



PERHIMPUNAN PELESTARIAN BURUNG LIAR INDONESIA

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Perihal: Program Beasiswa Doktorat (PhD)

Burung Indonesia bekerja sama dengan Unit Manajemen Hutan Harapan dan *Forest and Landscape Denmark of University of Copenhagen* tengah melaksanakan program beasiswa doktorat tentang restorasi hutan hujan dataran rendah Sumatera di Hutan Harapan, Provinsi Jambi dan Provinsi Sumatera Selatan. Program ini didukung oleh *Danida Support to Harapan Rainforest (DSHRF) Programme*. Sehubungan dengan hal tersebut, mohon agar informasi ini dapat disebarluaskan di lingkup Sekolah Pascasarjana ITB.

Informasi lengkap tentang program beasiswa dimaksud dapat dilihat pada lampiran.

Demikian hal ini disampaikan. Atas perhatian dan kerjasama Bapak, diucapkan terima kasih.

Salam hormat,

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Tembusan, disampaikan kepada:

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Burung Indonesia/BirdLife Indonesia Association is a member of the BirdLife International Global Partnership

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PhD Scholarships on Restoration of Tropical Lowland Rainforest in *Hutan Harapan*, Indonesia

Background

Tropical rainforests are being converted to other land uses at a high rate. For the Sumatran lowland rainforest, one of the most diverse forests types in the world, it is estimated that only 2-3% of the original forest remains. Much of this remaining forest has furthermore been exploited by commercial logging, and the remnant forests now appear as islands in the landscape, surrounded by plantations of commercial species such as oilpalm and rubber. This is especially problematic for long term stability and forest dynamics because small patches of forest are poor habitats for endangered flora and fauna. As a countermeasure to forest degradation, to rehabilitate degraded forest and to expand forest patches, new initiatives are being developed in large-scale forest restoration. One of these is the *Hutan Harapan* (Harapan Rainforest) initiative.

The mission of *Hutan Harapan* is to protect and restore 100.000 ha of tropical lowland rainforest in Jambi and South Sumatra. Supported by Danida through the Danida Support to Harapan Rainforest (DSHRF) project, *Hutan Harapan*, is presently offering 2-4 PhD scholarships for Indonesians in collaboration with University of Copenhagen. The topics are:

Research topic 1: Silviculture of restoration of tropical lowland rainforest

Different forms of forest restoration in South East Asia were developed through the 20th century. A range of techniques have been developed, ranging from little or no intervention (natural succession) to intensive manipulations of the ecosystem. Re-creation of the forest diversity is believed to be dependent on level of degradation, the particular environment (including distance to the nearest forests) and the combination of species applied. However, scientific knowledge that can guide restoration efforts is still scarce. The proposed PhD study will develop silvicultural knowledge relating to restoration focussing on the following topics:

- i) *Efficacy of different approaches to restoration* with respect to re-creation of species diverse forest communities, investments and establishment under different levels of degradation. Based on field trials, species composition of different restoration regimes will be followed to make recommendations for efficient restoration of vegetation and habitats for fauna.
- ii) *Species ecology and performance under different restoration forms*. Tree species have differential responses to different biotic and abiotic growth conditions, and knowledge hereof is essential to management decisions on restoration strategies. Field trials will be used to follow growth of - and interaction between - selected species under several restoration regimes, thus characterising optimum conditions for restoration of individual species.

The results will be of great importance to scientists and foresters interested in protection and regeneration of lowland tropical rainforest biodiversity.

In *Hutan Harapan*, a range of different forest and land cover types are available, and the PhD project will, based on *Hutan Harapan* as a case study, answer the following key research questions:

- i) consistent estimators and statistical properties across sampling scale and time applying state of the art statistical methods,
- ii) spatial statistics specifically related to combination of multiple scale inventories and components,
- iii) evaluation and documentation of the estimated carbon pools and the relation to the different forest and land cover types in the *Hutan Harapan*.

The end product of the case study is to provide a reliable estimate for carbon storage and sequestration in *Hutan Harapan* related to forest and land cover types, considering the requirements of carbon standards used to develop REDD projects. The results and the methods developed and tested will be of great importance to scientists and foresters interested in protection and restoration of lowland tropical rainforest and the impact on carbon pools.

Research topic 4: Socio-economics of restoration

Over the last decade, increasing attention has been paid to socio-economic aspects of rural development in developing countries. There has been growing recognition of the needs to understand social dimensions of development to ensure that interventions lead to improvements in the livelihoods of households. One key area where greater understanding of social dimensions has been sought is with regard to the values of goods and services derived from indigenous plants. Forests can make a significant contribution to local and national production and economic growth as well as provide a range of services and benefits to local people. Many of the products collected from forests are consumed at home or traded only locally, and few products find their way into formal markets. Consequently, there is little appreciation in government or planning for their importance in rural livelihoods and their potential to local economy. The proposed PhD study will investigate the role of forest products, in particular non forest timber products, in rural households and examine markets for forest goods.

Key research questions are:

- 1) Document useful plants of *Hutan Harapan* and estimate household dependence on and incomes from these resources. This may include use in nutrition, medicine, culture as well as generation of monetary income.
- 2) Investigate trade chains and market potentials for a number of indigenous forest products

The ultimate objective will be to devise strategies leading to improved benefits from restored tropical forests.