



## Darwin Initiative Main/Post/D+ Project Half Year Report

<b>Project reference</b>	25-001
<b>Project title</b>	Preventing Borneo's peatland fires to protect health, livelihoods and biodiversity.
<b>Country(ies)/territory(ies)</b>	Indonesia
<b>Lead organisation</b>	University of Exeter
<b>Partner(s)</b>	Borneo Nature Foundation
<b>Project leader</b>	Dr Frank Van Veen
<b>Report date and number</b>	HYR2
<b>Project website</b>	<a href="#">BNF Website</a> ; <a href="#">BNF Facebook</a> ; <a href="#">BNF Twitter</a>

### 1. Outline progress over the last 6 months (April – Sept) against the agreed baseline timetable for the project (if your project has started less than 6 months ago, please report on the period since start up to end September).

The project continued with the implementation phase as expected during this period, proceeding according to our road-map and reaching our desired milestones. Unfortunately a very severe drought set in at the start of the annual dry season in July, the start of the worst peatland fire season since 2015. Fighting the peatland fires has been the major priority during this period, for which the MPA fire-fighting teams established in the first phase of this project have worked superbly well and justified their existence. These teams have made an incredible effort to prevent any major fire damage in our working area. Other parts of Kalimantan were less fortunate.

During this time period we have achieved and developed the following activities:

#### A. OVERALL PROGRAMME DEVELOPMENT

**Monitoring and Evaluation:** We continued carrying out the M&E activities in all project areas, improving and enhancing some of them as suggested in the Annual Report review. Most of the pending baseline data to which the impact of our activities will be compared against has been compiled.

**Stakeholders and partnerships development:** We have successfully developed strategic partnerships with our implementation partners in the Indonesian government. A MoU with the Sebangau National Park has been signed and the project/annual work-plan for the next 5 years agreed and approved. Collaborations with other key stakeholders including Community Fire-fighting teams, the Departments of the Environment, Forestry, and Education, Disaster Management Agency and Central Kalimantan Development Planning Agency are positive and successful, and support our work in Kalimantan.

**Implementation team's development and coordination:** The BNF implementation teams (Education, Conservation, Research and Communication) are working effectively and have met the objectives and milestones as planned. An internal Darwin Initiative Project working group has been established, including senior members of each team, in order to ensure effective coordination and implementation.

#### B. FIRE FIGHTING ACTIVITIES

From August through end - October, about 17,000 MODIS and 80,000 VIIRS hotspots were identified in Central Kalimantan. Most of these hotspots were in peatland and several developed into forest fires, and a poisonous smoke haze developed. In response the Indonesian government declared a state of emergency. 2019 saw a very early onset of the dry season and the drought continued with almost no rainfall for three months, overall this was the worst fire season since 2015 and the third worst in the past three decades. Approximately 5% of hotspots were located in protected forest. Notably in the Sebangau National Park (SNP) region, the Community Fire Fighting units (MPA), which we established under this Darwin project, worked round the clock locating and tackling fires. Despite hundreds of hotspots burning on the border of the Sebangau National Park, only a few of them reached the forest and no sizeable areas of forest were lost.

**Supporting Community Fire-Fighting teams:** Five fire-fighting units were mobilised in the northern region of the SNP. BNF provided fire-fighting and safety equipment; operational funds for additional manpower, subsistence and travel and drove several dozen deep-wells in the forest edge. At the time of writing these teams are still active. Once the wet season starts we will compile the daily reports and analyse the impacts of the 2019 fires and the effectiveness of our response.

**Fire-fighting coordination:** As in 2018, BNF facilitated the coordination and integration of activities between the Community Fire-fighting teams and the Disaster and Fire Fighting Management Agency (BPBPK). Despite the huge challenge that this represented; we managed to implement not only joint patrols and socialisation activities, but also joint fire-fighting efforts, bringing different teams and community members together.

**Drones supporting fire-fighting activities:** BNF provided thermal-camera technology mounted on aerial drones to support location of hotspots, identify critical areas and plan the fire suppression strategy with minimum risk. We organised a workshop in September to socialise the new technology and introduce a new collaborative project between the University of Palangkaraya – UPT CIMTROP and Liverpool John Moores University.

### C. HABITAT RESTORATION

**Community nurseries development:** Despite the state of emergency, the community nurseries continued their activities as planned in order to reach the targets for the up-coming planting season (end of 2019); with a total of 20.000 trees planned to be planted.

**Women's group:** The women's groups continued their activities supporting the community nurseries and crafting organic polybags so we have a large stock for the next planting season.

**New Seedling nursery:** a new seedling nursery has been built in a burned area of forest, in order to have an *in situ* stock of seedlings to replant there. Thousands of young trees will be moved there in the next few months ensuring a good acclimation before being planted in the restoration plots.

**Canal Mapping:** Before the dry season arrived in June, all the canals in the Bakung river were mapped, and the feasibility of building dams here was assessed, in advance of plans to block more canals here in 2020. No Canal-blocking activities take place during the dry season because access is restricted. The hydrology restoration team focused on small repairs and filling up old double-wall dams with new peat, to ensure the dams remain efficient when the wet season starts.

**Hydrology monitoring:** The hydrology monitoring activities continued as planned, with the monthly monitoring of the 7 canals and 40 ground water levels in the forest edge.

### D. ENVIRONMENTAL EDUCATION AND CONSERVATION AWARENESS

**Schools:** The BNF Education Team worked with a total of 16 local schools in Central Kalimantan and developed new synergies with Sebangau National Park, the Central Kalimantan Education Department. We introduced formal environmental education modules in 2 new schools, reaching 88 children and 3 teachers. The monitoring and evaluation system for these modules have been reviewed and improved and a new database implemented. A total of 49 children from 5 schools visited the Sebangau forest.

**Sebangau Children's Group:** a total of 52 environmental education activities have been implemented this period. Evolving from the "Anak Sebangau" group, a new teenagers' group (the "Rangers club") has been formed by 25 teenagers from Kereng Bangkirai Village. These children are acting as forest ambassadors and inspiring new generations to care about forest and wildlife conservation.

**BNF Environmental education volunteers:** the education division established a group of 15 volunteers to support the environmental education activities.

**Gibbon Goes to School:** the story-telling activity which raises awareness about forest fires, surpassed our expectations by reaching 404 children and 34 teachers in 6 months.

### E. RESEARCH

The Sebangau Research team continued biodiversity monitoring activities, with the exception of September when they were postponed owing to the fires and haze. Activities included transect surveys of primate density and camera-trapping studies of other mammals, monthly forestry and phenology surveys and fish populations monitoring, examining the impacts of dams on fish populations.

### E. OUTREACH

During this time period the Communications team has promoted Darwin initiative-related activities by sharing and posting stories and information on BNF social media including Twitter and Instagram and on the BNF website. A selection of the most relevant stories include:

Conservation: [Thermal Drones](#), [Community Fire-fighting Teams](#), [Forest fires awareness](#), [Fire-fighting emergency first-hand story](#), [Fire situation in Borneo](#), [Forest fires underlying issues](#)

Environmental Education: [Sebangau Rangers](#), [School activities](#), [Forest field trips](#), [Primate conservation awareness](#), [Sebangau Rangers nature club](#), [Community Seedling nurseries and education](#)

Research: [Impacts of forest fires on orangutans](#), [Gibbon and edge effect](#)

Partnerships development: [MoU Sebangau National Park](#),

Selected publications: [Thermal-Drones as a Safe and Reliable Method for Detecting Subterranean Peat Fires](#); [Tropical forest and peatland conservation in Indonesia: challenges and directions \(Accepted manuscript\)](#)

Videos produced: [Borneo is burning](#), [Drone thermal visual to support Community Firefighting Team](#), [Borneo is burning again!](#)

**2a. Give details of any notable problems or unexpected developments/lessons learnt that the project has encountered over the last 6 months. Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.**

The primary difficulty during this period has been the fire emergency that arrived earlier than expected and was much bigger than expected. Preventing forest fires is the major theme of this project, so having to deal with huge forest fires just 15 months into the project has been a major challenge. Fortunately our earlier work to establish community fire-fighting teams proved highly effective and their response was excellent and far greater than we could have expected. Dealing with fire outbreaks on an almost daily basis, they kept the fire out of primary forest throughout our working area, and proved the effectiveness of in situ community teams on the ground.

The fires and associated haze crisis affected our research and monitoring activities, with some activities having to be postponed during September. Canal-blocking doesn't take place during the dry season, the community nurseries continued to operate and our education activities continued as planned. The fires also provided opportunity for our education teams to feature this prominently and for our drone teams to trial drone-mounted thermal cameras to support the fire-fighting teams, and for closer integration with government departments. There is no perceived impact on budget or timetable arising.

**2b. Have any of these issues been discussed with LTS International and if so, have changes been made to the original agreement?**

Discussed with LTS:	<b>No</b>
Formal change request submitted:	<b>No</b>
Received confirmation of change acceptance	

**3a. Do you currently expect to have any significant (e.g., more than £5,000) underspend in your budget for this year?**

Yes  No  Estimated underspend: £

**4. Are there any other issues you wish to raise relating to the project or to Darwin's management, monitoring, or financial procedures?**

N/A

**If you were asked to provide a response to this year's annual report review with your next half year report, please attach your response to this document. Additionally, if you were funded under R24 and asked to provide further information by your first half year report, please attach your response as a separate document.**

Please send your **completed report by email** to Eilidh Young at [Darwin-Projects@ltsi.co.uk](mailto:Darwin-Projects@ltsi.co.uk) . The report should be between 2-3 pages maximum. **Please state your project reference number in the header of your email message e.g. Subject: 22-035 Darwin Half Year Report**