



Darwin Initiative for the Survival of Species
Annual Report

Conservation of the Paguyaman Forest
in North Sulawesi, Indonesia

April 2000 - March 2001

1. Darwin Project Information

Project title	<i>Conservation of the Paguyaman forest in North Sulawesi, Indonesia</i>
Country(ies)	<i>Indonesia</i>
Contractor	<i>Imperial College London</i>
Project Reference No.	<i>09/012</i>
Grant Value	<i>£189,960</i>
Start/Finishing dates	<i>Original: April 2000 - March 2003</i> <i>Revised: October 2000 - September 2003</i>
Reporting period	<i>April 2000 - April 2001</i>

2. Project Background

- Briefly describe the location and circumstances of the project and the problem that the project aims to tackle.

The Paguyaman Forest in North Sulawesi, Indonesia, is a site of international importance for Sulawesi's endemic, endangered wildlife. This 31,000 hectare rain forest was formally gazetted as a protected area by the Indonesian government in 1999. It is one of the last strongholds of the babirusa pig in the world. A key feature of the remote and inaccessible site is a large natural salt-lick, which is one of the few places in the world where Sulawesi's endemic and remarkable large mammals can be readily observed.

There is an urgent need for conservation work at Paguyaman as the site is gravely threatened by slash-and-burn clearance and illegal logging. Throughout North Sulawesi the endangered and legally-protected babirusa is being hunted to extinction over an expanding area. The project is taking innovative approaches to forest protection and conservation activities, including pioneering use of special army forces to assist in forest protection, income-generating activities to establish sustainable livelihoods around the reserve, community participation in reserve management and public education and training programmes.

3. Project Objectives

- State the purpose and objectives (or purpose and outputs) of the project. Please include the Logical Framework for this project (as an appendix) if this formed part of the original proposal or has been developed since, and report against this.

The purpose of this project is to establish a functioning nature reserve at the Paguyaman Forest. The project objectives are:

- 1) To establish a functioning 31,000 hectare rain forest nature reserve, including reserve infrastructure, protection activities and mobile anti-poaching unit.
- 2) To establish a Darwin training centre at this site and conduct training courses here at all levels (from local schools to post-graduate students) and for all sectors of society.
- 3) To produce and implement management plans for the future protection and development of the reserve.
- 4) To conduct internationally-recognised research on a wide range of endemic, endangered and economically important wildlife and plant species within the reserve, with a focus on sustainable uses of rain forest products and the needs of local people.
- 5) To establish strictly controlled eco-tourism activities and other innovative income-generating activities at the reserve and ensure that these are structured to benefit local communities.
- 6) To conduct public education campaigns to increase local and regional understanding of, support for and participation in nature conservation.
- 7) To found a conservation NGO, based at the reserve, to support and publicise the work of the project and to carry it forward at the end of the Darwin project.

- Have the objectives or proposed operational plan been modified over the last year and have these changes been approved by the Darwin Secretariat?

The objectives have not been modified. The project timetable has been delayed by six months due to the project's late start, which was due to contractual delays. This meant that project activities in North Sulawesi began in September 2000. The revised project implementation timetable was submitted to the Darwin Secretariat in October 2000 (as part of the 6-monthly monitoring form).

4. Progress

- Please provide a brief history of the project to the beginning of this reporting period. (1 para.)

This project builds on extensive foundation work carried out at Paguyaman over the last ten years by one of the project leaders (LMC). This included presentations to two Indonesian Ministers of Forestry (1997,1998) during the tenure of a previous Darwin

Initiative funded project, resulting in the formal gazetting of this reserve in 1999. Extensive protection activities were carried out continuously between 1989-99 to ensure that this globally important site for biodiversity was not destroyed by illegal timber removal, wildlife poaching and slash-and-burn clearance.

Project preparatory activities and essential reserve protection action were carried out between June to October 2000, despite the project's delayed start. These included:

- work with local North Sulawesi television (TVRI) on a documentary on the Paguyaman Reserve and the babirusa (June, July). This documentary was awarded third prize in an Indonesia-wide competition between all twenty-six Indonesian provinces and has been shown on national television on four occasions. A copy has been submitted to DETR, and copies have been widely distributed to local NGO's and government offices.
- continuous protection activities at the Paguyaman Forest by five project assistants, including the removal of 300 poachers snares from the reserve in late June; three legally-protected anoa (a rare, endemic forest buffalo) had already died in these snares.
- anti-illegal logging actions, include seizure of ninety cubic metres (seven lorry-loads) of top quality illegal timber from the Paguyaman reserve (September). Court proceedings are in progress against the offender, a powerful local timber baron.
- organizing and accompanying an eight-man team of provincial forestry and police officials to conduct reconnaissance on the illegal timber trade at Paguyaman (August 31st - September 4th). This resulted in confiscation of three illegal chainsaws (21st - 25th September) and legal proceedings being begun against those involved.
- discussions with immigrant settlers around the reserve on potential income-generating activities (July); these settlers suggested planting of candlenut trees as a reserve buffer-zone crop.
- organized and held meeting between local stakeholders (NGO members, community representatives, forestry department staff) and project personnel to discuss project objectives (July 9th), including showing of project videos.
- promotion of the Paguyaman Reserve to local senior government officials by accompanying district head of forestry to the site (July). He was able to observe twenty-two babirusa in ten minutes observation at the Adudu salt-lick.
- Presentation to head of police for North Sulawesi (18th September), resulting in his agreement for six special forces soldiers to assist in forest protection activities at Paguyaman.

- Summarise progress over the last year against the agreed baseline timetable for the period. Explain differences including any slippage or additional outputs and activities.

The key milestones itemised in the revised project implementation timetable were as follows:

- October - November 2000: Project preparation, including liaison with national and local government and all local stakeholders on project objectives; purchase of equipment and recruitment of staff.

Extensive liaison with local stakeholders has taken place. This included a half-day illustrated presentation to the Assistant Governor of North Sulawesi province, representatives of all relevant provincial government and local academic organizations (12th December) by Lynn Clayton and project counterpart Mr. A.H. Mustari (Bogor Agricultural University). This presentation was well received and featured on local television; a five-page project executive summary in the Indonesian language was prepared and distributed. Project videos were shown and project publications and literature widely disseminated to all those attending; a framed enlargement of a babirusa at Paguyaman was also presented to the Assistant Governor. Approval and support for project activities was given by provincial government.

Meetings to discuss project activities were also held in Jakarta (Feb, March 2001) with the Director, Centre for Research and Development in Biology (Dr. A. Budiman), the Directorate General of Forest Protection and Nature Conservation (Ministry of Forestry) (Mr. D. Sinaga), Centre for International Forestry (CIFOR) (Dr. J. Sayer), British Council (Dr. N. Mawdsley) and World Bank Environment Department (Dr. A. Whitten). Purchase of necessary equipment was completed. This has included installation of radio equipment at the project base camp, enabling direct contact between this camp and the project office in Manado. This was considered a sensible precaution given the security problems occurring in some other areas of Sulawesi, notably Central Sulawesi province. Recruitment of staff for most project positions has been completed.

- December 2000: MSc student chosen. Reserve infrastructure work begins (construction of research station, guard posts, training centre and visitor lodge).

Three potential candidates for the MSc position have been identified and interviews will be held shortly. Project staff initiated the marking of fifteen kilometres of the Paguyaman Reserve boundary in the field. The section marked is the most threatened part of the reserve, where slash-and-burn clearance of floodplain forest has been a major problem. This activity was carried out by Indonesian forest mapping authorities, with support from project staff, and took place after consultation with all relevant local authorities (7th - 24th November). Permanent posts were placed at 100 metre intervals along the boundary. This represents a significant step forward in clarifying to local settlers the southern limits of the reserve and was taken in response to requests from them. Other construction activities have begun and are ongoing.

- December 2000 - May 2001.

Income-generating activities (planting of buffer-zone candlenut trees) begin. The implementation of candlenut tree planting has not yet been achieved. This will be carried out in the next six-month period.

- February 2001: Research and monitoring programme begins.

Weekly monitoring of numbers of babirusa and other protected wildlife on sale in local markets has been carried out continuously throughout this period. Research work at Paguyaman has not yet begun; this will be implemented in the next six-month period.

- March 2001: MSc student commences course.

The student will begin their course in September 2001 as he/she will study for the new Biodiversity Conservation MSc at Wye College (University of London), which is due to start in September.

Additional outputs/activities:

- Forest protection: Forest protection activities at Paguyaman have continued throughout this period. Six special forces soldiers have been deployed continuously at the project base camp there (October 2000 - April 2001). Their presence is a vital deterrent to illegal loggers and slash-and-burn clearers, and a dramatic decrease in illegal timber removal from this reserve has resulted from their deployment. These personnel are supported by five project assistants, and conduct daily patrols along the southern boundary of the reserve. The pioneering use of such special forces for conservation work at Paguyaman has proved very successful and this reserve is currently the only forest in North Sulawesi, and one of a very few in Indonesia, which is safe from major disturbance.

- Species protection: Two mobile anti-poaching operations were organized against illegal traders in protected wildlife (15th-16th December and 28th-30th December). These were timed to coincide with the increased trade in babirusa pig meat over Christmas and New Year; they were conducted by local police and wildlife officials together with project staff. Each operation comprised a continuous day-and-night examination of all wildlife traders' vehicles travelling along the Trans-Sulawesi highway to Manado. A total of ten vehicles were examined, of which two carried babirusa; a total of five dead babirusa were discovered and confiscated.

Ten dead babirusa were also confiscated from a church minister's house near the Paguyaman Forest by a team comprising police, army special forces and project staff (6th February). One adult female babirusa was released from a snare nearby. Court proceedings were instigated against the offender; these proceedings are being supported by project staff.

- Provide an account of the project's research, training, and/or technical work during the last year. This should include discussion on selection criteria for participants, research and training methodologies as well as results. Please **summarise** techniques and results and, if necessary, provide more detailed

information in appendices (this may include cross-references to attached publications)

Monitoring of the number of babirusa and other legally-protected wildlife on sale in local markets has been carried out continuously throughout this period. This is carried out at weekly intervals by a local woman posing as a shopper on Saturday, the main market day. The price and quantity of all domestic and wild meats in the market is also recorded. Between five to ten babirusa per week have been recorded on sale at Langowan market.

- Discuss any significant difficulties encountered during the year.

The decision of the People's Trust for Endangered Species (November 2000) not to provide the anticipated matched funding for this project (covering LMC's salary) has meant additional time has had to be spent exploring other funding possibilities, hence detracting from project fieldwork. LMC discussed project progress and possible funding options with the British Embassy, DFID and USAID staff in Jakarta during a visit there on 23rd February - 9th March.

LMC obtained a new research visa from the Indonesian government in March 2001. This required collection from the Indonesian Embassy in Singapore and processing in Jakarta (21st - 26th March) in accordance with government regulations, also using valuable time.

- Has the design of the project been enhanced over the last year, e.g. refining methods, indicators for measuring achievements, exit strategies?

Yes. Increased effort will be used to promote conservation through local religions (Islam and Christianity) following discussions at the Centre for Research and Development in Biology, West Java (March 2001). Income-generating activities will also be enhanced to include planting of candlenut trees as a buffer-zone crop, in response to input from local stakeholders. Increase effort is also being given to wildlife law enforcement issues, in collaboration with colleagues from USAID, since completion of prosecutions against illegal wildlife traders remains a major problem.

- Present a timetable (workplan) for the next reporting period.

May: BBC film at the Paguyaman Forest.

May - September: Construction and reserve infrastructure work (construction of research station, guard posts, training centre and visitor lodge) are ongoing.

June: Income-generating activities begin. MSc student is selected.

July: Research and monitoring at Paguyaman begin.

August-September: Curriculum materials prepared for local schools and mosques programme, and local undergraduate training courses.

5. Partnerships

Describe collaboration between UK and host country partner(s) over the last year. Are there difficulties or unforeseen problems or advantages of these relationships?

Close collaboration has continued between project staff and host country partners over the last year, building on already well-established working partnerships in both North Sulawesi and Jakarta. The establishment of regional autonomy for Indonesia's provinces mean that some long-standing partners in local government will be relocated to positions outside Sulawesi. Gorontalo, where the Paguyaman Forest is located, has recently split off from North Sulawesi province to form a separate province, no longer governed from Manado. However most officials in the new Gorontalo Forestry office have long-standing relationships with this project.

Has the project been able to collaborate with similar projects in the host country or establish new links with / between local or international organisations involved in biodiversity conservation?

Yes. New collaborative links have been established with the Centre for International Forestry (CIFOR, West Java), the Natural Resources Management Programme of USAID (Jakarta and Manado), DFID (Jakarta), the Alliance of Religions and Conservation, UK and Mapala Asteroida, an undergraduate conservation group at Sam Ratulangi University, Manado.

6. Impact and Sustainability

Discuss the profile of the project within the country and what efforts have been made during the year to promote the work. What evidence is there for increasing interest and capacity for biodiversity resulting from the project? Are satisfactory exit strategies for the project in place?

The project has a good profile in the country. This has been enhanced by the preparation of a short documentary on the project by local Indonesian television. This obtained third prize in a national competition between all twenty-six provinces and has been repeatedly shown on Indonesian television. Multiple copies of this documentary have also now been made on video compact disc, a very popular medium in Sulawesi, and distributed to local stakeholders. The project has also been promoted via numerous illustrated presentations by project staff to national and local government institutions. Framed enlargements featuring the babirusa at Paguyaman have also been distributed to ten government offices in Manado, as a means of raising the species' profile.

As a result of this project there has been increased interest and capacity for biodiversity conservation from several groups. Mapala Asteroida, an undergraduate conservation group from Sam Ratulangi University, Manado, prepared and distributed 1500 copies of a simple calendar promoting conservation of Sulawesi's wildlife. This

features the message "Save our forests and endemic wildlife!" (Copies are being sent to the Darwin Initiative Secretariat). They disseminated this to schools, offices and individuals in Manado and Paguyaman. This activity was initiated by the students and supported by Darwin project funds. There has also been increased interest in biodiversity conservation from the army special forces organization assisting in forest protection at Paguyaman. This has resulted from personal approaches to their Senior Commander and the Head of Police for North Sulawesi.

There has also been increased interest in the work of this project by international television companies, namely the BBC and Japanese television (NHK). Efforts have been made to ensure that visits by these companies have maximum conservation benefit within Indonesia, for example by arranging for talks to local schools around the reserve by visiting cameraman and local dissemination of resulting films. The BBC will visit the Paguyaman Reserve on 10th - 26th May and school talks, dissemination and full credit of the Darwin Initiative have been agreed. Satisfactory exit strategies have been planned and will be put in place during the next year of this project.

7. Outputs, Outcomes and Dissemination

- Please expand and complete Table 1. **Quantify** project outputs over the last year using the coding and format from the Darwin Initiative Standard Output Measures (see website for details) and give a brief description. Please list and report on appropriate Code Nos. only. The level of detail required is specified in the Guidance notes on Output Definitions which accompanies the List of Standard Output Measures.

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

Code No.	Quantity	Description
7	1	1500 copies of a simple calender featuring the message "Save our forests and wildlife" in the local dialect distributed to schools and offices.
8	48	48 weeks have been spent by LMC in Indonesia
18a,c	2	One twenty-five minute award-winning documentary produced on project by local Indonesian television and shown four times on national television; one three minute feature on project presentation to Assistant Governor (local Indonesian television).
22	1	Mobile anti-poaching patrol established and operational. 15 kilometres of reserve boundary marked.

Explain differences in actual outputs against those agreed in the initial 'Project Implementation Timetable' and the 'Project Outputs Schedule', i.e. what outputs were not achieved or only partly achieved? Were additional outputs achieved?

Differences in actual outputs against agreed outputs have arisen due to the project beginning in September 2000 instead of April 2000 as initially envisaged. All originally envisaged outputs will be achieved, although some (for example the MSc student commencing his/her course) have been delayed. Several outputs (reserve boundary marking, establishment of mobile anti-poaching patrol) were achieved earlier than previously planned, in response to local request and the continued illegal sale of babirusa meat respectively.

- In Table 2, provide full details of all publications and material produced over the last year that can be publicly accessed, e.g. title, name of publisher, contact details, cost. Details will be recorded on the Darwin Monitoring Website Publications database which is currently being compiled. Mark (*) all publications and other material that you have included with this report

Table 2: Publications

Type * (e.g. journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (e.g. contact address, website)	Cost £
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Provide details of dissemination activities in the host country during the year. Will these activities be continued by the host country when the project finishes, and how will this be funded and implemented?

None as yet, apart from those listed in Table 1.

8. Project Expenditure

- Please expand and complete Table 3.

Table 3: Project expenditure during the reporting period

Item	Budget	Expenditure
Total	78,410	78,500

- Highlight any recently agreed changes to the budget and explain any variation in expenditure where this is +/- 10% of the budget

The budget is different to that originally planned for year one because the project started late, and hence has effectively only been running for 6 months. The major change is to the salary line. This line was modified (with the agreement of the Darwin Secretariat), in the light of the withdrawal of funding from the People's Trust for Endangered Species.

9. Monitoring, Evaluation and Lessons

Discuss methods employed to monitor and evaluate the project this year. How can you demonstrate that the outputs and outcomes of the project actually contribute to the project purpose? i.e. what indicators of achievements (both qualitative and quantitative) and how are you measuring these?

As a result of project activities the Paguyaman Forest Reserve remains safe and intact, and the Adudu natural salt-lick continues to be well visited by babirusas. Forest protection activities by special army forces personnel are monitored on 15th of each month via a visit to Paguyaman by their commanding officer. A daily log of patrols and other activities undertaken is also kept by them. The impact of these personnel is clearly shown by the decline in illegal timber removed from the Paguyaman reserve since their deployment; prior to their presence 353 massive blocks (2.25 metres x 0.75 metres) of illegal timber were rafted past the project base camp during the month of September 2000; this dropped to ten blocks during October and has remained at this level.

Presentations and television coverage have resulted in increased local support for and awareness of the Paguyaman Forest. Tangible decisions taken by the Assistant Governor were agreement for i) an NGO to be established to act as a management body for the Paguyaman Forest Reserve, ii) increased local government support for prosecutions against illegal wildlife traders and iii) approval of plans to construct the training and research facilities at Paguyaman.

Are there lessons that you learned from this years work and can you build this learning into future plans?

The need for flexibility in work plans in response to local circumstances.

10. Author(s) / Date

Lynn Clayton & E.J. Milner-Gulland, 11th May 2001