

# Darwin Initiative Annual Report

## 1. Darwin Project Information:

Project Ref Number	14-003
Project Title	Sustainable insect collecting and farming in Papua New Guinea
Country	Papua New Guinea
UK Contract Holder Institution	University of Cambridge
UK Partner Institution(s)	--
Host country Partner Institution(s)	(1) Department of Biology, University of Papua New Guinea (2) Department of Environment & Conservation, PNG Government (3) Insect Farming and Trading Agency, Lae/Bulolo (4) Wau Ecology Institute, Wau
Darwin Grant Value	£177,310
Start/End dates of Project	01 July 2005 – 30 June 2009
Reporting period and annual report no. (1,2,3..)	01 Apr 2006-31 March 2007 Annual Report 2
Project Leader Name	Dr Tim Bayliss-Smith
Project website	<a href="http://www.geog.cam.ac.uk/people/bayliss-smith/">http://www.geog.cam.ac.uk/people/bayliss-smith/</a>
Author(s), date	University of Cambridge, April 2007

## 2. The Project

### 2.1 Background

The island of New Guinea contains thousands of insect species many of which are eagerly sought by international collectors. In Papua New Guinea 55% of the known butterfly species are endemics including the world's largest butterfly, *Ornithoptera alexandrae*. To meet market demand within CITES constraints, insect farming and trading has been carried out in PNG for the past 29 years, but apart from some superficial studies in the 1990s, no research has been done on the institutional structure, ecological impact or socio-economic effects of this trade.

Since 1978 (but to a reduced extent in recent years) the selling of insects produced by farming (strictly speaking, ranching) and collecting has made some direct contribution towards sustainable livelihoods for rural Papua New Guineans. Enhanced livelihoods should in turn provide more incentives for conservation, and a discouragement to the illegal trade. A project was proposed under the Darwin Initiative that would improve the ease, the efficiency and the sustainability of this trade.

The four-year Darwin Initiative project has three main objectives –

- Research into insect collecting/farming to establish the scale of exploitation by species and by province, and the scale and distribution of livelihood benefits;
- Capacity building for the two principal NGOs that are middlemen in this trade, Insect Farming and Trading Agency (IFTA) and Wau Ecology Institute (WEI);
- A workshop among all partners, including officials from the Department of Environment and Conservation (DEC) and biologists from UPNG, to discuss new policies and practices for the sustainable use of PNG's insect populations. We hoped that this would allow all project partners to contribute to the development, agreement and adoption of a National Strategy for Sustainable Use of Insects.

It was our hope that by achieving these objectives then PNG's insect biodiversity will be better protected through improved policies and practices for the sustainable use of insects through commercial exports. The project began July 2005, and its field phase will be lasting for three years, with the fourth and final year devoted to completing the research component.

## 2.2 Project Partnerships

To achieve the three objectives of research, capacity building and National Strategy for Sustainable Use of Insects, in 2004 collaborative work was proposed, and was agreed in principle, with four different partners:

**(a) Insect Farming and Trading Agency (IFTA)**, Bulolo – IFTA was set up by the government's Department of Wildlife in 1978, but following the demise of this Department IFTA was granted quasi-autonomous status as an NGO/small business owned by the University of Technology (UNITECH) in Lae. Unfortunately, and as previously reported, (1) IFTA is linked to a loss-making zoo (Rain Forest Habitat) that is also run by UNITECH; (2) it suffers from lack of support – e.g. it shares one phone line with RFH, and is isolated from the UNITECH computer network; and (3) it is now under a new general manager, Harry Sakulas, a crony of the discredited UNITECH Vice Chancellor. Sakulas had previously mismanaged Wau Ecology Institute, and his institutional connection to IFTA is enough to prevent it from raising any funds from potential donors. No one with resources on offer will touch IFTA at present.

**(b) Wau Ecology Institute (WEI)** – WEI was a highly successful NGO in the 1980s but in the 1990s it was brought to the edge of ruin by its Director Harry Sakulas, resulting in all overseas and PNG support being withdrawn. Only the WEI Insect Ranch run by ex-Peace Corps volunteer Mr Michael Hudson remained successful, thanks to the expertise and dedication of himself and his staff. Unfortunately WEI is managed by a board of local worthies who may not share Hudson's interest in insects.

In each case, the roles that IFTA and WEI agreed to play were as follows– (i) to collaborate in a research programme to review the PNG insect trade past and present, using purchasing records and interviews; (ii) building upon this review, to develop appropriate training programmes; (iii) to participate in a workshop to discuss new policies and practices for sustainable programmes; (iv) to contribute to the development, agreement and adoption of a National Strategy for Sustainable Use of Insects.

**(c) Department of Environment and Conservation (DEC)**, Port Moresby – DEC's First Assistant Secretary, Mr. Barnabas Wilmott, initially acknowledged DEC's need for a website, and welcomed collaboration with the project. Unfortunately he was seconded for legal training in 2006 and not replaced by anyone with much sympathy for the project [as previously reported].

In our initial discussions, the roles for DEC that we originally suggested were (i) to collaborate in a research programme, by providing data on the numbers of CITES species being exported; (ii) to assist and advise during the establishment of the DEC website; (iii) participate in a workshop to discuss new policies and practices for sustainable programmes, including future data requirements in order to meet CITES obligations; (iv) to contribute to the development, adoption and agreement of a National Strategy for Sustainable Use of Insects. However written confirmation of these roles was not received from DEC before the Stage 2 application was submitted, or indeed afterwards. In last year's report we emphasised limited progress towards realising this collaboration, amid a general atmosphere of apathy and suspicion.

**(d) Department of Biology, University of PNG (DB-UPNG)**, Port Moresby – Prof. Lance Hill originally facilitated research assistance and official affiliation, to enable the project to gain essential research/residence permits. Following discussions (i) we agreed to help develop two research projects on impacts of insect

collecting/farming, supervised by a PNG biologist, and suitable for two PNG Honours students supported by the project; (ii) DB-UPNG also agreed to participate in a workshop, discussions to include priorities for ecological research; (iii) they also agreed to contribute to the development of a National Strategy for Sustainable Use of Insects.

**(e)** A fifth stakeholder in the project (although not formally specified or included in the application) are the **local individuals and communities** that have gained financial benefits from insect collecting, farming and selling over the years. Last year we reported that some interviews had been conducted with insect farmers and collectors in the Wau/Bulolo area and near Madang. It has been our intention to extend the consultation process with such people during the lifespan of the project, and to assess the scale and sustainability of benefits to them.

Last year we reported delays in the start-up of the projects, setbacks with some major collaborators, and the possibility that project objectives might need to be revised.

### 3. Project progress

#### 3.1 Progress in carrying out project activities

Main highlights: in the past year there has been progress on all fronts, but also shortfalls. The main events of the year April 2006-March 2007 were as follows:

**April-October 06:** completion of work on IFTA and Wau Ecology Institute records on insect trading, converting the data into Excel spreadsheets (about 50,000 lines) that show insect species, number of specimens, name and location of insect collectors, and monetary value of each sale. Sample years are 1993, 1998 and 2001. These data will form one basis for Rob Small's Cambridge Ph.D and for journal articles, but they will also provide DEC with information that they need, including data for Species Management Plans for the seven Birdwing Butterfly species exported under CITES-II permits.

**April-December 06:** course work and fieldwork by two Honours students at UPNG funded by the project, under the supervision of Dr Jane Mogina (UPNG) and Rob Small (Cambridge University):

- Florence Jicki worked on the ecology of food plants of Queen Alexandra Birdwing Butterfly (a CITES Appendix I species) in Oro Province, assisted by UPNG Biology Department entomologist Mr Tamari Mala. Her fieldwork took place in September 2006, and in March 2007 she submitted her Honours thesis entitled "The dependence of *Ornithoptera alexandrae* on *Pararistolochia dielsiana* density". In April 2007 she graduated with Honours.
- Elliot Tovaboda worked on the application of GIS and remote sensing to mapping factors relevant to *Ornithoptera* spp. butterflies in the Wau-Bulolo region. His fieldwork in October was assisted by Michael Hudson and Peter Nano and other staff of the Insect Ranch, Wau Ecology Institute. His Honours thesis is provisionally entitled "Application of GIS and Remote Sensing tools in mapping socio-economic and environmental factors affecting the sustainability of *Ornithoptera* spp. farming/ranching in Wau-Bulolo region, Morobe Province, PNG", and is still in preparation.

**July 06-February 07.** Completion of revised IFTA Training Manual for Insect Farming, its translation into Tok Pisin, scanning of colour plates on insects (separate pages for each province), and discussions about printing of this 72-page book in Port Moresby.

**August and October 06.** Training course by Rob Small for staff at IFTA and Wau Ecology Institute, covering IT skills and customer services. A Customer Service Training Manual (29 pages) was written for thus purpose.

**November 06.** Revised version of scientific paper accepted by journal *Oryx*.

**January 07.** Rob Small presented a paper in Cambridge on project findings, at the annual Cambridge Conservation Forum.

**February 07.** Three-day workshop on Sustainable Use of Wildlife in PNG held at Jais Aben, Madang, with 26 participants representing all project partners, other PNG stakeholders, Dr Brendan Moyle (Massey University, N.Z. and IUCN Sustainable Use group), and members of Binatang Research Centre, Madang (another Darwin Initiative project).

**February-March 07.** Follow-up meetings with (1) Department of Environment and Conservation, PNG Government; (2) Prof Lance Hill, Dr Jane Mogina and students from UPNG in Port Moresby; and (3) IFTA staff

and also the UDC General Manager Mr Jeffery Juju at UNITECH in Lae. At these meetings the 'Action Plan' agreed at the Workshop was discussed, and responsibilities for taking actions forward were clarified.

### 3.2 Progress towards Project Outputs

**RESEARCH OBJECTIVES.** These aims, which should culminate in reports for local readers, papers in academic journals, and Rob Small's Ph.D thesis, remain broadly on track. Delays experienced in 2005 have not proved fatal to the research work of the project, but there have been delays. For example the work of interviewing insect farmers/collectors and ex-farmers/collectors in Aseki, in a joint trip with Wau Ecology Institute, is now planned for April-May 2007. The threatened non-cooperation of our NGO partners did not materialise in 2006-07, and indeed at staff level relations are good. IFTA and WEI archival records have been made freely available to us. Mr Jeffery Juju promises full access to IFTA insect trading records for 2005 and possibly 2006 (when ready), when Rob Small makes a visit to Lae scheduled for late April. Relations with the Department of Environment & Conservation (DEC) have improved somewhat, but from the point of view of data sources their records on insect exports and permits are unreliable and anyway are duplicated by CITES. The main problem for Small has been the lack of data available. This situation should ease once the main fieldwork phase of the project comes to an end in November 2007. Completing the project's Research objectives is the tendency for the many Educational and Capacity Building objectives to absorb all the time that Rob

**EDUCATIONAL OBJECTIVES.** Cooperation with UPNG Department of Biology continues to be good, facilitated by Prof. Lance Hill but overseen on a day-to-day basis by Dr Jane Mogina. One of the Honours students selected, funded and supervised by the project is on track to complete her studies – Florence Jicki, who gave a competent presentation of her research, on the ecology of Queen Alexandra Birdwing butterfly food plants in relation to local land use practices in Oro Province, at the project Workshop in Madang in February 2007. Florence will submit her thesis in March, she should then graduate with Honours, and hopefully she will then take up a 6-month post with Darwin Initiative as project counterpart to Rob Small.

Our second student Elliot Tovaboda was always less committed and perhaps less capable than Florence, but following a substantial input in supervision by Rob Small and Dr Mogina he seemed to be on track in November 2006, by which time he had completed his fieldwork on butterfly habitats in the Bulolo valley to calibrate a Geographical Information System, assisted in Wau by WEI staff. But he still needed to write up. Unfortunately Elliot then disappeared for two months for reasons unclear (mother ill?), and although he now wishes to continue it is uncertain at the time of writing if or when he will complete.

### CAPACITY BUILDING OBJECTIVES

**(1) IFTA.** The Insect Farming and Trading Agency is in long-term decline, a process not arrested by the appointment of Harry Sakulas as joint Director of IFTA and Rain Forest Habitat in 2005, just as our project got under way. Rain Forest Habitat is a loss-making, redundant zoo on the campus of UNITECH. The UDC arm of UNITECH owns both RFH and IFTA. The original idea was that IFTA profits would subsidise RFH losses, but both organisations are now in deficit, IFTA more substantially. IFTA's poor reputation for slow customer services and low quality insect specimens is fully demonstrated by blogs posted by frustrated collectors on the Insect Net website. Our own efforts to improve the situation, in the absence of effective management, have not been able to turn the situation around, despite an apparently successful training course in I.T. and customer services organised by Rob Small in September 2006.

At a meeting in August 2006 Tim Bayliss-Smith discussed the problem with UNITECH accountant Mr Jeffrey Juju, whose investigations had revealed the scale of the financial problem, and who also had information of serious pilfering by two members of IFTA staff. It was explained that the Darwin project did not have the resources to achieve more than minor 'capacity building' and certainly could not rescue IFTA from bankruptcy. In March 2007 Mr Juju was hopeful that the imminent arrival of a new manager and the completion of the move of staff from Bulolo to Lae could turn around the situation, but at time of writing there must be doubts about IFTA's future given the specialised needs of this business and the stagnation or decline in the world market for dead insect specimens, rather than live pupae for 'butterfly houses' (a form of trade currently banned by DEC). Should IFTA find the funds needed for field extension (applications to outside bodies might succeed if Sakulas were to leave, for example), then IFTA will at least have access to copies of the Insect Farming Manual written and funded by this project, and necessary for this purpose.

**(2) Wau Ecology Institute.** WEI has also been in decline since the death in a plane crash of its charismatic Director Dr J.L. Gressitt in 1979. Its troubles accelerated in the 1990s when Harry Sakulas was Director and funds went missing. Today it has a lodge for occasional visitors, a coffee plantation for income generation, and a

rather thriving insect business masterminded by Mr Michael Hudson, an ex-Peace Corps volunteer entomologist, and for the last 16 years a PNG resident. The research and educational programmes of WEI are largely defunct (Mike Hudson's work on new insect species excepted). Hudson is now de facto Director of WEI, and he sells dead insects of high quality to a select group of international collectors, thus funding the entire Insect Ranch part of WEI and thereby supporting most of its staff, as well as providing incomes for local people in an area of poverty and high unemployment. It is run by Hudson as a hobby as much as a business, and it pays its way without being particularly profitable.

Its future, and thus the future of WEI as a whole, is jeopardised by Hudson's declining enthusiasm for Wau as a place to live. Wau, an ex-gold rush town, is at the end of a crumbling road and is often cut off by landslides or broken bridges. Unemployment is high, the law and order situation is bad, and armed robberies of gold-buyers are not unusual. Even murders are sometimes ignored by the police force, who increasingly take the law into their own hands. The chief of police has been known to extort valuable insects from WEI collectors, in order to sell them to an illegal Japanese buyer in Lae. Postal packages are sometimes opened. Electricity and telephone services can be erratic.

If both IFTA and WEI were to collapse, the legitimate insect trade in PNG would receive a severe blow. If Hudson were to leave Wau in 2007-08, the Darwin project would like to consider helping him to relocate his Insect Ranch to a safer part of PNG, with perhaps a teaching link re-established to UPNG Department of Biology, or possibly a link to a company already engaged in the sustainable trade in wildlife such as Mainland Holdings.

This year our efforts at capacity building at WEI has been restricted to some I.T. work with WEI staff by Rob Small (August 2006), and the production of the Insect Farming Manual which WEI see as very important to their future. Later in 2007 we shall assist in their field extension programme in Aseki, partly for our research purposes and partly for Wau's own extension work using the manual written jointly by Rob Small, Cathy Aisi (IFTA) and Michael Hudson (WEI)

**(3) Department of Environment and Conservation, PNG Government.** DEC has been a reluctant partner of the Darwin project, and our relationship has, until recently, been confined to meetings with relatively junior staff. The appointment of Guy Gowae (Ph.D, A.N.U. Canberra) as Assistant Secretary for Conservation in 2006 was a positive step forward, although it is unclear if Dr Gowae has much influence with Dr Wari Iamo, the long-term Secretary, who three years has declined or avoided any meetings with us, although (to be fair) the letters he has written have fully supported the objectives of our Darwin Initiative project.

At a post-workshop meeting in March 2007 Dr Gowae expressed his support for a DEC website (part of the capacity we undertook to build), to enable the wider world to know more about PNG laws relating to sustainable use of wildlife and legal exports, not least the trading in CITES-listed butterflies. Unfortunately the decision is not up Dr Gowae alone.

At the same time Mr Bamabas Wilmot is still being cautious and generally negative, for example about enabling a legal trade to start in live butterfly pupae from insect ranches. As an example of DEC's lack of capacity, as things stand no member of staff in the Department will be able to see their own website, for lack of internet access. DEC funds that might be available for such things have been spent, in the past, on lunches and overseas trips. In order to maintain our relationship with DEC and facilitate the existing trade of IFTA and WEI, the project has undertaken the task of drafting Species Management Plans for seven CITES II-listed birdwing butterfly species – a large work burden for Rob Small, and one that will require our work programme for 2007-08 to be somewhat modified.

## **WORKSHOP ON THE SUSTAINABLE USE OF WILDLIFE IN P.N.G.**

As previously reported, the planned workshop on Sustainable Insect Trading was widened to include other wildlife than insects. It took place on 20-22 February 2007 at Jais Aben, a small resort 10 km outside Madang, and was attended by Tim Bayliss-Smith, Rob Small, representatives of all partner organisations (UPNG, IFTA, WEI and DEC), and by other conservation NGOs and sustainable use practitioners (crocodile farming, eaglewood plantations). We saw it as a key occasion for the project, and a test of how far objectives for sustainable use and export trading can be agreed among stakeholders, in order to translate agreements into better working practices.

Following a decision by Forestry to ban a workshop on logging in November 2006, the Minister for Foreign Affairs and Trade announced that any participation by a public servant in any meeting or workshop organised by an individual or NGO that touched on government policy would require approval from the relevant minister. As a result, the participation in our workshop of any DEC officials seemed unlikely, as the whole purpose of our Darwin Initiative project could easily be constructed as "interference in PNG's sovereign affairs". The November 2006 decision followed adverse criticism by certain foreign environmentalists of the policies of government towards the logging industry.

Fortunately, in February 2007 two relatively junior staff (Barbara Roy and Robert Sine, Enforcement Officers with Conservation division, DEC) were in the end allowed to attend our workshop meeting, perhaps because, following our request to the British High Commission, some pressure had been brought to bear on the Minister of the Environment. If so, almost certainly the credit belongs not to High Commissioner David Gordon McLeod (who was reprimanded by Foreign Affairs last November for promoting the forestry workshop), but instead to Dulciana Somare-Brash, our Darwin Initiative contact at the High Commission, who happens to be a daughter of the Prime Minister Sir Michael Somare. DEC's attendance in Madang, even if by no one very senior, meant that all stakeholders were represented.

Given the embargo on senior public servants (or strictly speaking, anyone) attending NGO-organised seminars on government policy, the 'National Strategy for Sustainable Insect Trading' that we had hoped to put in place was a non-starter. As an alternative, however, we did achieve agreement on an Action Plan.

The proceedings of the conference are accurately summarised in the following Press Release that Dulciana Somare-Brash circulated to all national newspapers:

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### Press Release, 24 February 2007

The workshop on Sustainable Trade in PNG's Wildlife, held at Jais Aben resort in Madang, ended this week (22 February). It was attended by 25 stakeholders representing a wide range of NGOs, companies, government departments and university researchers, all with interests in a sustainable trade in crocodiles, butterflies, other insects, eaglewood and many other PNG wildlife products. Officers from Department of Environment and Conservation (DEC) also participated. The workshop was organized by the Darwin Initiative project of Cambridge University and UPNG, led by Dr Tim Bayliss-Smith, Dr Jane Mogina and Mr Rob Small.

After two days of presentations and discussion there emerged a six-point Action Plan, which the workshop agreed could help PNG to move forward. All these actions are consistent with the Millennium Goals of the PNG Government, its Medium Term Development Strategy, and the emerging National Biodiversity Strategy (NBSAP) that has been prepared by DEC with help from Dr Eric Kwa, UPNG Law Faculty.

It was agreed by the workshop that NBSAP itself is a sound basis for future policy in the area of biodiversity conservation, but that more emphasis needs to be given within the strategy for sustainable trade in wildlife. Only by giving local communities real incentives for protecting areas and species can PNG make progress with its biodiversity conservation goals. Yet middlemen in the trade are essential, and need to be encouraged by making their licences, fees and paperwork less burdensome. Unless there is a viable and profitable legal trade, the illegal smuggling of wildlife will grow in scale, with negative effects on the conservation of some of the species involved.

The meeting also agreed that sustainable trade in CITES-listed species requires management plans, so that PNG can meet its international obligations and monitor wildlife populations successfully. CITES is the Convention on International Trade in Endangered Species, which PNG joined soon after its independence in 1979. A successful management plan already exists for saltwater crocodiles, whose skins earn PNG several million kina each year in export revenues, and in addition more than 100,000 kina that is distributed each year to villages in the Sepik that carry out sustainable harvests of crocodile eggs. Every year DEC up-dates this plan for saltwater

crocodiles, based on new surveys on the wild populations that are made in the Sepik and on information about the volume of trade. Every year Mainland Holdings, Lae, the major crocodile farming company, provides DEC with new statistics on its egg purchases and skin exports. All this information shows CITES that a sustainable trade exists for this species.

This model of a species management plan needs to be copied for other species that are traded under CITES, Appendix II. Middlemen in the insect trade, for example IFTA in Bulolo and the Wau Ecology Institute, and in the eaglewood trade (WWF and PNG Forests Authority), need to prepare such plans. The Cambridge University project funded by the Darwin Initiative has now promised, with help from UPNG, to start work on management plans for PNG's birdwing butterflies. The seven species that are legally exported does not, of course, include the world's largest butterfly, Queen Alexandra's Birdwing Butterfly, which is found only in Oro Province, for which any kind of trading is illegal.

The workshop heard how the registered insect traders are struggling at present to achieve profits, since the world market for dead specimens is not growing and increasingly is being supplied with illegal insect exports, including some from West Papua and Solomon Islands. What is needed is for PNG to make trading easier (less paperwork), and to allow traders to diversify their products as in the crocodile trade. For insects, what is needed to keep up with overseas competitors is for PNG to allow exports of live pupae rather than just dead specimens. Barbara Roy of DEC explained to the workshop that live exports of wildlife will be permitted under the Amended International Trade Act 2003. This Act has been passed by parliament but unfortunately regulations have still not been put into effect by the Government.

A third recommendation of the workshop was that DEC establish a website, with help from Cambridge University, so that all stakeholders in sustainable wildlife exports have better access to information about PNG laws, CITES regulations, fees and the forms needed for legal exports of species like crocodiles, certain reef fish, butterflies and other insects, orchids and eaglewood. The meeting also suggested that some CITES regulations are unnecessary. For example, two of the butterfly species whose exports are controlled under CITES Appendix II are in fact so common in PNG (and in West Papua) that farming them for trade represents no threat at all to their populations. DEC might consider taking steps to down-list these two species, to reduce the load of unnecessary paperwork and to help the trade to flourish.

After two days of lively discussion, participants left Madang yesterday (23 February) to return to their various jobs all around PNG. It was generally agreed that the workshop had been a useful exchange of ideas. Hopefully, if the workshop's recommendations can be put into effect, then an even more successful yet still sustainable wildlife trade can emerge for PNG. If so, then the benefits for village communities, those employed by trading companies, PNG exports, and nature itself, will be substantial.

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Further meetings took place between Tim Bayliss-Smith and Rob Small and other stakeholders in late February and March 2007, in Port Moresby and Lae. At these meetings this Action Plan was discussed and clarified with DEC, UPNG, IFTA, and IFTA's parent organisation UDC at UNITECH, Lae.

## **DISSEMINATION**

### Local media:

- Following the Workshop in February 2007 a short press report appeared in the Post-Courier. We hope others may be forthcoming.
- A six-page Report on the Workshop on Sustainable Trade in PNG's Wildlife was also widely circulated within PNG and to interested parties in the UK and elsewhere.
- The publication in March of the 72-page Darwin Initiative manual on How to Ranch and Collect Insects in Papua New Guinea (Tok Pisin version: Rot bilong Lukautim na Kisim Binatang long Papua Niugini) will be another opportunity for local press coverage.

### Conference papers:

- At a conference organised by the Cambridge Conservation Forum in January 2007, Rob Small presented a paper on the work of the project.

Scientific publications:

- An article by Rob Small is in press in the scientific journal *Oryx*.

#### 4. Standard Output Measures

##### 4.1 SUMMARY

The following is a verbatim transcript of the original Logical Framework showing where we should have reached in March 2007 at the end of Year 2 (columns 1 and 2). In column 3 is our summary of the extent to which we have managed to get back on track following the initial delays and difficulties that we encountered in 2005, and the underlying reasons for the shortfall if any (column 4):

<b>Project summary</b>	<b>Measurable indicators</b>	<b>Comment on extent to which the objective has been realised</b>	<b>Comment on reasons for any shortfall</b>
<p>PURPOSE:</p> <p>PNG's insect biodiversity better protected through improved policies and practices for the sustainable use of insects through commercial exports.</p>	<p>BY END YEAR 2:</p> <p>1. <u>Knowledge</u></p> <p>New knowledge on social and economic benefits of insect trading.</p> <p>2. <u>Future policies and practices</u></p> <p>By mid- Year 2: Discussion and agreement among major stakeholders concerning future policies and practices.</p>	<p><u>Knowledge:</u></p> <p>1. IFTA and WEI data now in Excel spread sheets, but record ends in 2001 and reports have not yet written.</p> <p>2. DEC data chaotic and have proved unusable.</p> <p><u>Future policies and practices:</u></p> <p>While an agreed National Strategy is not feasible for reasons outside our control, we organised a successful Workshop on Sustainable Wildlife. Its future effects cannot at present be foreseen.</p> <p>What we have been trying to do instead is insert Sustainable Use into the National Biodiversity Strategy and Action ( NBSAP) that DEC is preparing with help from Dr Eric Kwa (UPNG Law Faculty).</p>	<p>1. Unexpected delays in research permits to start work in PNG</p> <p>2. Physical access to Wau was impossible in February to July 2006 (landslips, washed-out bridges)</p> <p>3. The Somare government, in its final year of office (elections in June) has become sensitive to criticisms by environmental NGOs. We cannot at present organise a meeting attended by senior public servants, let alone design a National Strategy for sustainable use of wildlife.</p>

<p><b>OUTPUTS</b></p> <p>1. Research into the sustainability of insect farming/trading and how to improve it.</p>	<p>BY END YR. 2</p> <p>1. Honours degrees awarded to two PNG students</p>	<p>Florence Jicki's thesis is complete. She graduated with Honours in April 2007.</p> <p>Elliot Tovaboda dropped out for unexplained reasons, but he has done the work and it may be that his thesis can be rescued.</p>	<p>1. UPNG Department of Biology was asked in 2005 to find (by various NGOs including us) more potential Honours students than their usual throughput of good students provides. We were always aware that Tovadoda was sometimes erratic and potentially a risk.</p>
<p>2. Enhanced engagement by the University of PNG in biodiversity/sustainable use issues.</p>	<p>[2. no further indicators specified]</p>	<p>2. <u>UPNG engagement</u>: Dr Jane Mogina has furthered her own career in conservation by her association with our project. She is currently seconded from UPNG to direct Mama Graun, an NGO devoted to protected area management. She was an excellent participant in the project's Workshop as well as a dedicated supervisor of our two students</p>	<p>2. Most targets for co-operation and capacity building at UPNG have been met successfully.</p>
<p>3. Enhanced capacity of DEC</p>	<p>3. DEC's website up and running by the end of Year 1</p> <p>[However, as reported last year, at that time DEC had changed their mind about wanting a website at all, so this objective carried over to Year 2]</p>	<p>3. <u>DEC website</u>: we presented a draft version to Assistant Secretary Guy Gowae, DEC, in March 2003. The website's content needs further elaboration through a meeting between DEC and Rob Small scheduled for mid-March.</p> <p>4. <u>Better working relations</u> among all sustainable wildlife trade participants, e.g. prompt CITES II permits from DEC, following the Madang workshop.</p>	<p>3. As reported last year, we did not foresee that the PNG Government is now unable to maintain the basic infra structure of a modern state. But on this small matter, there has been movement.</p> <p>The Darwin project has promised to find funds to pay for the website's future rent, perhaps for 3-5 years.</p>

#### 4.2 Project Standard Output Measures

Code No.	Description	Year 1	Year 2	Year 3	Year 4	TOTAL
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		Total	Total	Total	Total	
<b>Estd. codes</b>						
Training 3	B.Sc. Honours Biology, University of Papua New Guinea	0	1 PNG student graduated			
5	Supervision of essays and field projects	2 students, 3 months	2 students, 9 months			
6A	IT training for IFTA and WEI staff	One staff, one NGO (IFTA)	5 + 3 staff, 2 NGOs (WEI and IFTA)			
6B	Number of weeks	1 week	1 week for each NGO			
7	Manuals for use by NGOs and insect ranchers in PNG	–	2 (1 on cus- tomer ser- vices, 1 on how to ranch and collect insects)			
Research 8	Tim Bayliss-Smith  Rob Small	3 weeks (1 visit)  23 weeks (2 visits)	7 weeks (2 periods)  27 weeks (2 periods)			
11B	Scientific journal paper, circulated	1 Oryx paper draft	1 Oryx paper draft			
Dissemination 14A	Workshop for PNG participants, on sustainable wildlife trading	–	26 local PNG participants, 3 days			
14B	Cambridge Conservation Forum attended, D.I. results presented	0	1 conference attended in UK  1 workshop organised in PNG			
15A	National press release in PNG	1	1			
17A	Sustainable wildlife trading, PNG email network	0	1 established			
19A	Radio interview, New Zealand	1	0			
Financial 23	Fellows research Fund, St John's College, Cambridge	£600	£600			

### 4.3 Publications

Type *	Detail	Publishers	Available from	Cost £
(e.g. journals, manuals, CDs)	(title, author, year)	(name, city)	(e.g. contact address, website)	(if applicable)
International scientific journal (8 pp.)	“Becoming unsustainable? Recent trends in the formal sector of insect trading in Papua New Guinea”, by Rob Small (in press 2007)	<i>Oryx</i>	Publisher, libraries, or project website	–
Report circulated within PNG, and available on project website (6 pp.)	“Report on the Workshop on Sustainable Trade in PNG’s Wildlife, Jais Aben, Madang, February 2007”, by Tim Bayliss-Smith and Rob Small (2007)	Darwin Initiative project	Free on request, or via project website.-	–
Manual for use by NGOs and local stakeholders within PNG (72 pp.)	“How to Ranch and Collect Insects in Papua New Guinea / Rot bilong Lukautim na Kisim Binatang long Papua Niugini” (2007)	Darwin Initiative project	IFTA, Wau Ecology Institute, or University of Papua New Guinea, Department of Biology, or from Darwin Initiative project	–
Customer Service Training Manual (29 pp.)	“Customer Service Training Manual for IFTA Staff” Training Training, October 2006’ (2006)	Darwin Initiative project	Free on request from the project or from IFTA	---

#### 4.4 Progress towards the project purpose and outcomes

Project implementation timetable			
Date	Find year	Key milestones	Milestone reached? If not, or if reached later, reasons why not.
	07/08		
July 2006		Revision of IFTA/WEI Insect Farming Training Manual	Yes, but this work occurred later in the year (delayed project start-up), being completed in March 2007
September-October 2006		Training course with NGO partners (IFTA, WEI)	Yes
November-December 2006		Training course and website construction with DEC	Yes, but could not take place until after DEC agreement secured, which meant this action postponed until April 2007.
March 2007		Follow-up sessions on training of partner staff	No, postponed to May or June 2007, and may not now happen because of new commitment to produce for DEC, IFTA and WEI seven Species Management Plans needed for the birdwing butterfly species that are exported under CITES-II
February 2007		Two Honours students at UPNG complete their dissertations	No, only one student completed in March 2007, with the other one delayed for reasons still unclear.
January 2007		Workshop among DEC, IFTA, WEI and UPNG partners	Yes, in February not January, and with senior staff from DEC prevented from attending by government decree
January 2007		Discussion papers and consultation towards National Strategy for Sustainable Use of Insects	No, (1) because of the embargo on NGO 'interference' with government policies, and (2) because a separate National Strategy for insects is not appropriate given the ongoing preparation by DEC of their own National Biodiversity Strategy and Action Plan. Instead, what the Workshop in February generated were (1) suggested amendments to NBSAP, and (2) an agreed Action Plan for Sustainable Use of Wildlife.
February 2007		Signing of National Strategy for Sustainable Use of Insects	No, for reasons explained above.
September 2006		Newsletters and press releases in PNG	Yes, but delayed to February-March 2007.

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

Generally positive feedback was received on last year's report, but no comments on the two Half Year Reports. A review of the project has not so far been suggested.

## 6. Partnerships

The relationships established and re-defined with partners within PNG have been fully described above. Working partnerships with IFTA and WEI continue, and relations with both organisations are now very cordial at staff level. The Department of Environment & Conservation, PNG Government (DEC), remains a more difficult problem, but some progress has been made following the Madang Workshop in February 2007 (see above).

Working relations with Vojtech Novotny and others in the Darwin Initiative project Binatang Research Centre, and with other NGOs and institutions in Madang, are positive. Madang itself has proved to be good base within PNG for the project.

## 7. Impact and Sustainability

We have done what we can to establish a presence within PNG, but it is too soon after the Workshop on Sustainable Use of Wildlife (February 2007) to measure any lasting impact. However, our efforts at capacity building in DEC have been largely ineffective, DEC being an almost stagnant and inert branch of government. For example, DEC is now classified by AusAID as too high-risk for Australian government engagement, and WWF have also tried to avoid any financial commitments. Both organisations have previously attempted much bigger capacity building programmes than our own. Our efforts at capacity building in the middlemen engaged in the insect trade may also founder, as both our partners are for different reasons in a fragile state, and are defective in structural ways that this project cannot alter or reform.

## 8. Outputs, Outcomes and Dissemination

The reasons for project delay and for some re-definition of project focus are reviewed above. The following Table re-visits the original Implementation Timetable, and comments on reasons for any shortfall.

## 9. Project expenditure during the reporting period

(Defra Financial Year 01 April 2006 to 31 March 2007)


**OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum). This section may be used for publicity purposes**

[I agree for ECTF and the Darwin Secretariat to publish the content of this section](#)

# Annex 1

## Report of progress and achievements against Logical Framework for Financial Year:

Project summary	Measurable Indicators	Progress and Achievements April 2007 March 2007
<p><i>Goal: To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but constrained in resources to achieve</i></p> <p><i>The conservation of biological diversity,</i></p> <p><i>The sustainable use of its components, and</i></p> <p><i>The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</i></p>		<p><b><i>See section 4</i></b></p>
Purpose		
Output 1.		
Activity 1.1		
Activity 1.2,		
Output 2.		
Activity 2.1.		
Activity 2.2.		
Output 3.		