



Darwin Initiative Papuan Plant Diversity Project

Darwin Initiative for the Survival of Species

Annual Report

1. Darwin Project Information

Project title	<i>UK Darwin Initiative Papuan Plant Diversity Project</i>
Country(ies)	<i>Papua, Indonesia</i>
Contractor	<i>Royal Botanic Gardens, Kew (RBG Kew)</i>
Project Reference No.	<i>162/10/018</i>
Grant Value	<i>£147990</i>
Start/Finishing dates	<i>10/2001 – 10/2004</i>
Reporting period	<i>Year 1</i>

2. Project Background

The Herbarium is at the Biodiversity Study Centre (PSKH), Universitas Papua Negeri (UniPa), Manokwari, Papua, Indonesia. This is the only plant diversity reference collection in Papua, one of the least studied and most diverse areas of the humid tropics. Its important collections of nearly 20 000 specimens are in urgent need of rehabilitation.

3. Project Objectives

The primary objective of the project is to develop the research capacity in plant diversity at PSKH through the rehabilitation of the Herbarium, the renovation and development of the herbarium collections, and through the training of staff in curation and research. With well-curated and expertly named herbarium collections as a basic reference, and with training in fieldwork and research, the staff of the Manokwari Herbarium are being empowered to play an active role in the surveying of remaining natural vegetation in Papua, essential for the effective conservation of the region's biodiversity.

The objectives and operational plan remain the same as originally conceived, though some modifications to implementation have been made with approval from the Darwin Secretariat.

4. Progress

Representatives from PSKH, and RBG Kew attended the Fifth International Flora Malesiana Symposium, Sydney, Australia. Charlie Heatubun visited RBG Kew to work on the Field Guide to the Palms and Rattans of New Guinea for four months from July 2001. Damien Hicks started work in October 2001, beginning with an Indonesian language course, searching for books and equipment for PSKH, opening communication lines within Indonesia, and initial planning for the Field Guide to Papuan Seed Plants. One co-authored paper was submitted to Kew Bulletin.

In spite of much correspondence with immigration authorities in Jakarta, Biak and London, obtaining the necessary papers to work in Manokwari presented many difficulties and at the same time two other Kew staff were refused research permits from LIPI, Jakarta, to do fieldwork in Papua, not directly related to the Darwin project. Knock-on effects from events in New York on 11 September, and the assassination of Papua's leading local representative in November, may go some way to accounting for the reluctance of officials in Jakarta to allow westerners to enter this unstable province.

A non-research visa of reduced duration was granted from Jakarta in February and Damien embarked for first period in Manokwari in March. Books and equipment were transported from London and discussions were held in Bogor Herbarium, Jakarta, on tropical curation methods and the procurement of equipment within Indonesia.

Damien co-ordinated herbarium rehabilitation work in Manokwari and held regular meetings with project partners. Basic structural renovation was carried out and more will be required. Training of technicians was started on an informal basis, and plans were formulated for fortnightly workshops on curation and plant family identification. Further equipment was purchased with project funds and transported from Jakarta by Rudi Maturbongs.

There are some peculiarities in working within UniPa. The college is in the process of becoming an independent university, concurrent with its endeavour to implement a regional autonomy programme. The province of Papua is in a period of flux and instability.

Damien returned to UK in July, spending the last week of the month in Leiden making plans for a computerised version of the Field Guide to Papuan Seed Plants in collaboration with several staff from the Rijksherbarium and Kew. Jack Wanggai and Rudi Maturbongs visited RBG Kew for one month from September, working on the Field Guide to the Palms and Rattans of New Guinea with Roy Banka (visiting from Lae, PNG) appraising RBG Kew's curation methods and holding regular discussions regarding Manokwari Herbarium. As I write, Jack and Rudi are en route in Jakarta searching for more herbarium equipment and discussing foreign visas with immigration officials, in particular the possibility of fieldwork in Papua.

Please consult Appendix 1 for a work plan for the next period. Dates have been changed to reflect a delayed start to the project and bureaucratic obstacles in Indonesia. Following discussion with the Darwin Secretariat, funds for an extended UK visit by Rudi Maturbongs were instead used to pay for a MSc course for him in Jakarta.

5. Partnerships

Existing good institutional relations were strengthened by visits from the UK Project Leader and Coordinator. Direct interaction with some motivated but under-resourced individuals has reminded us all of our far-reaching aims.

A university forum was held in June to explain the purposes of the collaboration to all interested UniPa parties. PSKH staff assisted with translation of a DIPDP brief to Indonesian for this process.

The infrastructure of Manokwari is in much need of development and acts as a substantial drag on UniPa's progress. Transportation and communication is difficult and most of the herbarium equipment must be shipped over from Jakarta.

Planned discussions are to take place with contacts in herbaria in Java, Sulawesi, Kalimantan, and Lae, PNG, in relation to their invitation to the planned Herbarium Techniques Course in February. It is hoped that nationwide institutional collaboration can be catalysed via the DIPDP to the benefit of Indonesian and New Guinean botanical biodiversity work.

The project group formulated a document regarding fieldwork for the Herbarium Techniques Course with RBG Kew's Conventions and Policy Section (Appendix 2), to assist future permit applications. This maintains RBG Kew's commitment to the spirit of the Convention on Biological Diversity whilst attempting to open channels for collaborative fieldwork in Papua. Later discussions were held with Dedi Darnaedi, Head of Kebun Raya Bogor, regarding visa procurement for this sensitive area.

6. Impact and Sustainability

The concept of our exit strategy is regularly discussed with PSKH leaders and the move towards greater independence is taken as a serious issue. It is hoped that the combination of infrastructural development of Manokwari and greater collaboration with other herbaria in the region might eventually put Herbarium Manokwariense on a sustainable footing.

Increasing interest and capacity for biodiversity can be seen on the images taken during the Project Coordinator's visit (slides available).

7. Outputs, Outcomes and Dissemination

Table 1. Project Outputs (According to Standard Output Measures)

Code No.	Quantity	Description
<i>Flora</i>	<i>3 Manokwari</i>	
<i>Malesiana</i>	<i>staff + 3 Kew</i>	
<i>Symposium</i>	<i>staff</i>	
<i>Herbarium cupboards</i>	<i>1 Trial version</i>	
<i>Air conditioning</i>	<i>4 units + installation</i>	<i>Some of this funding also invested in making room safe for collections. Less than half of this budget spent.</i>
<i>Freezer for pest control</i>	<i>1</i>	

<i>Herbarium resources</i>		<i>Archival glue, acid-free paper, archival materials</i>
<i>Plant collecting equipment</i>		<i>Webbing, secateurs, folding saws</i>
<i>GPS unit</i>	<i>1</i>	
<i>Hand lenses</i>	<i>30</i>	
<i>Laptop PC</i>		<i>for UK project co-ordinator</i>
<i>Desktop PC and printer + Software</i>	<i>2</i>	<i>for Manokwari Herbarium</i>

Table 2: Publications

Type * (e.g. journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (e.g. contact address, website)	Cost £
<i>Journal</i>	<i>A monograph of Sommieria (Arecaceae), C.Heatubun, 2002</i>	<i>Kew Bulletin</i>	<i>www.rbgkew.org.uk</i>	
<i>Journal</i>	<i>..., R.Maturbongs, (in press)</i>	<i>Kew Bulletin</i>	<i>www.rbgkew.org.uk</i>	
<i>Journal</i>	<i>A new species of Pittosporum from Anggi Lakes, Papua, D.M. Hicks & T.M.A. Utteridge, 2002</i>	<i>Kew Bulletin</i>	<i>www.rbgkew.org.uk</i>	
<i>Journal</i>	<i>Papuan Plant Diversity, Issue 22 Oct 2002</i>	<i>Kew Scientist</i>		
<i>Journal</i>	<i>Progress Report on the DIPDP, 2002 (in press)</i>	<i>Flora Malesiana Bulletin</i>		

Talks have been held with Bogor Herbarium management, Bapak Mohamed Prakosa, Menteri Kehutanan RI, FCO staff, and Megawati Soekarnoputri, the president of Indonesia, regarding this project. A project presentation meeting with all interested parties was held in Manokwari in June.

8. Project Expenditure

Table 3: Project expenditure during the reporting period

Item	Budget	Expenditure
Salaries (specify)		
Rent ,rates heating lighting etc		
Office administration costs		
Capital items/equipment		
Others		
Total		

Fieldwork: Expenditure of the £5000 budgeted for this needs to be postponed for reasons regarding permits, outlined above.

The remaining funds earmarked for Herbarium resources, Air-conditioning and Pest Control for 2001/2002 are to be spent in Jakarta on the Project Coordinators forthcoming trip to Indonesia in late November.

9. Monitoring, Evaluation and Lessons

The UK Project Leader, John Dransfield, visited Manokwari in June. The visit by Rudi Maturbongs and Jack Wanggai allowed the key players to evaluate the project thus far. The project is constantly developing in response to this evaluation and to the changing situation in Papua and the rest of Indonesia.

We are learning and acting on routes to break through bureaucratic obstacles regarding visas and permits in Indonesia.

Quantitative achievement can be described by the acquisition of capital items and equipment, above. Qualitative achievements include one PSKH staff taking a MSc course in Jakarta, three PSKH staff on trips to Kew and Sydney, discussion and informal training with PSKH technicians, the co-authorship of palm papers with PSKH staff.

10. Author(s) / Date

Damien Hicks & Dr John Dransfield

October 2002

Appendix 1: Framework

Year Two: October 2002 – September 2003

Currently, all plans for travel of UK personnel to Manokwari are on hold because of the events in Indonesia, in particular the bombing of a nightclub in Bali, and subsequent travel advisories from the Foreign and Commonwealth Office. Until the situation becomes more settled, our project plans will be seriously disrupted.

- Project co-ordinator continues work back at RBG Kew. Continues work on guide to families of New Guinea seed plants and prepares for second visit to Manokwari.
- August 2002, R. Maturbongs to RBG Kew for 1 month to work on Field Guide to the Palms and Rattans of New Guinea, joined by J. Wanggai for 1 month.
- November 2002, project co-ordinator to Manokwari for six months, continues with work as described above, including two field trips.
- Further acquisition and installation of physical assets and consumables (10 herbarium cupboards, microscope).
- Herbarium database installed.
- Occasional lectures to UniPa students given by project co-ordinator.
- February 2003, project leader to Manokwari for four weeks to discuss progress and participate in fieldwork. Concurrent with Herbarium Techniques Course, staffed by three additional RBG Kew personnel.
- Organisation of two field trips and curation of material collected.
- Early 2003, R. Maturbongs and C. Heatubun visit R. Banka at the Papua New Guinea Forest Research Institute for two weeks to continue collaboration on the Field Guide to the Palms and Rattans of New Guinea.
- End of March 2003 project co-ordinator returns to RBG Kew.
- Approximately six papers submitted to peer-reviewed journals.
- Six papers submitted in year 1 published.
- Project co-ordinator compiles Annual Report.

Year Three: October 2003 – September 2004

- Project co-ordinator continues work at RBG Kew, naming specimens from Manokwari, distributing duplicate specimens, informing Manokwari of identifications, working on repatriation of New Guinea plant data from RBG Kew as required (e.g. key literature, type photographs, duplicates), continues work on guide to families of New Guinea seed plants, prepares for third and final visit to Manokwari.
- May 2003, R. Maturbongs and C. Heatubun visit RBG Kew for one month, and R. Banka for 4 months to finalise Field Guide to Palms and Rattans of New Guinea with J. Dransfield and W. Baker (funded through Palms of New Guinea Project).
- September 2003, project co-ordinator to Manokwari for four months, continues with work described above, including one field trip.
- Further acquisition and installation of physical assets and consumables (5 herbarium cupboards, etc).

- Herbarium database continued.
- Occasional lectures to UNIPA students given by project co-ordinator.
- December 2003, project leader and W. Baker to Manokwari for 2 weeks for supervisory visit, concluding workshop and finalising exit strategy.
- January 2004, project co-ordinator returns to RBG Kew to finalise Field Guide to the Families of Papuan Seed Plants
- March 2004, Field Guide to the Palms and Rattans of New Guinea and Field Guide to the Families of Papuan Seed Plants published.
- Approximately six papers submitted to peer-reviewed journals.
- Six papers submitted in year 2 published.
- Project co-ordinator compiles Final Report.

Appendix 2: HTC and fieldwork proposal

Darwin Initiative Papuan Plant Diversity Project

Proposed Herbarium Techniques Course, February 2003

Introduction

The “Darwin Initiative Papuan Plant Diversity Project” was initiated in June 2001, with funding from the United Kingdom Government’s Darwin Initiative. The project is implemented through collaboration between The Biodiversity Study Centre of the Universitas Negeri Papua UniPa (PSKH) and The Royal Botanic Gardens Kew, United Kingdom (RBG Kew). In 2000, PSKH and RBG Kew signed a Memorandum of Understanding to promote and safeguard such collaboration.

The main objective of the Darwin Initiative Papuan Plant Diversity Project (DIPDP) is to develop research capacity in plant diversity at PSKH through:

- the rehabilitation of the Manokwari Herbarium;
- the renovation and development of the herbarium collections; and
- the training of staff in curation and research.

With well-curated and expertly named herbarium collections to act as a basic reference, and with training in fieldwork and research, the staff of the Manokwari Herbarium at The Biodiversity Study Centre will be able to play an active role in the surveying of remaining natural vegetation in Papua. Such work is essential for the effective conservation of the region’s biodiversity.

One specific element of the DIPDP training programme is the proposed Herbarium Techniques Course to be held in Manokwari in February 2003. RBG Kew provides an International Diploma Course in Herbarium Techniques in the United Kingdom every two years and thus has considerable expertise in such training. The training course proposed in Manokwari provides access to a targeted audience, thereby providing much needed international, national and local co-ordination, and allowing the course trainers to focus on the specific requirements of a tropical area such as Papua, where plant diversity is greatest and yet least explored. Attendees who complete the course will receive an RBG Kew Certificate of Attendance.

The Course

It is envisaged that the course will feature daily workshops in the Manokwari Herbarium and the surrounding local area, followed by associated fieldwork in the Anggi Lakes area in accordance with applicable permits.

Course priorities will be led by PSKH training needs and requests. Subject matter will include:

- The principles of herbarium management;
- Professional curation methods;
- Malesian plant identification;

- The practical value, and accessibility, of herbarium information;
- Plant morphological terminology;
- Tropical herbaria pest-control;
- Botanical report-writing;
- Strength by institutional co-operation;
- Proformae for species descriptions;
- Basic taxonomy;
- Databasing in the herbarium;
- Web-based botanical resources; and
- The role of herbaria in sustainable biodiversity.

The first set of any herbarium specimens collected as part of the associated fieldwork will be deposited in the Manokwari Herbarium, and remaining sets will be deposited for safe-keeping, taxonomic studies and long term conservation in the Herbarium Bogoriense, the RBG Kew Herbarium, and, where numbers of collections allow, other relevant herbaria.

PSKH staff and other interested parties of UniPa will be attending the course. It is proposed to extend invitations to staff from the following institutions:

- Papua New Guinea Forest Research Institute, Lae;
- Herbarium Bogoriense in Bogor, Java; and
- Other Regional Indonesian Herbaria

Visas and Permissions

RBG Kew and PSKH request advice and support from the Ministry of Education to obtain the necessary visas, travel documents and any other appropriate permissions to enable four herbarium specialists from the Royal Botanic Gardens, Kew and the Project Co-ordinator, to travel from the United Kingdom to Manokwari in February 2003 to undertake the activities outlined above.

Please do not hesitate to contact the Project Co-ordinator, Damien Hicks at the Royal Botanic Gardens, Kew, United Kingdom with any enquires arising out of the above.

[End]