagers directly, some even asking for facilitation by the government. A number of palm oil companies still use the 'New Order approach', arranging for the police's special task force or the military to support them in negotiations with villagers, a posture that is inevitably (and often intentionally) intimidating.

No.	Village	No. of Families	No. of People	No. of Women	No. of Men	Predominant Tribe
1	Ulak Batu	70	181	89	92	Dayak Nadju & Banjar
2	Palingkau	43	168	77	91	Dayak Nadju & Banjar
3	Cempaka Baru	133	566	216	250	Dayak & Banjar
4	Telaga Pulang	411	2313	1008	1305	Banjar & Dayak
5	Baung	250	2015	992	1223	Banjar & Dayak
6	Jahitan	133	477	208	269	Dayak & Banjar
7	Muara Dua	140	523	236	287	Banjar & Dayak
8	Tanjung Rengas	320	1406	641	765	Banjar & Dayak
<b>Totals:</b>		<b>1500</b>	<b>7649</b>	<b>3467</b>	<b>4282</b>	

From the villages visited, most of the villagers – who typically belong to Dayak and Banjar tribes – earn their living from fishing. Seeing this, the Seruyan District government developed a program to help the communities improve the productivity and sustainability of fish populations in the river by adopting a keramba (aquaculture) system. However, it is reported that in the last five years the Seruyan River has experienced far more frequent flooding than in previous periods. In the past, flooding occurred predictably once each year and could be anticipated. Recently, they have experienced monthly

flooding, and some communities remain flooded for up to three months at a time. Only a few of the communities have healthcare facilities.

Villagers from communities without healthcare facilities go to other communities for treatment. At one point, there were a number of midwives assigned to each village, but due to the extremely challenging living conditions (unhealthy environment, lack of clean water, etc.) only a few midwives have stayed.

In terms of education, village elders did not attend school or, if they did, attended only through elementary school. On average, each village has one elementary school building that is poorly maintained. The younger generations now receive education through high school, but schoolchildren must move to Telaga Pulang or Pembuang Hulu to attend. Some teenagers return to their villages after completing high school to help their parents. Others work with oil palm companies or become boat operators. Still others do not return to their villages, instead migrating to towns and cities for other employment opportunities.

Due to the extreme poverty in the area, many villagers leave their communities to look for work elsewhere. At the same time, many migrants have started coming to the area to work with oil palm companies operating on land near these communities. A number of village officials cited these changing population trends as the principal complicating factor in conducting an accurate census of the population.

The migrant workers have become a controversial issue with villagers, who feel that they are reducing local employment opportunities. All officials interviewed said that the oil palm companies prefer to use their own workers rather than train locals to work for them. Another common complaint is that oil palm companies use community land, but the compensation paid does not meet the communities' expectations.

Life seems difficult for most of the villagers in the Project Zone. Their access to forests is limited by the expansion of oil palm plantations. They cannot fish when the river is flooded, a condition that is occurring with increasing frequency. They cannot compete with migrant workers if they wish to work for the oil palm companies. They cannot afford the day-to-day cost of living, which is significantly more expensive than in other places in Indonesia (e.g., gasoline and kerosene are priced three times higher here than in cities). They are typically last to know what is happening in the area. In effect, they are being driven from their land.

### **Survey Results**

**1. Ulak Batu.** Ulak Batu used to be part of Telaga Pulang village. The name Ulak Batu was chosen by an official from the Bangkal Subdistrict in 1965 because he thought that Ulak Batu had enough people to become a separate village. It is now under Danau Sembuluh Subdistrict administration. The village borders Paren village to the north, with Sembuluh to the east, Palingkau to the south and the Project Area to the west.

The population is 181 people, comprising 89 women and 92 men in roughly 70 families. Most of the villagers are of Dayak Nadju and Banjar descent, and the vast majority are Muslim. They speak Pemuang, Banjar, and Indonesian.

Before the 1990s, the villagers practiced logging and therefore relied on the forest as their source of cash income. Beginning in the late 1990s with the Ministry of Forestry operation to combat illegal logging, however, it has been difficult for them to find cash income. They initially shifted to fishing, but they now face difficulty with seasonal uncertainty, flooding, and the degradation of the Seruyan River. It is therefore difficult for them to meet their basic needs.

**2. Palingkau.** Palingkau was established in 1977, and it is currently under Danau Sembuluh Subdistrict administration. It is inhabited by 168 people, 77 women and 91 men, in 43 families. Most of the villagers are Dayak Nadju or Banjar, and all are Muslim. They speak Pemuang, Banjar, and Indonesian.

The village borders Ulak Batu village to the north, Sembuluh to the east, Cempaka Baru to the south and the Project Area to the west.

Ninety percent of the families earn their living from fishing in the Seruyan River. The fish they catch include *baung*, *jelawat*, *haruan*, *biyawan*, *tapah*, and *kemancung*. In addition to fishing in the Seruyan River, they also make some “*keramba*” for aquaculture. Farmed species include *bakut*, *jelawat*, *toman*, *baung* and *haruan*.

**3. Cempaka Baru.** Cempaka Baru is one of the villages under the administration of the Danau Sembuluh Subdistrict. It contains one *dusun* (subvillage), also called Cempaka Baru, with two hamlets (RTs). The village was established in 1963. Prior to being named Cempaka Baru, it was called Danau Pepundak. The population consists of 566 people in 133 families. Approximately 360 of the villagers are of working age. Three quarters of the total population are Dayak, and the other quarter is Banjar. All of the villagers are Muslim. Of the 133 families, 70 are considered “poor” – a term locally defined as families whose house roofing is made of leaves or whose daily income is less than IDR 30,000.

The village has formal (village governance) and informal (women’s group/PKK, youth group/Karang Taruna) institutions, although the informal institutions are no longer active. The village also has a cooperative bank, and all members of the cooperative can deposit money and borrow from the bank.

To meet their basic needs, the villagers depend on rivers for protein (fish) and on the forest for construction material and fuel wood. They did not indicate which forest they utilize.

Most people from Cempaka Baru do not possess a land certificate for their property. Only 5% have a Surat Keterangan Tanah (SKT) signed by the village head. Swidden agriculture areas and rubber gardens are owned individually, not communally. Individuals know the boundaries of their properties without relying on clear physical markers. They use natural features such as rivers and large trees to mark the boundaries. So far, there have been no conflicts among the villagers over land boundaries. In addition to individual property, there is also communal forest land owned by the village. The village has not established formal regulations for its utilization, but only villagers from Cempaka Baru are

permitted to use it. The village also has a land use plan that divides the village land into settlements, agricultural areas, plantations, fisheries, graveyards, and public facilities.

In general, community members would like to have a development program without sacrificing their remaining forested lands. They prefer to have a program that can protect their forests while at the same time generating income to improve their welfare.

**4. Telaga Pulang.** Administratively, Telaga Pulang is within the Danau Sembuluh Subdistrict. It has two sub-villages on either side of the Seruyan River, with a total of 6 hamlets. The population is 2,313 people, consisting of 1,305 men and 1,008 women in 411 families. There are 1,754 people considered to be of working age. Almost all residents are Muslim, with only one percent of families reported to be Christian. Ethnically, the villagers are Banjar (50%), Dayak (45%), and other (5%).

Fifty-five percent of families earn their living from fishing and farming, while the other 45% work for private companies (including oil palm) operating near the village. Daily income from fishing is around IDR 45,000. Fifty percent of the families are considered poor because they earn less than IDR 30,000/day and have roofs made of leaves on their houses.

The land in the village is owned privately by individuals. Only 20% of the families have registered their land with the village and received official documents in the form of SKT. About 5% of the village's total area is communal forest land. The village has yet to set up a separate body to manage this land. The villagers do not use forests for cultural or religious purposes. Basic needs met by local natural resources include protein (fish), water for bathing, drinking, and washing, fuel wood, and wood for construction. Other necessities, such as carbohydrates, vitamins, minerals, and medicines, are purchased.

The village also has a cooperative bank called *Koperasi Pare Itah* which the members can use to save and borrow money.

**5. Baung.** The village of Baung is located in the Seruyan Hilir Subdistrict. It has one sub-village with the same name and three hamlets (RT). Two are located along the riverbank while the third is farther south and inhabited by only three families. The total population is 2,015 people, comprising 992 women and 1,223 men in 250 families. 1,631 people are considered to be of working age. Ethnically, almost 90% of the families are Banjar, 9% Dayak, and 1% Javanese.

Of the 250 families, 100 are considered poor either because their daily income is less than IDR 20,000 or because their houses are in very poor condition. These poor families receive direct cash assistance under a BLT program from the government. Farming and fishing are the principal sources of income for 70% of the villagers, while the remaining 30% work for the oil palm company. On average, farmers and fishermen can earn IDR 35,000/day. The farmers tap rubber, *jelutung* (*Dyera costulata*), and *gembor* (raw material used for mosquito repellent).

To meet their basic needs, villagers rely heavily on cash purchases from markets in the Seruyan District or other nearby villages. Natural resources used to meet basic needs include river water for drinking, bathing, and washing, fish for protein, and fuel wood from the remaining forests.

There are three economic institutions in the village, the Koperasi Usaha Mandiri (an oil palm-plasma cooperative that is not active yet), the Mekar Sari Farmer Group (a World Education-facilitated group focusing on agricultural activities), and Subur Mandiri Farmer Group (a Forestry Service Office program for planting rubber (*Hevea braziliensis*) and *jelutung* (*Dyera costulata*)).

The village has a land use plan that separates the land according to functions, including the following categories: settlement (housing), village office facility, agricultural land, plantation, fishery, and public facilities (e.g. school and medical center).

Each individual has private land for farming or settling. No one has official documentation to prove ownership, but there is consensus on property boundaries. Land conflicts among villagers have yet to occur, although there have been some conflicts with individuals from the neighboring village.

Seventy percent of the total area of the village is reported to be forest land, which makes it communal property.

**6. Jahitan.** Jahitan is another village under the administration of the Seruyan Hilir Subdistrict. This village was established far before Indonesian independence in 1945. It consists of only 1 *dusun* with 2 hamlets on either side of the Seruyan River. The population totals 477 people, including 269 men and 208 women in 133 families. There are 335 individuals of working age. Most of the villagers are Dayak (95%), with some Banjar (4%) and Javanese (1%). All are Muslim.

Sixty percent of the families work for the oil palm plantation belonging to PT. Gawe Bahandep Sawit Mekar, while the other 40% are farmers and fishermen. This latter group earns IDR 35,000/day on average. Of the 133 families, only 11 are considered poor and receive BLT (*Bantuan Langsung Tunai*, Cash Direct Aid) from the government.

The villagers meet their carbohydrate, vitamin, mineral, and medicinal needs by cash purchases in markets or neighboring villages. They still depend on local natural resources to meet basic needs for water, protein, construction materials, and fuel wood. They do not have any cultural relations to the forest.

Jahitan has one formal institution, the village government (village head, village representative body, village secretary and other officials). The only informal institution identified was the farmer group, Mardi Rukun, which is facilitated by the Forestry Service Office for planting rubber and *jelutung*.

The village has developed a land use system that divides the village area into the following functions: housing, agricultural, fishery, plantation, public facilities, village office, and graveyard. Seventy percent of the families have registered their land with the village head to obtain their SKT. The village still has a lot of forested land, which is considered communal property. Regulations for using these forests have yet to be developed, but in principle every individual in the village has access to it.

**7. Muara Dua.** Muara Dua is also under Seruyan Hilir Subdistrict administration. It has 3 *dusun* (Muara Dua, Belanti, and Tempudan) located on either side of Seruyan River. The population is 523 people, comprising 287 men and 236 women in 140 families. The number of people of working age is 419. Ethnically the villagers are Banjar (60%) and Dayak (40%), and all are Muslim. All of them earn

their living by fishing and farming, with cash income approximating IDR 40,000/day. Of the 140 families, 36 are considered poor as they earn less than IDR 20,000/day. These poor families receive Cash Direct Aid from the government.

Muara Dua villagers still depend on local natural resources to meet basic needs: fish for protein, water, wood for construction materials and fuel. They purchase other basic needs, such as carbohydrates, vitamins, minerals, non-fish protein, and medicines.

Land is owned individually and communally. Individual ownership is not registered with the village head, although landowners know the boundaries of their properties. Reportedly, there have been no conflicts between villagers and outside parties. No companies operate in the village. However, in 2008 word reached the village that the Seruyan District government had plans for part of the village land to be allocated for oil palm plantation development. At present, the oil palm company with a license for the area, PT. Ahmad Saleh, has yet to commence its operations on the ground. Similar to other villages in Seruyan Hilir Subdistrict, Muara Dua has not developed any institutions for managing the village forests, but each individual may use this communal land.

There are two farmer groups, Harapan Makmur (25 members) and Setia Karya (15 members). One is facilitated by World Education and the other by the Forestry Service Office at the District level.

**8. Tanjung Rengas.** Tanjung Rengas is the southern-most village in the Seruyan Hilir Subdistrict, and includes one *dusun* with six hamlets located on the west side of Seruyan River. It is inhabited by 1,406 people, consisting of 765 men and 641 women in 320 families. The number of working age people is 985. Ethnically the population is 50% Dayak and 50% Banjar.

Seventy percent of the villagers earn their living from fishing, 20% from farming and 10% from working for companies. The average income from fishing or farming is IDR 30,000/day. Of the 320 families, 70% reportedly live in poverty, which they define as having an income of less than IDR 25,000/day, owning no land, or living in a house with a palm roof.

Similar to other nearby communities, villagers here meet their basic needs for carbohydrates, vitamins, minerals, and medicines through cash purchases and depend on local natural resources for water, construction materials, and fuel wood. The villagers do not have cultural ties to the forests.

Land is owned individually, but most of the land has not been registered with the village. Only 5% of the families have obtained a SKT signed by the village head. There is communal forest land available for use by the villagers. Officially, any individual who wants to use the land must report to the village head to apply for a SKT, but no sanctions are applied for failure to do so. The village has delineated village land into the following use categories: housing, office, agricultural use, plantation, fishery, public facilities, and graveyard. There are five farmer groups, each with 20-50 members.

### **Stakeholder Baseline Scenario**

The approach to demonstrate net community benefits in the Project area is based on an assessment of ‘with’ and ‘without’ project scenarios in relation to project goals. As compared to the baseline scenario, the project activities are designed to provide a net positive impact on the communities and their well-being. A comparison of the baseline and project scenarios and descriptions of how project activities are aligned with various sustainable development goals are summarized below:

SDGs 1, 2, 8, and 10: Eradicate extreme poverty and hunger, promote inclusive employment and reduce inequality

Palm oil is Indonesia’s second most successful agricultural product, after rice, and the largest agricultural export. It provides a means of income and economic development to a large number of Indonesia’s rural poor<sup>1</sup>. With over half of Indonesia’s population living in rural areas—of which over 20 percent live below the poverty line—the palm oil industry provides an incomparable means of poverty alleviation (Budidarsono, et al , 2013; Norwana; et al 2011). It allows small landholders to participate in the cash economy and often results in improvements to local infrastructure and greater access to services. In some areas, the cultivation of oil palm has replaced traditional practices, often due to the higher income potential of palm oil (Budidarsono, et al , 2013; Norwana; et al 2011).

However, in some cases, land has been developed by oil palm plantations without consultation or compensation of the indigenous people occupying the land which has led to conflict, including conflict in Indonesia. Additionally, some Indonesian oil palm plantations are dependent on imported labor or undocumented immigrants, which have raised concerns about the working conditions and social impacts of these practices<sup>2</sup>.

Plantations systematically destroy the rainforest land that the local people depend on; communities are continuously finding themselves with no choice but to become plantation workers. Faced with poor and degrading working conditions, they often earn barely enough income to survive and support their families. Instead of being able to sustain themselves, indigenous communities become reliant on the success of the palm oil industry for their income and survival, leaving these community members incredibly vulnerable to the world market price of palm oil which they have no control over. In the baseline scenario, the majority of community members - would continue to depend on the palm oil industry for employment.

This would likely be the case for the two identified community groups in the project – those communities living in the project zone and those which travel to the project zone for logging, hunting or

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<sup>1</sup> See ‘the Economic benefit of Palm oil to Indonesia. A report by World Growth. Available at [http://worldgrowth.org/site/wp-content/uploads/2012/06/WG\\_Indonesian\\_Palm\\_Oil\\_Benefits\\_Report-2\\_11.pdf](http://worldgrowth.org/site/wp-content/uploads/2012/06/WG_Indonesian_Palm_Oil_Benefits_Report-2_11.pdf)

<sup>2</sup> See Ghosts of our Land. Indonesian oil palm smallholders and the roundtable on sustainable palm oil. Forest Peoples Programme. Available at: <http://www.forestpeoples.org/sites/fpp/files/publication/2011/02/ghostsonourownlandtxt06eng.pdf>.

for collecting non-timber forest products. Prior to project creation, the area in which the project area exists was part of several concessions that were planned to become a palm oil plantation. Therefore, it can likely be assumed that in the absence of the project, the land would have been converted to palm oil plantation. Community members living in the project zone would likely become employed by the palm oil company and lose their local forest. This would leave them vulnerable to the associated palm oil industry issues, as described above. This would include vulnerability to poverty and hunger. Likewise, community groups that did not live in the project zone but traveled to the project zone for logging, hunting and non-timber forest products (NTFP) would either see the same fate as community groups living within the project zone (employed by the palm oil industry, losing their local forest and being susceptible to poverty and/or hunger) or they would travel elsewhere to access forestland for logging, hunting and NTFP and likely, to access employment as well. With the absence of these plantations, it is likely that fewer people from outside the area moved into the project zone for employment. However, those that have traveled to the project zone are eligible for employment in the Rimba Raya Project. Additionally, while they are discouraged from conducting illegal deforestation in order to secure the project area, they are permitted small harvests like all other community members, and are granted the same access rights for hunting and NTFP.

The Rimba Raya project will generate employment throughout the project zone and will work to improve the livelihoods of the villagers near the project boundary. Additionally, activities like Farmer Field Schools, nursery establishment, chicken farms, shrimp paste production, and various project-supported plantations will help to provide a varied diet to local villagers, increase food security, and provide various forms of income generation to villagers.

#### SDG 3 and 4: Improve health and well-being for all, and ensure inclusive and equitable education

Whilst the development of lands into palm oil plantations can be associated with increases in other services, an Indonesian study has found that access to elementary schools and medical facilities was similar for communities who rely on oil palm compared to communities who don't. However, distances to schools, hospitals and other medical services were significantly higher in communities relying on oil palm industry compared to those who don't. This was likely because the communities which rely on oil palm are more remote, public/government facility developments are not prioritized in these remote areas (Budidarsono, et al , 2013), and the oil palm plantations are not filling the gap in providing these services.

Furthermore, community members working in oil palm plantations are often women and children. The jobs associated with harmful health practices, such as the spraying of pesticides, is often performed by women and children as it seen as less laborious<sup>3</sup>. This contributes to worsening health conditions for women and children due to employment by palm oil.

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<sup>3</sup> See

[http://www.ran.org/campaigns/rainforest\\_agribusiness/resources/fact\\_sheets/hostile\\_harvest\\_us\\_agribusinesses\\_and\\_labor\\_rights\\_abuses/](http://www.ran.org/campaigns/rainforest_agribusiness/resources/fact_sheets/hostile_harvest_us_agribusinesses_and_labor_rights_abuses/)

Within the communities themselves, especially rural communities, medical and health services are often difficult to access. Palm oil plantations, which often dominate the existence of many rural communities, often do not provide these services to their employees. Therefore, community members themselves lack the resources for disease treatment. This would likely affect both community groups – those living inside the area that would be the project zone and those which travel to the area that would be the project zone. Notably, with community groups that travel to the area that would be the project zone, distance would be increased and thus access to health care and medical assistance would be increasingly difficult to reach.

Under the baseline scenario, these conditions for women and children of both community groups (groups which live in the project zone and groups which travel to the project zone) would likely continue. As such, access to education would be limited and health conditions for women and children would continue to decline.

Under the project scenario, Rimba Raya will be working to establish village libraries to increase community access to books, and will support environmental education initiatives in schools throughout the project zone. The project will also support students in the Seruyan area from less fortunate families with good academic scores to continue their education to senior high school level or equivalent for a period of 3 years. The Rimba Raya project will also promote programs to provide community members and students with reading glasses to ensure accessibility to education to those with vision impairment. With regards to health, the project will aim to support the development of a floating clinic that can provide health services to villages along the river that do not have any nearby medical care facilities. Finally, the expansion of health services throughout the region along with an increased availability of vegetables and essential nutrients is expected to help reduce infant mortality rates and improve the overall health of villagers in the project zone.

#### SDG 5: Promote gender equality and empower women

In the baseline scenario, work in oil palm plantations is hard for both men and women, though quite different. It is quite frequent that women help their husbands in the plantations to meet demanding production quotas, usually doing unpaid work. In the baseline scenario, this would likely be applicable for both community groups – those which lived in the area which would be the project zone and those which traveled to the area which would be the project zone.

In the case that women work on a hired basis, they often receive lower wages than men. This discrimination is set on the grounds that their work is easier than that of men. According to an article by Rainforest Action Network<sup>4</sup>, women are often assigned tasks that seem less onerous, but which are actually more dangerous and physically demanding than that of their male counterparts. In Indonesia, women are often designated to spray pesticides because it is less physically taxing than other plantation work. Unfortunately, they are rarely given proper protective gear like gloves and masks and

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<sup>4</sup> <http://wrm.org.uy/oldsite/bulletin/134/Indonesia.html>

thus are susceptible to becoming sick or injured by the dangerous chemicals present in most industrial pesticides and insecticides.

Outside of working in the palm oil plantation, women fulfill other roles. In the baseline scenario women have to take care of the children, prepare food and collect firewood and water, (which are often made farther due to destruction of the forest by the oil palm plantations). While women are rarely the heads of households, they often are responsible for the management of a functioning household. If working, such as at a plantation or helping out in the processing of fish products if their husbands are fishermen, when they return home, women have to prepare food for their families, often with pesticide residue still on their skin and clothes<sup>5</sup>. Women, whether working or not, are still responsible for the management of the home and children, with little time, resources, or opportunity for other ventures, private activities, or means of personal investment/empowerment. For working women that are part of community groups that travel to the area where the project area would be, even more time would be spent traveling to and from the plantations.

Under the baseline scenario, these conditions for women (in both identified community groups) would likely persist as palm oil plantations dominate the employment opportunities and there would likely be not many, if any, opportunities to become financially independent or programs which promote the empowerment of women.

The Rimba Raya project will focus on providing women with alternative forms of employment, including participating in chicken farms, shrimp paste production, handicraft production, and the ability to be part of the field staff team. The opportunity to have independent forms of employment is expected not only to benefit women and their families economically, but help to empower them to be able to have more ownership and agency over their lives and their family's well-being.

#### SDG 6, 7, 9, 11: Provide access to clean water, sustainable energy, resilient infrastructure, and resilient human settlements

Palm oil development does result in increases in some infrastructure and services within communities that work in plantations, however, palm oil companies are not required to bring development services or infrastructure to neighboring communities.

The Rimba Raya project will work to provide solar lanterns and solar power to communities that lack electrification throughout the project zone. Additionally, household water filters and large-scale community water filtration systems are planned to be distributed to communities. The project area also has a high risk of fire, and the project will train community fire-fighters, provide equipment, and drill wells for fighting fires to ensure that communities are more resilient against fires.

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<sup>5</sup> See

[http://www.ran.org/campaigns/rainforest\\_agribusiness/resources/fact\\_sheets/hostile\\_harvest\\_us\\_agribusinesses\\_and\\_labor\\_rights\\_abuses/](http://www.ran.org/campaigns/rainforest_agribusiness/resources/fact_sheets/hostile_harvest_us_agribusinesses_and_labor_rights_abuses/)

### SDG 12: Ensuring sustainable consumption and production

The development of palm oil plantations is associated with various serious environmental challenges including:

- Biodiversity loss, including loss of rare and endangered species
- Pollution of soil, air, and water
- Soil erosion
- Greenhouse gas (GHG) emissions and climate change
- Loss of key ecosystem services

Deforestation also has significant social implications and can be very damaging for the communities that depend upon these forests for their livelihoods (Colchester, 2011). Serious conflicts can arise when palm oil companies disregard the rights of local communities. Social impacts of palm oil production can include:

- Land grabs
- Loss of livelihoods
- Social conflict
- Forced migration
- Loss of social/cultural identity associated with land
- Loss of access to non-timber forest products

Under the baseline scenario, continued deforestation would be expected. Correspondingly, the detrimental social and environmental effects which accompany deforestation would also persist for both community groups – those living in the area that would be the project zone and those which travel to the area that would be the project zone for hunting, logging, and collection of NTFP. Specifically, both groups would need to travel elsewhere, likely farther in distance, in order to access forests for their needs.

Additionally, villages within the project zone, with or without palm oil development, face huge barriers to implementing waste management practices. With no formal waste management systems, the community members are forced to live surrounded by the garbage that is generated, and often resort to using the river as a waste-disposal mechanism. This not only creates serious health problems for communities, but the pollution of the river impacts the organisms living in it, of which many are essential sustenance for villagers.

The project will focus on developing initiatives and forms of employment that are based on the sustainable use of resources. Additionally, the project will work to raise awareness about and reduce the amount of waste generated within communities as well as various facilities for waste disposal.

### SDG 16, 17: Promote inclusive and transparent sustainable development, and strengthen external partnerships

In the baseline scenario, the area which would comprise the project area would likely be converted to palm oil plantation. Although Indonesia has been working towards creating a sustainable palm oil industry, the country as a whole has a long way to go. As of 2017, only 12% of the approximately 11.9 million hectares of palm oil plantations are Indonesia Sustainable Palm Oil (ISPO) certified<sup>6</sup>. ISPO standards require producers to fulfill certain environmental as well as labor and social standards; implementation of these standards helps to create a global partnership for development as it promotes international principles centered on sustainable social development for impoverished communities worldwide. Because ISPO corresponds with UNDP (United Nations Development Program), which created the Sustainable Development Goals, the baseline scenario would only meet the goal of developing a global partnership for development if the plantation met the ISPO requirements.

If this were the case, community groups (both those in the area that would be the project zone and those who travel to the area that would be project zone) may receive fair social and labor treatment if employed by the plantation. In doing so, this would contribute to Indonesia's progress in developing a global partnership for development.

However, because sustainable palm oil production is currently a very small percentage of the country's output, it is more than likely that the palm oil plantation that would be developed in the absence of the project would not be sustainable under ISPO standards, only two of which are located near the project area. While several plantation companies in Central Kalimantan are ISPO certified, only two near the project area, PT Bangun Jaya Alam Permai & PT Wana Sawit Subur Lestari, have received their ISPO certification as of 2016. Both are located just north of TPNP. Also, as of 2016, only 132 companies of the 562 companies<sup>7</sup> that applied for certification had received an ISPO certification. Thus, it is likely that the proposed plantations in the plantation scenario would likely not provide environmental, social and labor related rights to both identified community groups that would be employed as plantation workers.

In contrast, the Rimba Raya project is committed to hiring staff, and providing training and employment opportunities to local villagers through non-discriminatory policies. Additionally, Rimba Raya has policies governing worker's rights, safety, no-corruption, and other important employment safeguards. The project is also committed to strengthening external partnerships both with local and international organizations in order to bring additional resources and services to local communities through the project zone. Rimba Raya will work with World Education International to help develop environmental education curriculum and to design alternative economic activities for villagers. Additionally, the Rimba Raya project will work to bring in other sources of funding or resources from international aid organizations or other partners that are interested in contributing to various project goals such as solar electrification, community-level water filtration, and other important infrastructure needs of the communities.

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<sup>6</sup> See <http://www.thejakartapost.com/news/2017/04/12/only-12-of-indonesias-oil-palm-plantations-ispo-certified.html>

<sup>7</sup> <http://www.majalahhortus.com/hukum/item/213-46-perusahaan-sawit-terima-serifikat-ispo.html>

### 3.2 Expected Impacts on Stakeholders

The project has identified key stakeholder impacts that the project plans to achieve. The details and monitoring results are presented in the tables below. All impacts are aligned with one or more SDGs.

<b>Impact #1</b>	Increase in the number of people gainfully employed from RRC Employment (SDG 1.1.1)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers
<b>Resulting Change in Well-being</b>	Increased access to gainful employment and above-poverty salaries

<b>Impact #2</b>	% difference in the average salary of RRC employees as compared to national poverty line from RRC Employment (SDG 1.1.1)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers
<b>Resulting Change in Well-being</b>	Increased access to gainful employment and above-poverty salaries

<b>Impact #3</b>	Increase in number of households with energy access from Solar Power (SDG 1.4.1)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers
<b>Resulting Change in Well-being</b>	Improved access to affordable energy

<b>Impact #4</b>	% of households with access to clean energy and basic services from Solar Lanterns (SDG 1.4.1)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers
<b>Resulting Change in Well-being</b>	Improved access to affordable energy
<b>Impact #5</b>	Decrease in malnutrition and increase in food security from Chicken Farm (SDG 2)
<b>Type of Impact</b>	Positive, Predicted, Indirect
<b>Affected Stakeholder Group(s)</b>	Villagers, Farmers, and Women's groups
<b>Resulting Change in Well-being</b>	Diversified sources of protein available in communities
<b>Impact #6</b>	Decrease malnutrition and increase food security from Zuper Shrimp Paste (SDG 2)
<b>Type of Impact</b>	Positive, Predicted, Indirect
<b>Affected Stakeholder Group(s)</b>	Villagers, Farmers, and Women's groups
<b>Resulting Change in Well-being</b>	Diversified sources of protein available in communities
<b>Impact #7</b>	Increased average household income from Chicken Farm (SDG 2.3.2)

<b>Type of Impact</b>	Positive, Predicted, Direct
<b>Affected Stakeholder Group(s)</b>	Farmers, and Women's groups
<b>Resulting Change in Well-being</b>	Diversified and inclusive income sources in community

<b>Impact #8</b>	Increase in number of people with decent work opportunities from Zuper Shrimp Paste (SDG 2.3.2)
<b>Type of Impact</b>	Positive, Predicted, Direct
<b>Affected Stakeholder Group(s)</b>	Farmers, and Women's groups
<b>Resulting Change in Well-being</b>	Diversified income sources in community

<b>Impact #9</b>	Increase in the number of individuals with access to essential healthcare services from Floating Clinic (SDG 3.8.1)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers
<b>Resulting Change in Well-being</b>	Increased access to essential health services (vaccines, medicine, etc.)

<b>Impact #10</b>	Increase in the number of women with access to basic healthcare services from Floating Clinic (SDG 3.8.1)
<b>Type of Impact</b>	Positive, Actual, Direct

<b>Affected Stakeholder Group(s)</b>	Women's groups
<b>Resulting Change in Well-being</b>	Increased access to women's health care

<b>Impact #11</b>	Increase number of people receiving optometric care from Reading Glasses (SDG 3.8.1)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers
<b>Resulting Change in Well-being</b>	Increased access to health services

<b>Impact #12</b>	Reduced health of community members living near farms from Chicken Farm (SDG 3.9.2)
<b>Type of Impact</b>	Negative, Predicted, Indirect
<b>Affected Stakeholder Group(s)</b>	Villagers, formal village leaders, informal leaders, farmers
<b>Resulting Change in Well-being</b>	Increased pollution from farm runoff, mitigated by: Distribution of water filters

<b>Impact #13</b>	# of students receiving scholarships in project zone from Scholarships (SDG 4.b.1)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers

<b>Resulting Change in Well-being</b>	Increased access to higher education
<b>Impact #14</b>	Increase in the number of individuals with improved capacity due to diversified educational opportunities from Trainings (SDG 4.3.1)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers, formal village leaders, informal leaders, government offices
<b>Resulting Change in Well-being</b>	Increase in formal and non-formal education opportunities
<b>Impact #15</b>	Increase in the number of individuals with improved capacity due to diversified educational opportunities from Mangrove Reforestation (SDG 4.3.1)
<b>Type of Impact</b>	Positive, Actual, Indirect
<b>Affected Stakeholder Group(s)</b>	Villagers, farmers
<b>Resulting Change in Well-being</b>	Increase in formal and non-formal education opportunities
<b>Impact #16</b>	Increased access to books, internet, and educational opportunities from Community Libraries (SDG 4.3.1)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers
<b>Resulting Change in Well-being</b>	Increase in formal and non-formal education opportunities

<b>Impact #17</b>	Increase in the proportion of women gainfully employed from RRC Employment (SDG 5.5.2)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Women's groups
<b>Resulting Change in Well-being</b>	Reduced inequality for women in employment and leadership opportunities

<b>Impact #18</b>	Increased economic/business opportunity for women from Chicken Farm (SDG 5.5.2)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Farmers, and Women's groups
<b>Resulting Change in Well-being</b>	Increase in inclusive economic opportunity and economic empowerment of women

<b>Impact #19</b>	Increased economic/business opportunity for women from Zuper Shrimp Paste (SDG 5.5.2)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Women's groups
<b>Resulting Change in Well-being</b>	Increase in inclusive economic opportunity and economic empowerment of women

<b>Impact #20</b>	% of households in project zone with access to clean water from Water Filtration Systems (SDG 6.1.1)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers
<b>Resulting Change in Well-being</b>	Increase or maintaining the number of individuals with access to clean water

<b>Impact #21</b>	Increase or maintaining the number of individuals with access to clean water from Water Filtration Systems (SDG 6.1.1)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers
<b>Resulting Change in Well-being</b>	Increased access to spare parts and filter replacements

<b>Impact #22</b>	Increased resilience of communities and critical infrastructure Water Filtration Systems (SDG 6.1.1)
<b>Type of Impact</b>	Positive, Predicted, Indirect
<b>Affected Stakeholder Group(s)</b>	Villagers
<b>Resulting Change in Well-being</b>	Increased capacity and knowledge within community

<b>Impact #23</b>	Temporary loss in access to clean water from Water Filtration Systems (SDG 6.1.1)
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<b>Type of Impact</b>	Negative, Predicted, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers
<b>Resulting Change in Well-being</b>	Increased dependence on water filter parts, mitigated by: 2162 units of water filters were distributed to replace the broken units in other homes

<b>Impact #24</b>	Number of individuals with temporary loss of energy access from Solar Power (SDG 7.1.2)
<b>Type of Impact</b>	Negative, Predicted, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers
<b>Resulting Change in Well-being</b>	Increased dependence on solar panel parts, mitigated by: Project plans to implement programs to distribute parts

<b>Impact #25</b>	Increase or maintaining the number of individuals with access to clean energy from Solar Lanterns (SDG 7.1.2)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers
<b>Resulting Change in Well-being</b>	Increased access to spare parts and lantern replacements

<b>Impact #26</b>	Number of individuals with temporary loss of energy access from Solar Lanterns (SDG 7.1.2)
<b>Type of Impact</b>	Negative, Predicted, Direct

<b>Affected Stakeholder Group(s)</b>	Villagers
<b>Resulting Change in Well-being</b>	Increased dependence on solar panel parts, mitigated by: 166 units distributed to replace broken units
<b>Impact #27</b>	Increase in employment opportunity from Chicken Farm (SDG 8)
<b>Type of Impact</b>	Positive, Predicted, Direct
<b>Affected Stakeholder Group(s)</b>	Farmers, and Women's groups
<b>Resulting Change in Well-being</b>	Diversified and inclusive income sources in community
<b>Impact #28</b>	Increase in the number of people gainfully employed from Mangrove Reforestation (SDG 8)
<b>Type of Impact</b>	Positive, Actual, Indirect
<b>Affected Stakeholder Group(s)</b>	Villagers, farmers
<b>Resulting Change in Well-being</b>	Increased access to gainful employment and above-poverty salaries
<b>Impact #29</b>	Increase in number of economically vulnerable individuals with grants from Community Enterprise Funding Grants (SDG 8)
<b>Type of Impact</b>	Negative, Predicted, Indirect
<b>Affected Stakeholder Group(s)</b>	Villagers, Farmers, and Women's groups

<b>Resulting Change in Well-being</b>	Increase in economic vulnerability, mitigated by: Communities are not held financially responsible if programs fail
<b>Impact #30</b>	Decreased area devoted to palm oil plantations as compared to the baseline (SDG 8)
<b>Type of Impact</b>	Negative, Actual, Indirect
<b>Affected Stakeholder Group(s)</b>	Villagers, TPNP, Oil Palm companies
<b>Resulting Change in Well-being</b>	Loss of potential source of income, mitigated by: Income from other project activities (employment, chicken farms, shrimp paste, etc.) and carbon credits
<b>Impact #31</b>	Increase in the number of people gainfully employed from Nurseries (SDG 8)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers, farmers
<b>Resulting Change in Well-being</b>	Increased access to gainful employment and above-poverty salaries
<b>Impact #32</b>	Increase in the number of people gainfully employed from Community Centers (SDG 8)
<b>Type of Impact</b>	Positive, Predicted, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers
<b>Resulting Change in Well-being</b>	Increased access to gainful employment and above-poverty salaries

<b>Impact #33</b>	Increase in the number of people gainfully employed from Community Libraries (SDG 8)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers
<b>Resulting Change in Well-being</b>	Increased access to gainful employment and above-poverty salaries
<b>Impact #34</b>	Increase in individuals at higher risk of injury due to high risk of firefighting profession from Community Firefighting (SDG 8.8.1)
<b>Type of Impact</b>	Negative, Predicted, Indirect
<b>Affected Stakeholder Group(s)</b>	Villagers
<b>Resulting Change in Well-being</b>	Increased health vulnerability, mitigated by: Increased access to healthcare from floating clinics, personal protective gear, safety protocols
<b>Impact #35</b>	Number of individuals with increased resilience and use of critical infrastructure from Solar Power (SDG 9)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers
<b>Resulting Change in Well-being</b>	Increased capacity and knowledge within community
<b>Impact #36</b>	Increased knowledge of entrepreneurial skills from Chicken Farm (SDG 9)

<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Farmers, and Women's groups
<b>Resulting Change in Well-being</b>	Increased knowledge of small-business development skills

<b>Impact #37</b>	Increase in access to infrastructure from Community Centers (SDG 9)
<b>Type of Impact</b>	Positive, Predicted, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers, Government, Formal and Informal Leaders
<b>Resulting Change in Well-being</b>	Improved community infrastructure

<b>Impact #38</b>	Increased inclusive entrepreneurial opportunities within the project zone from Community Enterprise Funding Grants (SDG 9.3.2)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers, Farmers, and Women's groups
<b>Resulting Change in Well-being</b>	Increased ability for diverse individuals to pursue community development projects and business development

<b>Impact #39</b>	Reduction of inequality within communities from clean water access from Water Filtration Systems (SDG 10)
<b>Type of Impact</b>	Positive, Actual, Indirect

<b>Affected Stakeholder Group(s)</b>	Villagers, formal villager leaders, informal leaders
<b>Resulting Change in Well-being</b>	Inclusive access to sustainable development programs

<b>Impact #40</b>	Reduction of inequality within communities from improved energy access from Solar Power (SDG 10)
<b>Type of Impact</b>	Positive, Actual, Indirect
<b>Affected Stakeholder Group(s)</b>	Villagers, formal villager leaders, informal leaders
<b>Resulting Change in Well-being</b>	Inclusive access to sustainable development programs

<b>Impact #41</b>	Increased funding for park capacity/operations from Support for Tanjung Puting National Park (SDG 11.4.1)
<b>Type of Impact</b>	Positive, Predicted, Direct
<b>Affected Stakeholder Group(s)</b>	TPNP
<b>Resulting Change in Well-being</b>	Increased habitat, biodiversity, and natural area

<b>Impact #42</b>	Increase in funding for conservation and protection of natural heritage from Orangutan Care Facility (SDG 11.4.1)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	OFI

<b>Resulting Change in Well-being</b>	Improved capacity of organizations to conserve and protect critical wildlife and habitat
<b>Impact #43</b>	Increased number of individuals with sustainability education from School Curriculum: Climate Change/Sustainable Development (SDG 12.8.1)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers, Farmers, and Women's groups, World Education, Formal and Informal Leaders
<b>Resulting Change in Well-being</b>	Increased awareness of sustainable consumption, waste reduction, and climate change
<b>Impact #44</b>	Increased community members able to attend meetings and receive informal or formal education from Community Centers (SDG 16)
<b>Type of Impact</b>	Positive, Predicted, Indirect
<b>Affected Stakeholder Group(s)</b>	Villagers, Farmers, and Women's groups, Government, Formal and Informal Leaders
<b>Resulting Change in Well-being</b>	Increased community participation and education opportunities
<b>Impact #45</b>	Increase in organizational capacity of communities and inclusivity from Community Centers (SDG 16)
<b>Type of Impact</b>	Positive, Predicted, Indirect
<b>Affected Stakeholder Group(s)</b>	Villagers, Farmers, and Women's groups, Government, Formal and Informal Leaders
<b>Resulting Change in Well-being</b>	Increased social cohesion and collaboration

<b>Impact #46</b>	increase in % of population with favorable view of institutions and services from Solar Power (SDG 16.6.2)
<b>Type of Impact</b>	Positive, Predicted, Indirect
<b>Affected Stakeholder Group(s)</b>	Villagers, Farmers, and Women's groups
<b>Resulting Change in Well-being</b>	Increased approval of institutions providing basic services within communities

<b>Impact #47</b>	\$ value of development donations received from international governments for sustainable initiatives from Development Donations (SDG 17.7.1)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Stakeholder Group(s)</b>	Villagers, Farmers, and Women's groups, Government, Formal and Informal Leaders
<b>Resulting Change in Well-being</b>	Strengthened external partnerships and sustainable development assistance

### 3.3 Stakeholder Monitoring Plan

The Rimba Raya project is committed to the development of sustainable livelihoods for communities in the project zone. Monitoring activities used to measure the project's impact on community livelihoods and stakeholders have been designed to suit specific goals and interventions. A Theory of Change framework was used to guide this process.

The table below, based off of the Theory of Change and predicted and actual project impacts, lists detailed data that the project plans to gather to monitor the impacts listed in sections 1 and 3.2.

Table 6. Parameters for the Rimba Raya Community Monitoring Plan

Project Activities	Affected Stakeholder Group(s)	Monitored Output	Monitoring Frequency and Methods	+/-?	Corresponding SDG	SDG Target or Indicator (if applicable)
RRC Employment	Villagers	# of people employed	Annual, staff reports	+	1.1	1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)
RRC Employment	Villagers	Average salary of RRC employees	Annual, staff reports	+	1.1	1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)
Solar Power	Villagers	% households with solar power access	Upon implementation, staff reports	+	1.4	1.4.1 Proportion of population living in households with access to basic services
Solar Lanterns	Villagers	% of households with access to solar lantern unit	Upon implementation, staff reports	+	1.4	1.4.1 Proportion of population living in households with access to basic services
Chicken Farm	Villagers, Farmers, and Women's groups	# of farms producing eggs and meat	Annual, staff reports	+	2	2 Diversified sources of protein
Zuper Shrimp	Villagers, Farmers, and Women's groups	Amount of shrimp paste produced	Annual, staff reports	+	2	2 Diversified sources of protein
Chicken Farm	Farmers, and Women's groups	Average income from sales	Annual, staff reports	+	2.3	2.3.2 Average income of small-scale food producers, by sex and indigenous status

Project Activities	Affected Stakeholder Group(s)	Monitored Output	Monitoring Frequency and Methods	+/-/?	Corresponding SDG	SDG Target or Indicator (if applicable)
Zuper Shrimp	Farmers, and Women's groups	Income increase of participants	Annual, staff reports	+	2.3	2.3.2 Average income of small-scale food producers, by sex and indigenous status
Floating Clinic	Villagers	# of individuals that received medical treatment	Upon implementation, staff reports	+	3.8	3.8.1 Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)
Floating Clinic	Women's groups	# of women that received medical treatment	Upon implementation, staff reports	+	3.8	3.8.1 Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity a
Reading Glasses	Villagers	# of glasses distributed	Annual, staff reports	+	3.8	3.8.1 Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity a

Project Activities	Affected Stakeholder Group(s)	Monitored Output	Monitoring Frequency and Methods	+/-?	Corresponding SDG	SDG Target or Indicator (if applicable)
Chicken Farm	Villagers, formal village leaders, informal leaders, farmers	# of individuals sick from waterborne illnesses	N/A	-	3.9	3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)
Scholarships	Villagers	# of scholarships distributed to students	Upon implementation, staff reports	+	4	4.b.1 Volume of official development assistance flows for scholarships by sector and type of study
Trainings	Villagers, formal village leaders, informal leaders, government offices	% of community members involved in project trainings	Upon implementation, staff reports	+	4.3	4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex
Mangrove Reforestation	Villagers, farmers	# of mangrove nurseries employing community members	Annual, staff reports	+	4.3	4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex
Community Libraries	Villagers	# of libraries constructed	Upon implementation, staff reports	+	4.3	4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex
RRC Employment	Women's groups	proportion of staff that are women	Annual, staff reports	+	5.5	5.5.2 Proportion of women in managerial positions

Project Activities	Affected Stakeholder Group(s)	Monitored Output	Monitoring Frequency and Methods	+/-?	Corresponding SDG	SDG Target or Indicator (if applicable)
Chicken Farm	Farmers, and Women's groups	# of women employed	Annual, staff reports	+	5.5	5.5.2 Proportion of women in managerial positions
Zuper Shrimp	Women's groups	% women employed	Annual, staff reports	+	5.5	5.5.2 Proportion of women in managerial positions
Water Filtration	Villagers	% households with water filter and Water Purifying system access	Upon implementation, staff reports	+	6.1	6.1.1 Proportion of population using safely managed drinking water services
Water Filtration	Villagers	% of broken units replaced or maintained	Upon implementation, staff reports	+	6.1	6.1.1 Proportion of population using safely managed drinking water services
Water Filtration	Villagers	% of individuals trained in maintenance	Upon implementation, staff reports	+	6.1	6.1.1 Proportion of population using safely managed drinking water services
Water Filtration	Villagers	# of broken units reported	Annual, staff reports	-	6.1	6.1.1 Proportion of population using safely managed drinking water services
Solar Power	Villagers	% of broken units replaced or maintained	Annual, staff reports	-	7.1	7.1.2 Proportion of population with primary reliance on clean fuels and technology
Solar Lanterns	Villagers	% of broken units replaced or maintained	Upon implementation, staff reports	+	7.1	7.1.2 Proportion of population with primary reliance on clean fuels and technology

Project Activities	Affected Stakeholder Group(s)	Monitored Output	Monitoring Frequency and Methods	+/-?	Corresponding SDG	SDG Target or Indicator (if applicable)
Solar Lanterns	Villagers	# of broken units reported	Annual, staff reports	-	7.1	7.1.2 Proportion of population with primary reliance on clean fuels and technology
Chicken Farm	Farmers, and Women's groups	# of individuals employed	Annual, staff reports	+	8	8 Increase in employment opportunities
Mangrove Reforestation	Villagers, farmers	# of mangrove nurseries employing community members	Annual, staff reports	+	8	8 Increase in employment opportunities
Community Enterprise	Villagers, Farmers, and Women's groups	# of individuals involved in enterprises receiving funding	a	-	8	8 Increase in employment opportunities
Establishment and protection	Villagers, TPNP, Oil Palm companies	# of hectares protected	Annual, satellite monitoring and forest patrols	-	8	8 Increase in employment opportunities
Nurseries	Villagers, farmers	# of nurseries employing community members	Annual, staff reports	+	8	8 Increase in employment opportunities
Community Centers	Villagers	# of community centers employing community members	Annual, staff reports	+	8	8 Increase in employment opportunities
Community Libraries	Villagers	# of libraries employing community members	Annual, staff reports	+	8	8 Increase in employment opportunities

Project Activities	Affected Stakeholder Group(s)	Monitored Output	Monitoring Frequency and Methods	+/-?	Corresponding SDG	SDG Target or Indicator (if applicable)
Community Firefighting	Villagers	# of individuals injured during firefighting	Annual, staff reports	-	8.8	8.8.1 Frequency rates of fatal and non-fatal occupational injuries, by sex and migrant status
Solar Power	Villagers	% of people trained in maintenance of infrastructure	Upon implementation, staff reports	+	9	9 Increase in access to infrastructure. Increase in organizational capacity of communities and inclusivity
Chicken Farm	Farmers, and Women's groups	# of individuals that received training	Upon implementation, staff reports	+	9	9 Increase in access to infrastructure. Increase in organizational capacity of communities and inclusivity
Community Centers	Villagers, Government, Formal and Informal Leaders	# of centers constructed	Upon implementation, staff reports	+	9	9 Increase in access to infrastructure. Increase in organizational capacity of communities and inclusivity
Community Enterprise	Villagers, Farmers, and Women's groups	# of individuals involved in enterprises receiving funding	Annual, staff reports	+	9.3	9.3.2 Proportion of small-scale industries with a loan or line of credit
Water Filtration Systems	Villagers, formal villager leaders, informal leaders	% households with water filter and Water Purifying system access	Upon implementation, staff reports	+	10	10 Reduction of inequality within communities through the increase in percentage of households in project zone with access to clean water

Project Activities	Affected Stakeholder Group(s)	Monitored Output	Monitoring Frequency and Methods	+/-?	Corresponding SDG	SDG Target or Indicator (if applicable)
Solar Power	Villagers, formal villager leaders, informal leaders	% households with solar power access	Upon implementation, staff reports	+	10	10 Reduction of inequality within communities through the increase in percentage of households in project zone with access to clean water
Support for Tanjung Puting National Park	TPNP	% of allocated funding used for activities	Annual, staff reports	+	11.4	11.4.1 Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage (cultural, natural, mixed and World Heritage Centre designation), level of government (national, regional and local/municipal), type of expenditure (operating expenditure/investment) and type of private funding (donations in kind, private non-profit sector and sponsorship)

Project Activities	Affected Stakeholder Group(s)	Monitored Output	Monitoring Frequency and Methods	+/-/?	Corresponding SDG	SDG Target or Indicator (if applicable)
Orangutan Care Facility	OFI	% of allocated funding put toward activities	Annual, staff reports	+	11.4	11.4.1 Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage (cultural, natural, mixed and World Heritage Centre designation), level of government (national, regional and local/municipal), type of expenditure (operating expenditure/investment) and type of private funding (donations in kind, private non-profit sector and sponsorship)
School Curriculum: Climate Change/Sustainable	Villagers, Farmers, and Women's groups, World Education, Formal and Informal Leaders	# of students learning curriculum	Annual, staff reports	+	12.8	12.8.1 Extent to which (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment
Community Centers	Villagers, Farmers, and Women's groups, Government, Formal and Informal Leaders	# of centers constructed	Upon implementation, staff reports	+	16	16 Increase in access to community gathering and public spaces

Project Activities	Affected Stakeholder Group(s)	Monitored Output	Monitoring Frequency and Methods	+/-?	Corresponding SDG	SDG Target or Indicator (if applicable)
Community Centers	Villagers, Farmers, and Women's groups, Government, Formal and Informal Leaders	# of centers constructed	Upon implementation, staff reports	+	16	16 Increase in access to community gathering and public spaces
Solar Power	Villagers, Farmers, and Women's groups	% of community satisfied with new infrastructure	Annual, staff reports	+	16.6	16.6.2 Proportion of population satisfied with their last experience of public services
Development Donations	Villagers, Farmers, and Women's groups, Government, Formal and Informal Leaders	\$ of funding from donors and partnerships received	Annual, staff reports	+	17.7	17.7.1 Total amount of approved funding for developing countries to promote the development, transfer, dissemination and

### 3.4 Net Positive Stakeholder Well-being Impacts

The project's benefits represent a net positive benefit for all stakeholder groups. Attaining positive impacts on communities within the project zone is an extremely important aspect of this project. Nearly every step of the project will involve the feedback and participation of community members in one form or another. Community members will be vital to the design and implementation of the project. Without the feedback and participation of community members, this project would not exist. Project activities will be designed to incorporate community needs and concerns so that the project may be truly impactful not only in terms of climate and biodiversity objectives but in terms of community goals.

Furthermore, these benefits will be provided in a manner which maintains one of the most important local assets of the project communities: the natural capital of local forests and the ecosystem services they sustain. These resources will remain intact and available for current and future generations. This benefit is in direct contrast to livelihood opportunities that would have been generated through the palm oil conversion, through which the area's natural capital would be eroded and become unavailable

over a relatively short period of time. To evaluate these benefits, impacts will be analyzed using the Sustainable Development Goals and the Theory of Change framework as a tool for community project activity design and monitoring.

As defined in the Project Description Documentation, the approach to demonstrate net community benefits in the Project area is based on an assessment of ‘with’ and ‘without’ project scenarios in relation to project goals. As compared to the baseline scenario, the project activities are providing a net positive impact on the communities and their well-being. A comparison of the baseline and project scenarios and descriptions of how project activities are aligned with various sustainable development goals are summarized below:

SDGs 1, 2, 8, and 10: Eradicate extreme poverty and hunger, promote inclusive employment and reduce inequality

Palm oil is Indonesia’s second most successful agricultural product, after rice, and the largest agricultural export. It provides a means of income and economic development to a large number Indonesia’s rural poor. With over half of Indonesia’s population living in rural areas—of which over 20 percent live below the poverty line—the palm oil industry provides an incomparable means of poverty alleviation (Budidarsono, et al , 2013; Norwana; et al 2011). It allows small landholders to participate in the cash economy and often results in improvements to local infrastructure and greater access to services. In some areas, the cultivation of oil palm has replaced traditional practices, often due to the higher income potential of palm oil (Budidarsono, et al , 2013; Norwana; et al 2011).

However, in some cases, land has been developed by oil palm plantations without consultation or compensation of the indigenous people occupying the land which has led to conflict, including conflict in Indonesia. Additionally, some Indonesian oil palm plantations are dependent on imported labor or undocumented immigrants, which have raised concerns about the working conditions and social impacts of these practices.

Plantations systematically destroy the rainforest land that the local people depend on; communities are continuously finding themselves with no choice but to become plantation workers. Faced with poor and degrading working conditions, they often earn barely enough income to survive and support their families. Instead of being able to sustain themselves, indigenous communities become reliant on the success of the palm oil industry for their income and survival, leaving these community members incredibly vulnerable to the world market price of palm oil which they have no control over. In the baseline scenario, the majority of community members - would continue to depend on the palm oil industry for employment.

This would likely be the case for the two identified community groups in the project – those communities living in the project zone and those which travel to the project zone for logging, hunting or for collecting non-timber forest products. Prior to project creation, the area in which the project area exists was part of several concessions that were planned to become a palm oil plantation. Therefore, it can likely be assumed that in the absence of the project, the land would have been converted to palm oil plantation. Community members living in the project zone would likely become employed by the

palm oil company and lose their local forest. This would leave them vulnerable to the associated palm oil industry issues, as described above. This would include vulnerability to poverty and hunger. Likewise, community groups that did not live in the project zone but traveled to the project zone for logging, hunting and non-timber forest products (NTFP) would either see the same fate as community groups living within the project zone (employed by the palm oil industry, losing their local forest and being susceptible to poverty and/or hunger) or they would travel elsewhere to access forestland for logging, hunting and NTFP and likely, to access employment as well. With the absence of these plantations, it is likely that fewer people from outside the area moved into the project zone for employment. However, those that have traveled to the project zone are eligible for employment in the Rimba Raya Project. Additionally, while they are discouraged from conducting illegal deforestation in order to secure the project area, they are permitted small harvests like all other community members, and are granted the same access rights for hunting and NTFP.

The Rimba Raya project will generate employment throughout the project zone and will work to improve the livelihoods of the villagers near the project boundary. Additionally, activities like the establishment of nurseries, chicken farms, shrimp paste, and various project-supported plantations will help to provide a varied diet to local villagers, increase food security, and provide various forms of income generation to villagers.

#### SDG 3 and 4: Improve health and well-being for all, and ensure inclusive and equitable education

Whilst the development of lands into palm oil plantations can be associated with increases in other services, an Indonesian study has found that access to elementary schools and medical facilities was similar for communities who rely on oil palm compared to communities who don't. However, distances to schools, hospitals and other medical services were significantly higher in communities relying on oil palm industry compared to those who don't. This was likely because the communities which rely on oil palm are more remote, public/government facility developments are not prioritized in these remote areas (Budidarsono, et al , 2013), and the oil palm plantations are not filling the gap in providing these services.

Furthermore, community members working in oil palm plantations are often women and children. The jobs associated with harmful health practices, such as the spraying of pesticides, is often performed by women and children as it seen as less laborious<sup>8</sup>. This contributes to worsening health conditions for women and children due to employment by palm oil.

Within the communities themselves, especially rural communities, medical and health services are often difficult to access. Palm oil plantations, which often dominate the existence of many rural communities, often do not provide these services to their employees. Therefore, community members themselves lack the resources for disease treatment. This would likely affect both community groups – those living inside the area that would be the project zone and those which travel to the area that would

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<sup>8</sup> See

[http://www.ran.org/campaigns/rainforest\\_agribusiness/resources/fact\\_sheets/hostile\\_harvest\\_us\\_agribusinesses\\_and\\_labor\\_rights\\_abuses/](http://www.ran.org/campaigns/rainforest_agribusiness/resources/fact_sheets/hostile_harvest_us_agribusinesses_and_labor_rights_abuses/)

be the project zone. Notably, with community groups that travel to the area that would be the project zone, distance would be increased and thus access to health care and medical assistance would be increasingly difficult to reach.

Under the baseline scenario, these conditions for women and children of both community groups (groups which live in the project zone and groups which travel to the project zone) would likely continue. As such, access to education would be limited and health conditions for women and children would continue to decline.

Under the project scenario, Rimba Raya will establish village libraries to increase community access to books. The project will also support students in the Seruyan area from less fortunate families with good academic scores to continue their education to senior high school level or equivalent for a period of 3 years. The Rimba Raya project will promote activities to provide community members with reading glasses to ensure accessibility to information to those with vision impairment. With regards to health, the project will support the development of a floating clinic to provide health services to villages along the river that do not have any nearby medical care facilities. Finally, the expansion of health services throughout the region along with an increased availability of vegetables and essential nutrients is expected to help reduce infant mortality rates and improve the overall health of villagers in the project zone.

#### SDG 5: Promote gender equality and empower women

In the baseline scenario, work in oil palm plantations is hard for both men and women, though quite different. It is quite frequent that women help their husbands in the plantations to meet demanding production quotas, usually doing unpaid work. In the baseline scenario, this would likely be applicable for both community groups – those which lived in the area which would be the project zone and those which traveled to the area which would be the project zone.

In the case that women work on a hired basis, they often receive lower wages than men. This discrimination is set on the grounds that their work is easier than that of men. According to an article by Rainforest Action Network, women are often assigned tasks that seem less onerous, but which are actually more dangerous and physically demanding than that of their male counterparts. In Indonesia, women are often designated to spray pesticides because it is less physically taxing than other plantation work. Unfortunately, they are rarely given proper protective gear like gloves and masks and thus are susceptible to becoming sick or injured by the dangerous chemicals present in most industrial pesticides and insecticides.

Outside of working in the palm oil plantation, women fulfill other roles. In the baseline scenario women have to take care of the children, prepare food and collect firewood and water, (which are often made farther due to destruction of the forest by the oil palm plantations). While women are rarely the heads of households, they often are responsible for the management of a functioning household. If working, such as at a plantation or helping out in the processing of fish products if their husbands are fishermen, when they return home, women have to prepare food for their families, often with pesticide

residue still on their skin and clothes<sup>9</sup>. Women, whether working or not, are still responsible for the management of the home and children, with little time, resources, or opportunity for other ventures, private activities, or means of personal investment/empowerment. For working women that are part of community groups that travel to the area where the project area would be, even more time would be spent traveling to and from the plantations.

Under the baseline scenario, these conditions for women (in both identified community groups) would likely persist as palm oil plantations dominate the employment opportunities and there would likely be not many, if any, opportunities to become financially independent or programs which promote the empowerment of women.

The Rimba Raya project will focus on providing women with alternative forms of employment, including participation in micro-enterprises such as chicken farms and shrimp paste production as well as recruiting women to be part of the field staff team. The opportunity to have independent forms of employment will not only benefit women and their families economically, but also will empower them to be able to have more ownership and agency over their lives and their family's well-being.

SDG 6, 7, 9, 11: Provide access to clean water, sustainable energy, resilient infrastructure, and resilient human settlements

Palm oil development does result in increases in some infrastructure and services within communities that work in plantations, however, palm oil companies are not required to bring development services or infrastructure to neighboring communities.

The Rimba Raya project will provide solar lanterns and solar power to communities that lack electrification throughout the project zone. Additionally household water filters and large-scale community water filtration system will be distributed to or installed in communities throughout the project lifetime. The project area also has a high risk of fire, and the project will train community fire-fighters, provide equipment, and drill wells for fighting fires to ensure that communities are more resilient against fires.

SDG 12: Ensuring sustainable consumption and production

The development of palm oil plantations is associated with various serious environmental challenges including:

- Biodiversity loss, including loss of rare and endangered species
- Pollution of soil, air, and water
- Soil erosion
- Greenhouse gas (GHG) emissions and climate change

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<sup>9</sup> See

[http://www.ran.org/campaigns/rainforest\\_agribusiness/resources/fact\\_sheets/hostile\\_harvest\\_us\\_agribusinesses\\_and\\_labor\\_rights\\_abuses/](http://www.ran.org/campaigns/rainforest_agribusiness/resources/fact_sheets/hostile_harvest_us_agribusinesses_and_labor_rights_abuses/)

- Loss of key ecosystem services

Deforestation also has significant social implications and can be very damaging for the communities that depend upon these forests for their livelihoods (Colchester, 2011). Serious conflicts can arise when palm oil companies disregard the rights of local communities. Social impacts of palm oil production can include:

- Land grabs
- Loss of livelihoods
- Social conflict
- Forced migration
- Loss of social/cultural identity associated with land
- Loss of access to non-timber forest products

Under the baseline scenario, continued deforestation would be expected. Correspondingly, the detrimental social and environmental effects which accompany deforestation would also persist for both community groups – those living in the area that would be the project zone and those which travel to the area that would be the project zone for hunting, logging, and collection of NTFP. Specifically, both groups would need to travel elsewhere, likely farther in distance, in order to access forests for their needs.

Additionally, villages within the project zone, with or without palm oil development, face huge barriers to implementing waste management practices. With no formal waste management systems, the community members are forced to live surrounded by the garbage that is generated, and often resort to using the river as a waste-disposal mechanism. This not only creates serious health problems for communities, but the pollution of the river impacts the organisms living in it, of which many are essential sustenance for villagers.

The project will focus on developing initiatives and forms of employment that are based on the sustainable use of resources. Additionally, the project will raise awareness about and reduce the amount of waste generated within communities through coordinated educational campaigns and clean-up events.

#### SDG 16. 17: Promote inclusive and transparent sustainable development, and strengthen external partnerships

In the baseline scenario, the area which would comprise the project area would likely be converted to palm oil plantation. Although Indonesia has been working towards creating a sustainable palm oil industry, the country as a whole has a long way to go. As of 2017, only 12% of the approximately 11.9 million hectares of palm oil plantations are Indonesia Sustainable Palm Oil (ISPO) certified<sup>10</sup>. ISPO standards require producers to fulfill certain environmental as well as labor and social standards;

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<sup>10</sup> See <http://www.thejakartapost.com/news/2017/04/12/only-12-of-indonesias-oil-palm-plantations-ispo-certified.html>

implementation of these standards helps to create a global partnership for development as it promotes international principles centered on sustainable social development for impoverished communities worldwide. Because ISPO corresponds with UNDP (United Nations Development Program), which created the Sustainable Development Goals, the baseline scenario would only meet the goal of developing a global partnership for development if the plantation met the ISPO requirements.

If this were the case, community groups (both those in the area that would be the project zone and those who travel to the area that would be project zone) may receive fair social and labor treatment if employed by the plantation. In doing so, this would contribute to Indonesia's progress in developing a global partnership for development.

However, because sustainable palm oil production is currently a very small percentage of the country's output, it is more than likely that the palm oil plantation that would be developed in the absence of the project would not be sustainable under ISPO standards, only two of which are located near the project area. While several plantation companies in Central Kalimantan are ISPO certified, only two near the project area, PT Bangun Jaya Alam Permai & PT Wana Sawit Subur Lestari, have received their ISPO certification as of 2016. Both are located just north of TPNP. Also, as of 2016, only 132 companies of the 562 companies<sup>11</sup> that applied for certification had received an ISPO certification. Thus, it is likely that the proposed plantations in the plantation scenario would likely not provide environmental, social and labor related rights to both identified community groups that would be employed as plantation workers.

In contrast, the Rimba Raya project will hire staff and provide training and employment opportunities to local villagers through non-discriminatory policies. Additionally, Rimba Raya has policies governing worker's rights, safety, no-corruption, and other important employment safeguards. The project will also be committed to strengthening external partnerships both with local and international organizations in order to bring additional resources and services to local communities through the project zone. Rimba Raya is working with World Education International to design alternative economic activities for villagers. Additionally, the Rimba Raya project is working to bring in other sources of funding or resources from international aid organizations or other partners that are interested in contributing to various project goals such as solar electrification, community-level water filtration, and other important infrastructure needs of the communities.

Stakeholder Category	Description	Expected Stakeholder Impacts
Villagers	Recipients and beneficiaries of any program implemented in Project Zone villages	<ol style="list-style-type: none"> <li>1. Improved economic opportunities, decent work</li> <li>2. Improved health and well-being</li> <li>3. Improved capacity, skills, and knowledge</li> </ol>

<sup>11</sup> <http://www.majalahhortus.com/hukum/item/213-46-perusahaan-sawit-terima-serifikat-ispo.html>

		<p>related to climate change adaptation and mitigation, sustainable consumption, and waste reduction</p> <ol style="list-style-type: none"> <li>4. Increased access to basic resources, healthcare, education, and improved infrastructure for communities</li> <li>5. Improved social cohesion and relationship with institutions in the project zone including RRC, OFI, and Tanjung Puting National Park</li> <li>6. Reduced gender and economic inequality</li> <li>7. Increased partnerships with external donors for sustainable development initiatives</li> </ol>
<b>Farmers groups</b>	Organization with common goal of improving member's welfare	<ol style="list-style-type: none"> <li>1. Improved economic opportunities, decent work</li> <li>2. Improved capacity, skills, and knowledge related to entrepreneurial initiatives</li> <li>3. Increased economic empowerment and leadership of women</li> <li>4. Reduced gender and economic inequality</li> </ol>
<b>Formal Village Leaders</b>	Village heads, Village secretaries, and BPD Chairmen	<ol style="list-style-type: none"> <li>1. Improved capacity, skills, and knowledge related to climate change adaptation and mitigation, sustainable consumption, and waste reduction</li> <li>2. Improved economic opportunities, decent work for constituents</li> <li>3. Increased access to basic resources, healthcare, education, and improved infrastructure for communities</li> </ol>
<b>Informal Leaders</b>	Village members with influence in the village, often approached to facilitate communication	<ol style="list-style-type: none"> <li>1. Improved capacity, skills, and knowledge related to climate change adaptation and mitigation, sustainable consumption, and waste reduction</li> <li>2. Improved economic opportunities, decent work for constituents</li> <li>3. Increased access to basic resources, healthcare, education, and improved infrastructure for communities</li> </ol>
<b>World Education</b>	Community organizer that implements community development programs	<ol style="list-style-type: none"> <li>1. Improved capacity, skills, and knowledge related to climate change adaptation and mitigation, sustainable consumption, and waste reduction</li> </ol>

		<ol style="list-style-type: none"> <li>2. Increased partnerships with external donors for sustainable development initiatives</li> </ol>
<b>OFI</b>	<p>Community facilitator working to raise stakeholder's awareness of conservation</p>	<ol style="list-style-type: none"> <li>1. Increased funds to rescue rehabilitate and release orangutans threatened by the expansion of palm-oil deforestation.</li> <li>2. Support for personnel and procurement of equipment to develop forest rehabilitation programs for orangutan reintroduction.</li> <li>3. Increased partnerships with organizations working in the eastern flank of the Tanjung Putin National Park.</li> <li>4. Increase in potential areas to construct orangutan release centers and feeding platforms.</li> </ol>
<b>Government Offices</b>	<p>License oil palm plantation companies; monitor their progress; implement programs at the village level; facilitate conflict resolution for any village dispute</p>	<ol style="list-style-type: none"> <li>1. Improved capacity, skills, and knowledge related to climate change adaptation and mitigation, sustainable consumption, and waste reduction</li> <li>2. Improved economic opportunities, decent work for constituents</li> <li>3. Increased access to basic resources, healthcare, education, and improved infrastructure for communities</li> <li>4. Improved perception and trust in government institutions through the approval of a landmark forest conservation project.</li> <li>5. Increased partnership with local and private companies to conserve the diversity and richness of ecosystems forest areas adjacent to the Tanjung Putting National Park.</li> </ol>
<b>Palm Oil Companies</b>	<p>Plantation development, with limited social programs for local communities</p>	<ol style="list-style-type: none"> <li>1. Reduced area for palm oil expansion</li> <li>2. Increased social services for communities and individuals working in and living near palm oil plantations</li> </ol>
<b>Tanjung Puting National Park</b>	<p>National Park bordering the project area that works in close collaboration with OFI</p>	<ol style="list-style-type: none"> <li>1. Reduced risk of commercial-scale illegal logging in the eastern border of the park</li> <li>2. Increased strength and partnerships to co-manage the full extent of the park</li> <li>3. Increased access to funds to promote environmental and social development programs in the surrounded villages</li> </ol>

<b>Women's Groups</b>	Organization with common goal of improving member's welfare	<ol style="list-style-type: none"> <li>1. Improved economic opportunities, decent work</li> <li>2. Improved capacity, skills, and knowledge related to entrepreneurial initiatives</li> <li>3. Increased economic empowerment and leadership of women</li> <li>4. Reduced gender and economic inequality</li> </ol>
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## 4 BENEFITS FOR THE PLANET

### 4.1 Condition of Natural Capital and Ecosystem Services at Project Start

#### Vegetation and Land Cover

Rimba Raya is comprised of a diversity of natural and human-disturbed wetland and dry land vegetation types (Figure 8), dominated by peat swamp forests on peat soils ranging from 2 to more than 6 meters deep. Deforested peat swamps form extensive peat shrublands in the south and seasonally inundated wetlands along The Baung and Seruyan Rivers. The northwestern part of the project adjacent to Tanjung Puting National Park also supports increasingly rare lowland forest on mineral soils, which contributes significantly to the biodiversity of the project area. Figure 9 shows a satellite image view of forested areas in Rimba Raya. Carbon Accounting Area vegetation is shown in Figure 10. Peat swamp forest and other peatland types comprise 78.5% of the Carbon Accounting Area (Table 8). All but the kerangas forest and kerangas open scrub types are on peat substrates. The land cover accuracy assessment demonstrated a 90.0% classification accuracy for lightly degraded peat swamp forest and 81.3% overall within the project management zone.

Table 7. Soil Types

<b>Soil Types in the Carbon Accounting Zone</b>				
Dominant Soils	General Description	Parent Material	Sub-landform	Relief
Haplohemist, Sulfihemists	Moderately decomposed peat soils some of which are sulphic	Organic	Peat Dome	Flat
Endoaquepts, Sulfaquepts	Saturated Inceptisols and Saturated Sulphic Entisols	Alluvium	Delta or Estuary	Flat

Endoaquepts, Dystrudepts	Saturated Inceptisols and Acidic Inceptisols	Alluvium	Alluvial Flood Plane	Flat
Quartzipsam-ments, Durorthods	Quartzic Entisols and Spodosols with a Cemented Hardpan	Sediment	Terraces	Flat - Rolling
Haplorthods, Palehumults	Freedraining Spodosols and Humus rich Ultisols	Sediment	Terraces	Flat - Rolling

Wetlands International mapping of peat distribution in the project area shows shallow peats distributed throughout most of the Carbon Accounting Area (Figure 10). Carbon stock field surveys showed that peats were moderately deep and typically exceeded the limits of the 4 to 6 meter peat probe used to measure peat depth.

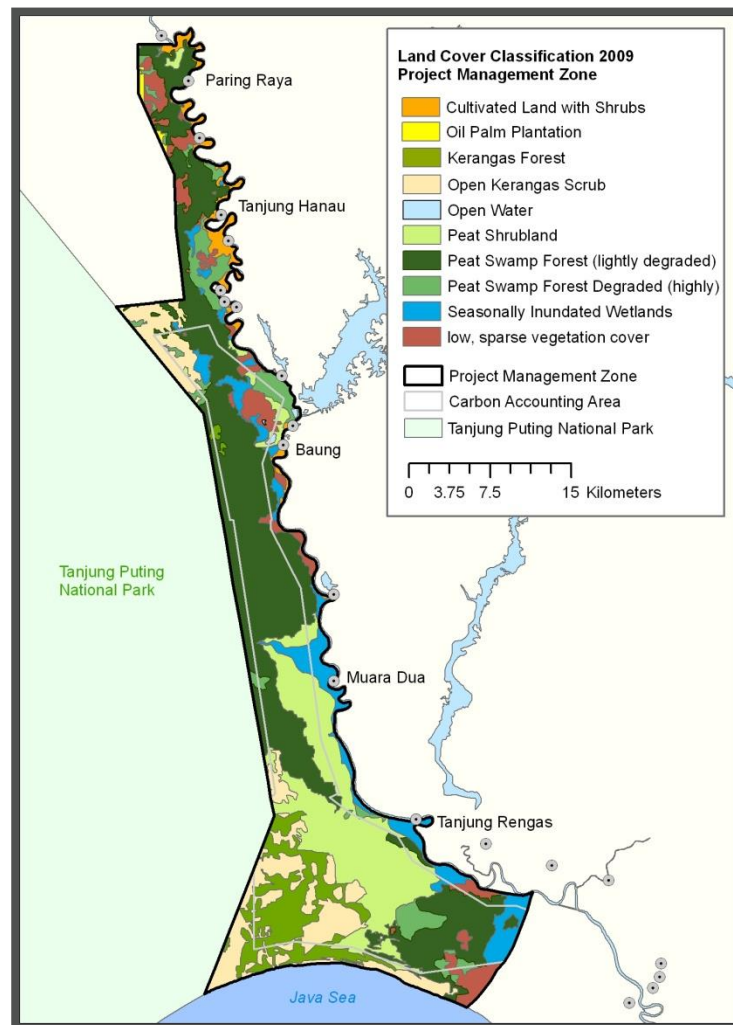


Figure 8. Rimba Raya Vegetation and Land Cover 2009



Figure 9. Forest and Vegetation cover of the project area shown on Landsat TM image, January 2010. Dark green areas indicate forest cover, light yellow areas indicate bare or exposed soil.

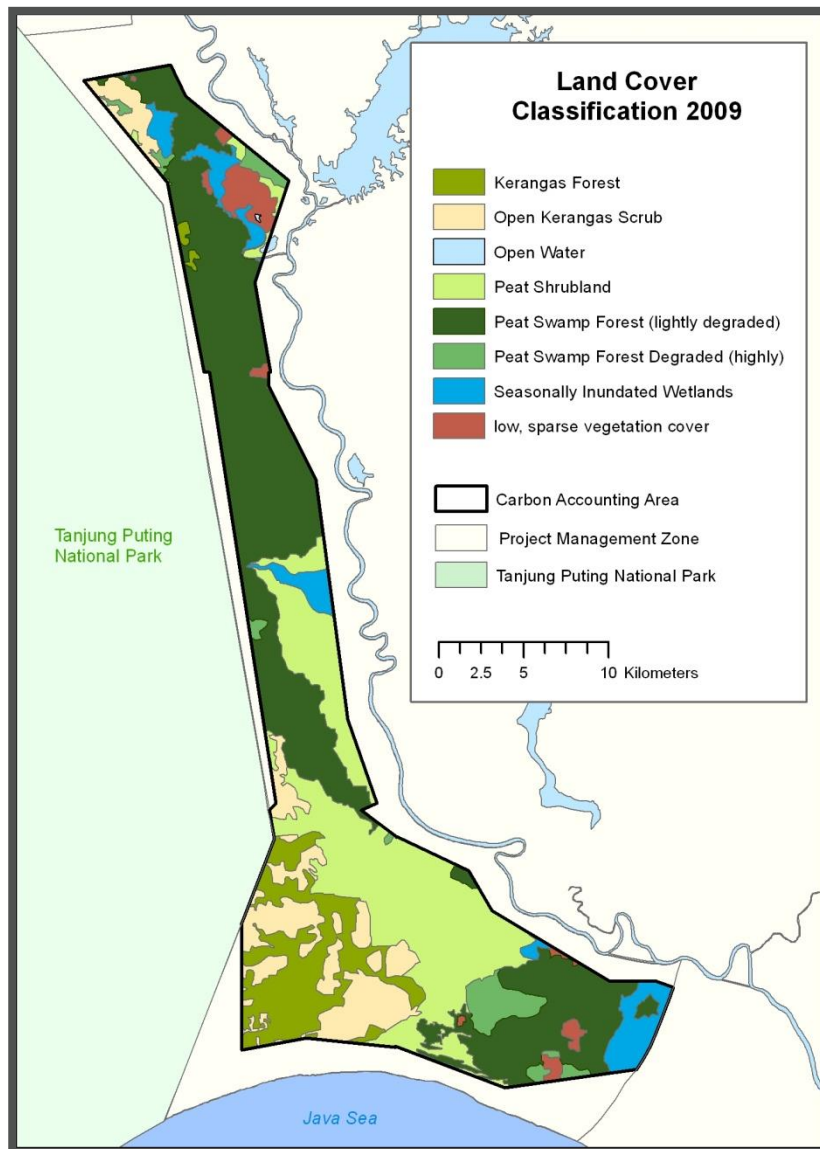


Figure 10. Land Cover and Vegetation in the Carbon Accounting Area

Table 8. Land Cover in the Carbon Accounting Area		
Land Cover Description	Extent (Ha)	% Total
Peat Swamp Forest (lightly degraded)	19,215	40.7
Peat Swamp Forest Degraded (highly)	1,734	3.7
Peat Shrubland (<20% Tree Cover)	12,040	25.5
Kerangas Forest	4,810	10.2
Kerangas Open Scrub	5,349	11.3

Low, sparse vegetation cover	<b>1,342</b>	2.8
Seasonally Inundated Wetlands	<b>2,704</b>	5.7
Open Water	<b>43</b>	0.1
<b>Grand Total:</b>	<b>47,237</b>	<b>100.0</b>

## Biodiversity

A recent study of the Project Management Zone documented high biodiversity including 361 species of birds, 122 species of mammals, and 180 species of trees and woody plants likely to be present in the project area.

Rimba Raya biodiversity notably includes the endangered Bornean orangutan (*Pongo pygmaeus*), the only great ape outside of Africa, whose populations have declined 95% in the last century. Tanjung Puting National Park houses one of the largest protected orangutan populations, and the Rimba Raya project area augments adjacent Tanjung Puting orangutan habitat by ca. 14%.

Project area forests likely house eight other primate species including the endangered proboscis monkey (*Nasalis larvatus*) and agile gibbon (*Hylobates agilis*). More than half of all mammals occurring in Borneo are likely present on the project area including the more common sun bear (*Helarctos malayanaus*), barking deer (*Muntiacus muntjak*), and bearded pig (*Sus barbatus*) and the endangered Borneo Bay cat (*Catopuma badia*) and hairy-nosed otter (*Lutra sumatrana*). An estimated 45 species of bats (47% of the Borneo list) are likely to be present in the project area. A third of these are IUCN Red Listed, 13 of which have restricted ranges or are endemic to Borneo.

Some 361 bird species are likely present in the project area. Of these, 156 species are of national and/or international conservation significance. Eighty species are listed by the IUCN as Threatened or Near-Threatened with Global Extinction, including the Endangered Storm's Stork (*Ciconia stormi*), which is considered one of the twenty most endangered bird species in the world.

Borneo is one of the richest islands on the Sunda Shelf for reptiles and amphibians (MacKinnon et al 1996) but remains understudied. Tanjung Puting National Park's herptofauna has never been surveyed, and the full suite of herptofauna likely present in the park and Rimba Raya project area remains unknown. Of particular concern is the endangered False Ghavial (*Tomistoma schlegelii*) which has been hunted to extinction in most of Borneo, but is still present in TPNP, and may still be present in the Seruyan River, as well as the protected Estuarine Crocodile (*Crocodylus porosus*) which is reported to be present in the project area but has suffered severe over-hunting.

Plant species diversity in the project area is no doubt extremely high, and many elements of the flora are rare, threatened or protected species. Comprehensive, systematic floristic surveys have not been conducted in either nearby Tanjung Puting National Park or the project area so the present list is incomplete. Of the 180 plant taxa expected to occur in the project area, 25 species are critically endangered and 14 endangered. Many of these are Dipterocarps that have been targeted by the timber

industry and include *Shorea balangeran*, which occurs in deep swamps of the project area and is considered the most highly threatened dipterocarp on Borneo.

### Potential Threats

The project is unlikely to have any negative impacts on biodiversity outside the Project Zone resulting directly from project activities. There is the possibility for activities currently active in, or slated for, the Project Area to be displaced into neighboring areas or other parts of Kalimantan. For example, oil palm companies that are unable to operate in the Project Area (as a result of the project) may purchase licenses to operate in neighboring areas, having a clear negative impact on biodiversity in that area. Similarly, illegal logging currently taking place in the Project Area may be displaced into other neighboring areas, intensifying damage to these areas.

At a landscape spatial scale, oil palm development and illegal logging will continue to spread into other areas regardless of project activities in the Project Area. This can be argued based on the current distribution of both activities in and near the Project Zone, existing oil palm licenses in the region, local development plans for a major Crude Palm Oil export facility on the southern coast of the Project Area and ongoing expansion of both activities across Kalimantan. For oil palm, current land use planning in Kalimantan, current and predicted expansion rates for oil palm in Kalimantan, and continued market demand for this relatively inexpensive oil indicate that oil palm will continue its rapid expansion. For illegal logging, a lack of enforcement of Indonesian laws limiting unpermitted logging and timber export, and continuing global markets for cheap, illegal wood, indicate that this threat to biodiversity will also continue.

The project's presence may shift the spatio-temporal dynamics and/or intensity of when these activities reach other areas in the immediate vicinity, but given the full range of factors driving oil palm expansion mentioned above, the incremental impact within the Project Zone and adjacent areas is likely to be small. One possible exception is the short-term response of the four oil palm companies whose licenses are retired if the project is implemented as planned. If these licenses are simply retired through a commercial transaction, then off-site biodiversity impacts will be zero. If a license swap is pursued, whereby the current licenses are retired and/or traded for licenses in new areas, then biodiversity impacts in these new areas will be negative. In this scenario, net biodiversity impacts will depend on exactly where such licenses are established, and subsequent comparisons of biodiversity gains in the Project Area compared to biodiversity losses where the new licenses are issued. The project has a clear plan for tracking the future business activities of the companies whose licenses will be retired in the 'with project' scenario.

From a biodiversity perspective, both oil palm and illegal logging are environmentally unsustainable options, to be minimized or avoided wherever possible. By creating and protecting a large area of natural habitat contiguous with TPNP, the project will be helping to maintain and enhance biodiversity in a region that would otherwise be degraded or lost to these two activities. Maintaining biodiversity in rain forests is highly dependent on maintaining ecosystem dynamics between species, and retaining large enough tracts of habitat for species with the largest ranges. Oil palm plantations completely uncouple ecosystem dynamics and illegal logging can heavily disturb the dynamic and make forests

susceptible to fire, which results in vast losses of biodiversity.

To gauge off-site impacts to biodiversity that may be caused by the project, project proponents will monitor the movements and business activities of oil palm companies that will retire their licenses in the Project Area as a result of project activities. To mitigate the potential off-site impacts of oil palm displacement, project proponents will attempt to cooperate with displaced companies via leakage contracts to shift their operations to non-peatland that has already been deforested.

The project will also document the political economic dimensions of illegal logging activities in the Project Zone (e.g., where loggers originate, who is funding the illegal logging) and report the activity to appropriate authorities. Alternative job opportunities will be sought for local residents involved in the illegal logging through community development initiatives. The project will also attempt to track where illegal logging operations relocate, in an effort to monitor off-site impacts to biodiversity.

It should be noted, finally, that any potential off-site negative impacts to biodiversity will be more than offset by the projects role as a physical buffer to Tanjung Puting National Park and the protection that the project will offer to the park's biodiversity.

## 4.2 Expected Impacts on Natural Capital and Ecosystem Services

The project has identified key biodiversity and natural capital impacts that the project plans to achieve. The details and monitoring results are presented in the tables below. All impacts are aligned with one or more SDGs.

<b>Impact #1</b>	Increased hectares of mangrove swamp as carbon sink from Mangrove Reforestation (SDG 6.6.1)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Natural Capital and/or Ecosystem Service(s)</b>	Mangrove ecosystems, fish and aquatic animal habitat, biodiversity
<b>Resulting Change in Condition</b>	Improved global climate change resilience

<b>Impact #2</b>	Increase in the number of hectares of water-related ecosystems from Peat Swamp Reforestation (SDG 6.6.1)
<b>Type of Impact</b>	Positive, Actual, Direct

<b>Affected Natural Capital and/or Ecosystem Service(s)</b>	Forest ecosystems, biodiversity, endangered species, air quality, carbon sequestration
<b>Resulting Change in Condition</b>	Improved health and integrity of water-related ecosystems

<b>Impact #3</b>	Increase in adoption of clean energy from Solar Power (SDG 7.1.2)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Natural Capital and/or Ecosystem Service(s)</b>	Climate, air quality, forest resources
<b>Resulting Change in Condition</b>	Improved energy efficiency

<b>Impact #4</b>	Increase in adoption of clean energy from Solar Lanterns (SDG 7.1.2)
<b>Type of Impact</b>	Positive, Actual, Indirect
<b>Affected Natural Capital and/or Ecosystem Service(s)</b>	Climate, air quality, forest resources
<b>Resulting Change in Condition</b>	Increased access to sustainable energy

<b>Impact #5</b>	Increase in waste and plastic pollution from Zuper Shrimp Paste (SDG 12.2.1)
<b>Type of Impact</b>	Negative, Predicted, Indirect

<b>Affected Natural Capital and/or Ecosystem Service(s)</b>	Seruyan River cleanliness, aquatic animals, mangroves, river ecosystems, fish habitat
<b>Resulting Change in Condition</b>	Waste products generated as a result of packaging and consumption process, mitigated by: Seruyan river cleanup initiative

<b>Impact #6</b>	Increased hectares of peat swamp as carbon sink from Peat Swamp Reforestation (SDG 13)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Natural Capital and/or Ecosystem Service(s)</b>	Forest ecosystems, biodiversity, endangered species, air quality, carbon sequestration
<b>Resulting Change in Condition</b>	Improved global climate change resilience

<b>Impact #7</b>	Reduction in emissions as compared to the baseline from Establishment and protection of Rimba Raya Reserve (SDG 13)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Natural Capital and/or Ecosystem Service(s)</b>	Forest resources, carbon sequestration, climate resilience
<b>Resulting Change in Condition</b>	Forest and peat carbon stocks prevented from destruction

<b>Impact #8</b>	Increased number of individuals with capacity in disaster mitigation and climate resilience from Community Firefighting (SDG 13.1.3)
<b>Type of Impact</b>	Positive, Actual, Indirect

<b>Affected Natural Capital and/or Ecosystem Service(s)</b>	Forest ecosystems, biodiversity, endangered species, air quality, carbon sequestration
<b>Resulting Change in Condition</b>	Increased community capacity to for climate resilience and disaster mitigation

<b>Impact #9</b>	Number of individuals with strengthened capacity and climate resilience from Trainings (SDG 13.3.2)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Natural Capital and/or Ecosystem Service(s)</b>	Forest resources, soil, biodiversity
<b>Resulting Change in Condition</b>	Strengthened community and individual capacity related to climate adaptation, mitigation, and development

<b>Impact #10</b>	Number of individuals with strengthened capacity and climate resilience from Mangrove Reforestation (SDG 13.3.2)
<b>Type of Impact</b>	Positive, Actual, Indirect
<b>Affected Natural Capital and/or Ecosystem Service(s)</b>	Mangrove ecosystems, fish and aquatic animal habitat, biodiversity
<b>Resulting Change in Condition</b>	Strengthened community and individual capacity related to climate adaptation, mitigation, and development

<b>Impact #11</b>	Reduced aquatic ecosystem health due to runoff from farms from Chicken Farm (SDG 14.1.1)
<b>Type of Impact</b>	Negative, Predicted, Indirect

<b>Affected Natural Capital and/or Ecosystem Service(s)</b>	Aquatic ecosystems, fish habitat, biodiversity
<b>Resulting Change in Condition</b>	Increased pollution from farm runoff, mitigated by: Distribution of water filters, Seruyan river cleanup initiative,

<b>Impact #12</b>	Decreased amount of trash and dumping in river from Seruyan River Cleanup (SDG 14.1.1)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Natural Capital and/or Ecosystem Service(s)</b>	Seruyan River cleanliness, aquatic animals, mangroves, river ecosystems, fish habitat
<b>Resulting Change in Condition</b>	Cleaner river and decreased stress to biodiversity

<b>Impact #13</b>	Increase in populations of fish species from Mangrove Reforestation (SDG 14.5.1)
<b>Type of Impact</b>	Positive, Predicted, Indirect
<b>Affected Natural Capital and/or Ecosystem Service(s)</b>	Mangrove ecosystems, fish and aquatic animal habitat, biodiversity
<b>Resulting Change in Condition</b>	Increased habitat for fish/aquatic species

<b>Impact #14</b>	Key carbon sinks and habitats preserved from Community Firefighting (SDG 15.1.1)
<b>Type of Impact</b>	Positive, Predicted, Direct

<b>Affected Natural Capital and/or Ecosystem Service(s)</b>	Forest ecosystems, biodiversity, endangered species, air quality, carbon sequestration
<b>Resulting Change in Condition</b>	Maintenance of key habitat for biodiversity and carbon stocks

<b>Impact #15</b>	Decreased area devoted to palm oil plantations as compared to the baseline from Establishment and protection of Rimba Raya Reserve (SDG 15.1.1)
<b>Type of Impact</b>	Positive, Actual, Direct
<b>Affected Natural Capital and/or Ecosystem Service(s)</b>	Forest ecosystems, biodiversity, endangered species, air quality, carbon sequestration
<b>Resulting Change in Condition</b>	Protection of critical habitat for endangered species

<b>Impact #16</b>	Increase in number of hectares of forest from Nurseries (SDG 15.1.1)
<b>Type of Impact</b>	Positive, Predicted, Indirect
<b>Affected Natural Capital and/or Ecosystem Service(s)</b>	Forest ecosystems, biodiversity, endangered species, air quality, carbon sequestration
<b>Resulting Change in Condition</b>	Increase in reforested areas

<b>Impact #17</b>	Decreased threat from illegal logging from Establishment and protection of Rimba Raya Reserve (SDG 15.2.1)
<b>Type of Impact</b>	Positive, Actual, Direct

<b>Affected Natural Capital and/or Ecosystem Service(s)</b>	Forest ecosystems, biodiversity, endangered species, air quality, carbon sequestration
<b>Resulting Change in Condition</b>	Increased forested area

<b>Impact #18</b>	Increased habitat for endangered species in project zone from Peat Swamp Reforestation (SDG 15.5.1)
<b>Type of Impact</b>	Positive, Predicted, Indirect
<b>Affected Natural Capital and/or Ecosystem Service(s)</b>	Forest ecosystems, biodiversity, endangered species, air quality, carbon sequestration
<b>Resulting Change in Condition</b>	Increased biodiversity and ecosystem strength

<b>Impact #19</b>	Increased habitat for endangered species in project zone from Support for Tanjung Puting National Park (SDG 15.5.1)
<b>Type of Impact</b>	Positive, Predicted, Direct
<b>Affected Natural Capital and/or Ecosystem Service(s)</b>	Forest ecosystems, biodiversity, endangered species, air quality, carbon sequestration
<b>Resulting Change in Condition</b>	Increased habitat, biodiversity, and natural area

<b>Impact #20</b>	Increased health and number of orangutans (endangered species) in project zone from Orangutan Care Facility (SDG 15.5.1)
<b>Type of Impact</b>	Positive, Predicted, Direct

<b>Affected Natural Capital and/or Ecosystem Service(s)</b>	Forest ecosystems, biodiversity, endangered species
<b>Resulting Change in Condition</b>	Increased biodiversity and ecosystem strength

### 4.3 Natural Capital and Ecosystem Services Monitoring Plan

Prior to seeking validation under SD VISTA, the project has been verified under VCS and has claimed 7,722,728 tCO<sub>2</sub>e emissions reductions and removals. The project plans to continue claiming greenhouse gas (GHG) emissions reductions and removals. Please see VCS monitoring reports and project description document (available on Verra project portal) for more information on project methodology, monitoring, verified carbon units, and net emissions reductions.

The table below, based off of the Theory of Change and predicted and actual project impacts, lists detailed data that the project plans to gather to monitor the impacts listed in sections 1 and 4.2.

Table 9. Monitoring Components: Project Conditions and Forest Protection

Project Activities	Affected Natural Capital and/or Ecosystem Service(s)	Monitored Output	Monitoring Frequency and Methods	+/-?	Corresponding SDG	SDG Target or Indicator (if applicable)
Mangrove Reforestation	Mangrove ecosystems, fish and aquatic animal habitat, biodiversity	# of mangrove seedlings planted	Annual, staff reports	+	6.6	6.6.1 Change in the extent of water-related ecosystems over time
Peat Swamp Reforestation	Forest ecosystems, biodiversity, endangered species, air quality, carbon sequestration	Ha of land reforested	Annual, staff reports	+	6.6	6.6.1 Change in the extent of water-related ecosystems over time
Solar Power	Climate, air quality, forest resources	# of solar power units installed	Upon implementation, staff reports	+	7.1	7.1..2 Proportion of population with primary reliance on clean fuels and technology

Project Activities	Affected Natural Capital and/or Ecosystem Service(s)	Monitored Output	Monitoring Frequency and Methods	+/-/?	Corresponding SDG	SDG Target or Indicator (if applicable)
Solar Lanterns	Climate, air quality, forest resources	% of households with access to solar lantern unit	Upon implementation, staff reports	+	7.1	7.1.2 Proportion of population with primary reliance on clean fuels and technology
Zuper Shrimp Paste	Seruyan River cleanliness, aquatic animals, mangroves, river ecosystems, fish habitat	# of packaging materials utilized	Annual, staff reports	-	12.2	12.2.1 Material footprint
Peat Swamp Reforestation	Forest ecosystems, biodiversity, endangered species, air quality, carbon sequestration	Ha of land reforested	Annual, staff reports	+	13	13 Reduction in emissions as compared to the baseline
Establishment and protection	Forest resources, carbon sequestration, climate resilience	tCO2 emissions reductions	Annual, satellite monitoring and forest patrols	+	13	13 Reduction in emissions as compared to the baseline
Community Firefighting	Forest ecosystems, biodiversity, endangered species, air quality, carbon sequestration	# of fire towers constructed	Upon implementation, staff reports	+	13.1	13.1.3 Proportion of local governments that adopt and implement local disaster risk reduction strategies

Project Activities	Affected Natural Capital and/or Ecosystem Service(s)	Monitored Output	Monitoring Frequency and Methods	+/-/?	Corresponding SDG	SDG Target or Indicator (if applicable)
Trainings	Forest resources, soil, biodiversity	% of community members involved in sustainability or climate resilience related trainings	Upon implementation, staff reports	+	13.3	13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions
Mangrove Reforestation	Mangrove ecosystems, fish and aquatic animal habitat, biodiversity	# of mangrove nurseries	Annual, staff reports	+	13.3	13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions
Chicken Farm	Aquatic ecosystems, fish habitat, biodiversity	# of individuals sick from waterborne illnesses	N/A	-	14.1	14.1.1 Index of coastal eutrophication
Seruyan River Cleanup	Seruyan River cleanliness, aquatic animals, mangroves, river ecosystems, fish habitat	tonnes of garbage collected	Upon implementation, staff reports	+	14.1	14.1.1 Index of coastal eutrophication and floating plastic debris density

Project Activities	Affected Natural Capital and/or Ecosystem Service(s)	Monitored Output	Monitoring Frequency and Methods	+/-?	Corresponding SDG	SDG Target or Indicator (if applicable)
Mangrove Reforestation	Mangrove ecosystems, fish and aquatic animal habitat, biodiversity	# of mangrove seedlings planted	Annual, staff reports	+	14.5	14.5.1 Coverage of protected areas in relation to marine areas
Community Firefighting	Forest ecosystems, biodiversity, endangered species, air quality, carbon sequestration	# of ha of forest preserved	Annual, satellite monitoring and forest patrols	+	15.1	15.1.1 Forest area is a proportion of total land area
Establishment and protection of	Forest ecosystems, biodiversity, endangered species, air quality, carbon sequestration	# of hectares protected	Annual, satellite monitoring and forest patrols	+	15.1	15.1.1 Forest area is a proportion of total land area
Nurseries	Forest ecosystems, biodiversity, endangered species, air quality, carbon sequestration	# of trees distributed to tree planting programs	Annual, staff reports	+	15.1	15.1.1 Forest area is a proportion of total land area
Establishment and protection of	Forest ecosystems, biodiversity, endangered species, air quality, carbon sequestration	Frequency of patrols	Monthly, staff reports	+	15.2	15.2.1 Progress towards sustainable forest management
Peat Swamp Reforestation	Forest ecosystems, biodiversity, endangered species, air quality, carbon sequestration	Ha of land reforested	Annual, staff reports	+	15.5	15.5.1 Red List Index

Project Activities	Affected Natural Capital and/or Ecosystem Service(s)	Monitored Output	Monitoring Frequency and Methods	+/-?	Corresponding SDG	SDG Target or Indicator (if applicable)
Support for Tanjung Puting	Forest ecosystems, biodiversity, endangered species, air quality, carbon sequestration	# hectares of project area protected as buffer to park	Annual, satellite monitoring and forest patrols	+	15.5	15.5.1 Red List Index
Orangutan Care	Forest ecosystems, biodiversity, endangered species	# of orangutans released	Annual, staff reports	+	15.5	15.5.1 Red List Index

#### 4.4 Net Positive Natural Capital and Ecosystem Services Impacts

The net biodiversity benefit for the Project Zone over the project lifetime will clearly be positive, as seen in a comparison of the ‘with project’ and ‘without project’ scenarios along any metric. The ‘without project’ scenario equates to conversion of most or all remaining forests in the Project Area to oil palm plantations, currently the greatest threat to biodiversity in the Project Zone and throughout Borneo more generally. Four oil palm plantation licenses have already been issued inside the Project Area, covering 47,237 ha of mature to lightly disturbed forest. A fifth plantation to the north is already operational and was therefore excluded from the Project Area. This plantation and has cleared large areas of forest on peat and mineral soils with direct negative impacts on biodiversity on site and associated off-site impacts, including apparent increases in the occurrence of fire.

Conservation efforts planned by the project to protect all remaining natural forests and other natural ecosystem by (i) reducing fire risk through prevention of widespread illegal logging, (ii) fighting fires through immediate detection using observation towers and rapid response through deployment of firefighting teams and equipment, and (iii) prevention of continued expansion of oil palm will result in net positive impacts on forest conservation and forest area, endemic, rare, and endangered species and ecosystems, natural capital and ecosystem services. Additional information on natural capital and ecosystem services impacts can be found in the document titled Rimba Raya Project CCB\_VCS Monitoring Report 2017\_2019 MP5 v1.16.

#### Potential Negative Offsite Biodiversity Impacts

The project is unlikely to have any negative impacts on biodiversity outside the Project Zone resulting directly from project activities. There is the possibility for activities currently active in, or slated for, the Project Area to be displaced into neighboring areas or other parts of Kalimantan. For example, oil palm companies that are unable to operate in the Project Area (as a result of the project) may purchase

licenses to operate in neighboring areas, having a clear negative impact on biodiversity in that area. Similarly, illegal logging currently taking place in the Project Area may be displaced into other neighboring areas, intensifying damage to these areas.

At a landscape spatial scale, oil palm development and illegal logging will continue to spread into other areas regardless of project activities in the Project Area. This can be argued based on the current distribution of both activities in and near the Project Zone, existing oil palm licenses in the region, local development plans for a major Crude Palm Oil export facility on the southern coast of the Project Area and ongoing expansion of both activities across Kalimantan. For oil palm, current land use planning in Kalimantan, current and predicted expansion rates for oil palm in Kalimantan, and continued market demand for this relatively inexpensive oil indicate that oil palm will continue its rapid expansion. For illegal logging, a lack of enforcement of Indonesian laws limiting unpermitted logging and timber export, and continuing global markets for cheap, illegal wood, indicate that this threat to biodiversity will also continue.

The project's presence may shift the spatio-temporal dynamics and/or intensity of when these activities reach other areas in the immediate vicinity, but given the full range of factors driving oil palm expansion mentioned above, the incremental impact within the Project Zone and adjacent areas is likely to be small. One possible exception is the short-term response of the four oil palm companies whose licenses are retired if the project is implemented as planned. If these licenses are simply retired through a commercial transaction, then off-site biodiversity impacts will be zero. If a license swap is pursued, whereby the current licenses are retired and/or traded for licenses in new areas, then biodiversity impacts in these new areas will be negative. In this scenario, net biodiversity impacts will depend on exactly where such licenses are established, and subsequent comparisons of biodiversity gains in the Project Area compared to biodiversity losses where the new licenses are issued. The project has a clear plan for tracking the future business activities of the companies whose licenses will be retired in the 'with project' scenario.

From a biodiversity perspective, both oil palm and illegal logging are environmentally unsustainable options, to be minimized or avoided wherever possible. By creating and protecting a large area of natural habitat contiguous with TPNP, the project will be helping to maintain and enhance biodiversity in a region that would otherwise be degraded or lost to these two activities. Maintaining biodiversity in rain forests is highly dependent on maintaining ecosystem dynamics between species, and retaining large enough tracts of habitat for species with the largest ranges. Oil palm plantations completely uncouple ecosystem dynamics and illegal logging can heavily disturb the dynamic and make forests susceptible to fire, which results in vast losses of biodiversity.

To gauge off-site impacts to biodiversity that may be caused by the project, project proponents will monitor the movements and business activities of oil palm companies that will retire their licenses in the Project Area as a result of project activities. To mitigate the potential off-site impacts of oil palm displacement, project proponents will attempt to cooperate with displaced companies via leakage contracts to shift their operations to non-peatland that has already been deforested.

The project will also document the political economic dimensions of illegal logging activities in the

Project Zone (e.g., where loggers originate, who is funding the illegal logging) and report the activity to appropriate authorities. Alternative job opportunities will be sought for local residents involved in the illegal logging through community development initiatives. The project will also attempt to track where illegal logging operations relocate, in an effort to monitor off-site impacts to biodiversity.

It should be noted, finally, that any potential off-site negative impacts to biodiversity will be more than offset by the projects role as a physical buffer to Tanjung Puting National Park and the protection that the project will offer to the park's biodiversity.

### **Demonstration of Net Positive Biodiversity Impacts**

The evaluation of on-site biodiversity benefits of the project in comparison to potential off-site unmitigated negative impacts can be framed as follows:

There is a risk that disturbance to remaining biodiversity in neighboring areas may intensify more quickly than it would without the project (off-site negative impacts), which may offset to an unknown degree the enhanced security of an important, at-risk biodiversity area that would eventually be lost without the project (on-site positive impacts).

Given that the areas to be protected by the project – namely, nearby TPNP and the associated buffer zone – are widely acknowledged as the most important biodiversity reservoirs in southern Kalimantan, and that they are both highly threatened, any rational evaluation strongly suggests that net impacts will be overwhelmingly positive. In avoiding deforestation of the project area, the project intends to generate approximately 127,330,645 tCO<sub>2</sub>e of emissions reductions over the entire project lifetime.