



## Darwin Initiative Main Project Annual Report

**Important note:** *To be completed with reference to the Reporting Guidance Notes for Project Leaders:*

*it is expected that this report will be no more than 10 pages in length, excluding annexes*

**Submission Deadline: 30<sup>th</sup> April 2018**

### Darwin Project Information

Project reference	23-029
Project title	Investing in agro-forestry options for forest restoration in Indonesia
Host country/ies	Indonesia/ Harapan Rainforest in Sumatra
Contract holder institution	Burung Indonesia
Partner institution(s)	Royal Society for the Protection of Birds (RSPB), Restorasi Ekosistem Indonesia (PT REKI), World Agroforestry Centre (ICRAF), University of Kent, Univesity of Edinburgh
Darwin grant value	<b>£298,896</b>
Start/end dates of project	1 <sup>st</sup> August 2016/ 31 <sup>st</sup> July 2019
Reporting period (e.g., Apr 2016 – Mar 2017) and number (e.g., Annual Report 1, 2, 3)	Aug 2017 – Mar 2018/ Annual Report 2
Project Leader name	Mangara Silalahi
Project website/blog/Twitter	
Report author(s) and date	Mangara Silalahi/ 31 May 2018

### 1. Project rationale

Indonesia has >80Mha of exhausted logging concessions. Restoration of these forests is a high priority for biodiversity conservation, but is undermined by smallholder encroachment. Working in Hutan Harapan/ Harapan Rainforest (HH), an Ecosystem Restoration Concession in central-south Sumatra, we will develop and implement agroforestry options to reconcile restoration goals and livelihood aspirations of local communities.

Indonesia has the largest population and highest rate of contemporary deforestation of any tropical country. Studies have shown exhausted logging concessions harbour high levels of biodiversity and supply valuable ecosystem services. Hence, their conservation is a priority. However, 49 million people, among the poorest in the country, live on forest margins. With limited livelihood options, many depend on illegally clearing forests for agriculture, including oil palm, with the uncertain hope of attaining land tenure in future. This accounts for ~1M ha of deforestation per year.

HH is a 98,000 ha formerly logged, highly diverse, natural forest, where these problems are epitomised. Over 2,000 households have settled illegally within the concession since 2005 and have cleared 18,256 ha for agriculture. However, following forest clearance, land preparation and planting are often delayed by limited capital and labour resources.

Agroforestry is one of few land management alternatives that has the potential to provide valuable livelihood opportunities consistent with restoration and biodiversity objectives.

Moreover, the appropriate provision of capital or labour resources, value added processing, access to markets, and the possibility of obtaining land tenure security through management agreements provide a powerful incentive for the uptake of agroforestry and enable the brokering of agreements to halt forest loss. However, agroforestry options need to be designed to meet the aspirations of local farmers, maximise economic resilience and enhance biodiversity. The technologies developed and lessons learned could be applied across Indonesia with huge potential gains for some of the world's most threatened biodiversity and poorest people.

## **2. Project partnerships**

The project is a collaborative effort between Burung Indonesia (BI), PT-REKI, the Royal Society for the Protection of Birds (RSPB), the University of Edinburgh, the University of Kent (then changed to the University of Bangor) and the World Agroforestry Centre (ICRAF). BI is responsible for coordination of project activities among the project partners, working closely with PT-REKI to implement planting according to the agroforestry models with the local communities. Coordination meetings are held between BI, PT REKI and RSPB to plan project activities. ICRAF provides technical assistance on implementation of agroforestry while researchers from the universities assist in collecting and analysing data from the socio-economic survey to inform the project. BI and RSPB provide oversight on the implementation of activities that PT REKI carry out under the project. The partners are working relatively well according to their roles and responsibilities outlined in the project document.

## **3. Project progress**

### **3.1 Progress in carrying out project activities**

#### **Output 1**

##### ***Activity 1.1 to 1.9 - COMPLETED.***

The Project completed most of the activities under this output, including a gender disaggregated survey of 477 households where information related to socio-economic status, farm systems, and impediments to agroforestry uptake was collected, analysed and used to inform project activities.

##### ***Activity 1.10 Develop gender disaggregated livelihoods impact survey instrument to be utilised throughout project to monitor impacts.***

This questionnaire used in Y1 will be revised later in the project year for a re-survey of 150 participating households and 150 non-participating households in Y4 of the project. This information will then be used to analyse the impact of project interventions against baseline towards the end of the project.

##### ***Activity 1.11 Conduct economic survey of 150 participating and 150 non-participating families***

##### ***Activity 1.12 Analyse livelihoods impact of project interventions against baseline.***

These will be conducted at the beginning of Y4 in April 2019.

#### **Output 2**

##### ***Activity 2.1 Develop models for rubber, gaharu and native timber species agroforestry options - COMPLETED.***

Agroforestry models both in the eight demplots and in land being managed in collaboration with the local communities have been developed and are being implemented according to the SOP. Four agroforestry models were developed for the demplots – monoculture, simple, complex and natural regeneration. These were then discussed by PT REKI staff with the communities and the

four models were then expanded to include 2 more models (referred to as Models A to F). The planting of seedlings in the land being managed by the communities in the collaborative zones have so far only adopted 3 models – monoculture, simple and complex.

***Activity 2.2. Conduct stakeholder workshops in communities ensuring gender balance is considered in design, to refine proposed options and agree an implementation plan.***

PT REKI staff held about 25 socialisation meetings and workshops during this reporting period involving 423 participants (including 123 women or 29%) during this reporting period to refine the proposed agroforestry models and to gain the support and engagement of the local community. Discussions also included administration of farmer groups for the local communities and selection of liaison representatives. Four training sessions involving 75 participants (including 20 women) on rubber tapping technique, harvesting honey and managing beekeeping, and on organic fertilisers was conducted as a follow-up to agroforestry training. These training sessions have included a field school and a study tour to farms in Jambi to build capacity in maintenance of rubber and other trees in farms.

Other participatory sessions related to the implementation of agroforestry plans included micro-mapping for land use planning of the areas managed by the local communities (5 gatherings), defining the area of the demonstration plots (16 gatherings), clearing the demonstration plots (6 sessions), and planting in the 8 demplot under the project and in the community land.

***Activity 2.3 Assess attitudes to and understanding of forest clearance and illegal activity drivers using randomised response techniques - COMPLETED.***

Questions in the survey focused primarily on the respondents' willingness to engage in agroforestry and explore other approaches to investigating possible effects of agroforestry on land use to reduce the risk of biased responding. The preliminary analysis report and the further additional analysis report addressed the information that this exercise was meant to collect.

***Activity 2.4 Develop and sign agreements with 500 families for the development of agroforestry systems on 500 ha***

Y2 of the Project saw the signing of 2 additional collaborative agreements with 13 local Malay families (covering 60ha) in Kapas Tengah in August 2017 and with 30 families in Kunangan Jaya II (covering 135ha) in Feb 2018. There are now 7 agreements with 351 families covering 2,942ha. These agreements essentially represent a concurrence for the communities and PT REKI to initiate agroforestry in community land according to the models recommends under the Project.

***Activity 2.5 Establish on-farm trials on 500 ha in focal area and train farmers including women and monitor throughout project***

This establishment of demplots according to the 4 models recommended in the SOP produced by this Project and the resulting use of these models in land managed by the communities (42 ha to date) are examples of the on-farm trials taking place under the Project. A total of 8 ha has been established as agroforestry demplots and planted in cooperation with the communities in Simpang Macan Luar, Gelinding, Tanding, Sg Kalumpang (2 groups), Kapas Tengah, Kelompok Narwanto and Kelompok Trimagno. PT REKI has collaborated with the local community to establish these demplots through clearing and preparing the land for planting. This brings to 50ha the total area developed for agroforestry under the Darwin budget. Women have been involved in the project, especially in the establishment of nurseries and preparation of seedlings for planting. Training was provided according to Activity 2.2 above.

Seedlings totalling 34,700 of rubber trees, 900 fruit trees and 471 timber trees were distributed to the local communities involved in the on-farm trials under the Project in the last year and a total of 50ha was planted.

***Activity 2.6 Develop manuals for agroforestry management, rubber tapping etc and distribute to participating farmers as appropriate and encourage farmer to farmer sharing through community meetings and workshops***

The rubber agroforestry Standard Operating Procedure (draft) was reviewed by PT REKI during the socialisation and training sessions with the local community and finalised. Guidelines for rubber tapping have also been shared in farmer-to-farmer consultation sessions and feedback from these sessions will be used to draft the document.

***Activity 2.7 Develop biodiversity survey protocols***

The biodiversity monitoring plan was produced and translated to Bahasa Indonesia with accompanying data sheets, and reviewed with field teams during visits in April and September

2017. The Environmental Research team at PT REKI were trained in the biodiversity monitoring methods in September. Monitoring of the wider areas of agroforestry is being implemented by the Community Partnerships team and farmers by monitoring the costs of establishing agroforestry systems and returns to assess profitability. The accrual of capital assets is being measured by assessing the number of trees planted along with their survival and growth; details are included in the biodiversity monitoring plan.

#### ***Activity 2.8 Conduct before agroforestry trial biodiversity surveys in project focal areas***

Monitoring commenced at the eight-participatory experimental demplots in Feb 2018 immediately after the completion of the plots. The work focused specifically on detailed measurements of tree diversity, tree size and mortality, soil health, infiltration, and soil invertebrate diversity.

#### ***Activity 2.9 Conduct after agroforestry trial biodiversity surveys in project focal areas and analyse findings***

#### ***Activity 2.10 Analysis of biodiversity data from trials***

These activities will be implemented in Year 4 of the Project.

#### ***Activity 2.11 Baseline and endline remote sensing analysis of focal areas and HRF as a whole***

Initial assessment of forested land completed across Harapan / land use change is being monitored using Global Land Analysis and Discovery alerts. An analysis will be made at the end of the project based on endline remote sensing data.

#### ***Activity 2.12 Develop business plans and standard operating procedures for each focal species.***

PT REKI collaborated with SNV under the Partnership for Forest Project to prepare a rubber feasibility report in July 2017. Based on the findings of the report, PT REKI established a small rubber processing facility in Nov 2017 to collect latex from the local communities and process ribbed rubber sheets for sale to the factories in Jambi town.

### ***Output 3***

#### ***Activity 3.1 ERC policy forum workshop on livelihood development in ERCs***

Project partners held a workshop to share experiences on the implementation of agroforestry at Harapan in Sept 2017. Dr Rhett Harrison from ICRAF highlighted the role of agroforestry in ecosystem restoration and Dr Sonya Dewi, the country coordinator from ICRAF, gave an overview of the experiences in Indonesia. The workshop was also an opportunity to discuss and confirm plans for agroforestry with experts.

A second workshop on agroforestry in ERCs in Indonesia was held in March 2018, with 46 participants from other ERCs, the Ministry of Environment and Forestry (MoEF), academics and NGOs. Presentations at the workshop included those from two directors of MoEF (one from FORDA), representatives from two ERCs, ICRAF and Bogor University of Agriculture for Terms of Reference for the Workshop. Examples of the role of agroforestry in landscape restoration (both global and Indonesian, incl ERCs) were presented and discussed, as well as its role in improving land productivity and economic resilience.

#### ***Activity 3.2 ERC policy recommendations and lessons learnt developed and submitted by BI and FORDA to MoEF***

Following the workshop in March 2018, policy recommendations were drafted and will be discussed with FORDA for finalisation. The recommendations will then be presented to the DG of FORDA, for further discussions with the Minister of Environment and Forestry ([Annex 14](#))

#### ***Activity 3.3 Lessons shared with ERC Association and other key stakeholders via papers and workshops***

As secretary of the ERC Policy Forum, BI organised two workshops to share lessons learnt and provide a space for discussion among ERCs. The first workshop was on Conflict Resolution in Dec 2016 and the second was on the role of agroforestry in landscape restoration in March 2018.

It was also an opportunity for PT REKI to share its experiences on agroforestry implementation in Harapan.

### ***Activity 3.4 Guidelines on community development in ERCs developed and circulated to key stakeholders.***

A write-shop was held after the workshop in March 2018 and it produced an outline for a draft policy brief on the role of agroforestry in landscape restoration. This will be finalised and shared with the other ERCs in Y3 of the project.

## **3.2 Progress towards project Outputs**

**Output 1:** The project **completed** a survey of 477 households in HH to include economic data (1.1), farm systems (1.2) and impediments to agroforestry uptake (1.3), in the form of a single consolidated survey instrument in April 2017 (EOM9). Evidence of this is the questionnaire which was developed, translated, tested and revised accordingly (shared in AR Y1 - 2016/17). An analysis report of the survey was **completed** (EOM13 and shared in Half-Year Report Oct 2017) and additional analysis carried out, which is being used to inform the activities carried out under the Project. Indicator 1.5 Develop and conduct livelihoods impact survey of 150 participating and 150 non-participating families by EOM33 to measure impact of project interventions will be carried out in Year 4 of the Project (April/ May 2019).

**Output 2:** Four agroforestry systems (2.1) using rubber, fruits trees and wood species were finalised and included in the Standard Operating Procedures in Y2 - **completed**. A total of 25 stakeholder workshops and socialisation sessions involving 423 participants were held and an area of 50 ha is being managed according to the SOP adopted by PT REKI. Agreements have been obtained from 351 families so far to collaborate on agroforestry on land being managed by them, covering an area of 2,942ha. More negotiations are underway. Demonstration plots have been established collaboratively between PT REKI and the local communities on 8ha using the SOP adopted by PT REKI. These serve as on farm trials to inform the local communities re best practices for agroforestry. Biodiversity protocols and datasets have been designed and finalised. Training on the use of these protocols was provided for PT REKI staff Feb and March 2018. Surveys will be carried out in May 2018. Initial assessment of forested land across Harapan was completed using historical change alert updates to land change being made using Global Land Analysis and Discovery. Training of independent enumerators for the household survey was held in early March 2017 and five REKI and two Burung staff assisted the team in organising the surveys, led by Freya St John from the University of Kent. These enumerators will be involved in the re-survey in Y4 of the Project.

**Output 3:** Draft policy brief on the role of agroforestry in landscape restoration has been prepared and is being discussed with FORDA, with the intention to submit to the Minister of MoEF. Workshops in Dec 2016 & March 2018 shared lessons and provided the space for discussion between ERCs on the role of agroforestry in ecosystem restoration. The Policy brief will also act as guidelines on community development. More work will be needed to make the information more palatable for the wider public.

## **3.3 Progress towards the project Outcome**

Analysis of the household survey informed the selection of activities and agroforestry models to be implemented. Awareness raising of importance of agroforestry for improved livelihoods conveyed through stakeholder discussions & workshops, participatory sessions with farmers, and being implemented through long-term agreements with local communities. Posters, stickers and a calendar on agroforestry models and best practices were printed and distributed among local communities. Planting in the 8ha on-farm trial still in progress. Training of staff to conduct biodiversity monitoring using drafted protocols was carried out in Feb and March 2018. The area of forest clearance is being monitored and the social fence of the rubber buffer is being established through agroforestry development with the local community. The management has adopted agroforestry as a central tenant of its community development programme through discussions to establish an agroforestry plan for the concession. Activities to influence ERC policy on agroforestry were initiated through 2 workshops. A policy brief was drafted and will be finalised in Y3 of the project. Workshops on agroforestry in ERCs was attended by 3 other ERCs and discussions re the role of agroforestry in ecosystem restoration is ongoing.

### **3.4 Monitoring of assumptions**

The assumptions identified in the logical framework in the project document still apply at this stage of the project.

### **3.5 Impact: achievement of positive impact on biodiversity and poverty alleviation**

BI has engaged with policy makers through the ERC Policy Review Forum and Partnerships for Forest (P4F) on identifying livelihoods options and NTFP business markets. P4F is in the process of formulating specific business plans for the identified forest products. In collaboration with the DANIDA project, PT REKI established a rubber processing facility to collect latex from local farmers. It has put in place equipment and processes for producing rubber sheets as value-added products from the ERC. This should serve as an incentive to local farmers towards the rubber agroforestry and resulting potential to generate income through rubber.

Sharing of experiences of BI and PT-REKI, with other ERC managers through the ERC Association continued under the Project. The project has been raising awareness of agroforestry as an alternative to monoculture plantations to forest edge and encroacher communities through project activities thus far. In the past year, the workshops on agroforestry with government agencies, involving research institutes, have made progress on current discussions concerning the role of agroforestry in ecosystem restoration and biodiversity.

## **4. Contribution to the Global Goals for Sustainable Development (SDGs)**

The agreements signed by PT-REKI with the communities form the basis of collaborations that will ensure reduced deforestation and sustainable resource use. Ultimately, this will contribute to reduced deforestation and sustainable resource use across the entire ecosystem restoration concession under the management of PT-REKI and enhance the livelihoods of the people living within and alongside the concession. This will directly contribute to SDG15 (Sustainable use of terrestrial ecosystems), SDG13 (Climate change action) and SDG1 (No Poverty). Indirectly, the project also contributes to SDG2 (Zero hunger), SDG3 (Good health and well being), SDG5 (gender equality) through ensuring a sustainable and fair use of natural resources, and providing opportunities for work and cash income for women.

## **5. Project support to the Conventions, Treaties or Agreements**

Convention on Biological Diversity (In-situ Conservation, articles 8c/8f/8i/8j). The project will promote management of biological resources for sustainable use, through rehabilitating and restoring degraded ecosystems across 100,000ha of lowland forest.

Sustainable Use of Components of Biological Diversity (article 10a-e). Customary uses of the forest resources will be incorporated into the design of agroforestry options. The experiences gained at HH will be advocated to national decision makers through the national ERC forum.

Research and Training (article 12b/c). The project will contribute to research on livelihoods, agroforestry and conservation. Staff at BI and PT-REKI will be trained in the design and implementation of research components.

Technical and Scientific Cooperation (articles 5,18). Cooperation between the UK (RSPB, UK and UE) and Indonesian partners, and through the ERC policy review process and ERC Association, will result in improved capacity and policy.

Aichi Biodiversity Targets. The project will contribute to the following Aichi targets: 1(people aware of biodiversity values), 4(sustainable natural resource exploitation), 5(reduce habitat loss), 14(ecosystems contribute to livelihoods), 15(ecosystem resilience through restoration), 18(traditional knowledge for biodiversity conservation).

The project contributes to the illustrative goal #9 'Manage Natural Resource Assets Sustainably' of the High-level Panel on the Post-2015 Development Agenda, which the UK, Indonesia (and Liberia) co-chaired.

## **6. Project support to poverty alleviation**

The four groups of Batin Sembilan live below the national poverty line. Under the Project, these local communities are given security of their land tenure through the identification of the boundaries of their land in the land use agreements signed with PT REKI. They are, therefore, able to utilise their land for long-term economic benefits while protecting the social and ecological aspects of HH. Recent involvement in agroforestry and the supply of good quality seedlings of rubber, fruit trees and fast-growing timber species would also help improve income for local communities in the long term. Cash crops have also been planted in these demplots which have helped generate immediate income for local communities.

## **7. Project support to gender equality issues**

The household survey instrument was designed to allow the Project to investigate the contributions of men and women to agricultural labour and the differences between genders in their control of land, livestock and natural resources. In addition, agroforestry has repeatedly been shown to contribute to improved gender equity in projects, through facilitating women's access to cash income, and increase women's participation in the agroforestry process. During consultations and planning for agroforestry, women have made up about 25 % of participants in group meetings. The participation of women in agroforestry development is about 50%, and more (60%) in agroforestry development for planting rice, corn, chili and vegetables. The participation of women in rubber planting has been slightly lower (40%). The project continues to seek the involvement of women in its activities.

## **8. Monitoring and evaluation**

Progress in project implementation has been monitored through the documentation of outputs and indicators for each activity. Two qualitative indicators were produced, namely Rubber Agroforestry Conceptual Models and Agroforestry Standard Operating Procedures. **Quantitative indicators** using **independently verifiable measures** documented during the last project period included photocopies of agreement documents, and Unmanned Aerial Vehicle images of forest cover change.

The implementation plan was developed during the early stages of the project (see Annex 8). The management team comprising the project leader, staff of RSPB and PT REKI, met on Skype regularly to review progress on implementation of activities. Meeting notes are written and shared, which identify the actions needed following the meetings and these are reviewed at the following meeting.

## **9. Lessons learnt**

The project could identify rubber agroforestry models based on experiences in Indonesia which act as sources of income for the local communities. However, negotiations with the local communities have taken longer than expected to reach an agreement, especially because it involved local government agencies who were not always available. Raising awareness and gaining the acceptance of local communities to accept agroforestry and the system proposed by the project also required more time than anticipated. Negotiations are also complicated by feelings that the expectations of communities have not always been met in the past. The Project is hoping that when the local communities see the successes in the demplots, acceptance of the agroforestry would increase at a rapid rate. The Project will use farmers who have adopted good agroforestry practices as an example to other farmers to encourage a greater uptake of agroforestry among local communities.

## **10. Actions taken in response to previous reviews (if applicable)**

Not applicable.

## 11. Other comments on progress not covered elsewhere

This Project was designed to complement the overall Danida Programme of work at Harapan, especially in agroforestry. Delays in payments by Danida has affected the ability of this Project to deliver on time and achieve the necessary progress especially in terms of planting in the demonstration plots. To date, the area planted according to the agroforestry models proposed by the project has been 50ha. There are currently immediate plans to plan up to 100 ha by the end of 2018, but this is work in progress and targets will be adjusted according to limitations on the ground during implementation.

## 12. Sustainability and legacy

The development of agroforestry models and SOP for agroforestry has helped to increase capacity in PT-REKI and Burung Indonesia. The signing of land use agreements between PT REKI and the local communities is also being facilitated by the local and national governments; through this exercise the stakeholders are learning about conflict resolution and how to overcome some of them.

The rubber feasibility study was conducted by SNV under the Partnership for Forests project. The partners are now in discussion about how to attract impact investors to ensure that the feasibility study can be put into action as a business plan. Other business ideas are also being pursued according to market demand, such as the potential for oudh oil from Agarwood (Gaharu) and fast-growing timber, as well as NTFPs like dragon blood etc.

## 13. Darwin identity

The Darwin Initiative funding formed part of a larger programme at HH which was funded by Danida, but had a clear identity in promoting agroforestry with the local communities. Staff at PT REKI and BI, and all the partners are familiar with the support provided by Darwin. This year the project printed stickers, calendars and posters carrying the Darwin logo and these were distributed through the project activities with local communities, government agencies and other stakeholders, both locally and nationally.

## 14. Project expenditure

**Table 1: Project expenditure during the reporting period (1 April 2017 – 31 March 2018)**

Project spend (indicative) since last annual report	2017/18 Grant (£)	2017/18 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs			97.8%	figures are indicative
Consultancy costs			0	
Overhead Costs			78.8%	
Travel and subsistence			72.2%	
Operating Costs			98.7%	
Capital items			115%	
Monitoring & Evaluation (M&E)			77.7%	
Others			75.5%	
<b>TOTAL</b>				

\* All financial figures are currently still being compiled, as part of the financial report.



## Checklist for submission

	Check
<b>Is the report less than 10MB?</b> If so, please email to <a href="mailto:Darwin-Projects@itsi.co.uk">Darwin-Projects@itsi.co.uk</a> putting the project number in the Subject line.	Yes
<b>Is your report more than 10MB?</b> If so, please discuss with <a href="mailto:Darwin-Projects@itsi.co.uk">Darwin-Projects@itsi.co.uk</a> about the best way to deliver the report, putting the project number in the Subject line.	No
<b>Have you included means of verification?</b> You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Yes
<b>Do you have hard copies of material you want to submit with the report?</b> If so, please make this clear in the covering email and ensure all material is marked with the project number.	No
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	