

Darwin Initiative for the Survival of Species

Annual Report

Darwin Project Information

Project title	<i>Preservation, Rehabilitation and Utilisation of Vietnamese Montane Forests</i>
Country(ies)	<i>Vietnam</i>
Contractor	<i>RBGE/CEH/Central Forest Seed Company (Hanoi)</i>
Project Reference No.	<i>162/10/017</i>
Grant Value	<i>£227 801</i>
Start/Finishing dates	<i>June 2001 – June 2004</i>
Reporting period	<i>April 2002- April 2003</i>

Project Background

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

Viet Nam is among the most biologically diverse countries in the world. However, the forested areas with the highest biodiversity have been destroyed through conflict and overexploitation so that only 28% survive. These are mainly concentrated in the montane areas of the southern highlands, centered around Dalat and in the north and northwest. Deforestation has also resulted in fluctuations of up to 50% in the annual rice crop through flooding and erosion. The Vietnamese government recognises the difficulty of implementing reforestation and conservation programmes due to the lack of the training and resources. The aim of this project is to provide Vietnamese with knowledge, skills and confidence, which will equip them to contribute positively to the sustainable management of the montane forests.

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.

Project purpose : *To provide Vietnamese researchers and field staff with the knowledge and skills to enable them to undertake the sustainable management of the remaining montane forests through an integrated programme of training in theoretical and practical aspects of biodiversity assessment and utilisation.*

Project objectives : *This will be achieved by: 1) training in the accurate identification of threatened conifer taxa and their associated mycorrhiza; 2) assessment of the conservation status according to the current IUCN guidelines and in line with the recommendations of the recently published Conifer Action Plan (IUCN, 1999); 3) assessment of potentially economically useful threatened conifer taxa and their associated mycorrhiza and 4) development of appropriate methods for their propagation and utilisation within reforestation and rehabilitation projects in montane forests*

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

No major changes have occurred to the proposed objectives as stated in the Agreed Schedule. Construction of the web-site has been deferred to the final year. The consequent changes have been made to the budgets with the agreement of the Darwin Secretariat. The operational plan was modified slightly so that one of the UK experts could take advantage of an opportunity to make an extra visit to southern Vietnam as part of her consultancy for the monitoring of another Darwin project based in Vietnam.

Progress

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

The project started in June 2001. During the first year, each of the UK specialists visited Vietnam to initiate those aspects of the project for which they were responsible. Field work for the conifer and mycorrhizal work was undertaken in a wide range of areas in southern Vietnam and propagation workshops were held in regional centres in both northern and southern Vietnam. Selected trainees from Vietnam also visited the UK for intensive training in their relevant disciplines towards the end of the first year. All necessary reports were submitted to the Darwin Secretariat, the financial auditors, the Darwin monitoring organisation and Ministry of Agriculture and Development in Vietnam. The project received favourable reviews for its first year's work.

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

Agreed Baseline Timetable		Reporting Period April 2002-April 2003
Proposed Timing	Proposed Activity	Progress to date
<i>May-June 2002</i>	<i>Establishment of field plots</i>	<i>May-June 2002</i> ground preparation of plots commenced; plots due to be planted when propagated material from workshops and collecting activities are mature enough (late 2002 – early 2003)
<i>July-Aug 2002</i>	<i>Comparison of mycorrhizal diversity of threatened conifers</i>	<i>September 2002</i> Field work and training in N Vietnam undertaken
<i>July-Aug 2002</i>	<i>Collection of fruit-bodies and root samples of fungi for identification and reference.</i>	<i>September 2002</i> Field work and training in N Vietnam undertaken
<i>July 2002</i>	<i>Production of illustrated booklet on mycorrhizal diversity commenced</i>	<i>July onwards</i> Commenced, progressing well
<i>Sep – Oct 2002</i>	<i>Survey work, voucher collection of selected threatened conifer species commenced (North Vietnam)</i>	<i>Oct – Nov 2002</i> Field work with other Vietnamese institutions and NGOs
		<i>Oct 2002</i> Extra visit to S Vietnam by propagation expert
<i>Jan 2003</i>	<i>Nursery booklet on plant propagation commenced</i>	<i>July onwards</i> Commenced, progressing well
<i>Jan 2003</i>	<i>Propagation workshop</i>	<i>Jan/Feb (additional visit October 2002)</i> Successful (<i>see next section</i>)
<i>March-May 2003</i>	<i>Vietnamese personnel to UK</i> <i>*should have been included in original agreed baseline timetable</i>	<i>March-May 2003</i> Visit by to UK by Vietnamese trainee for mycorrhizal work <i>May 2003</i> Visit to UK by Viet. trainee for conifer manual work and training <i>May 2003</i> Visit to UK by Viet. trainee for conifer manual work and training (<i>see next section</i>)

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).

The project has three main strands – mycorrhizal, conifer taxonomy and conservation, propagation of endangered conifer species.

Mycorrhizal work: Vietnam

The annual visit to Vietnam by the mycology specialist from CEH took place between 7-21 September 2002. The aim was to survey edible mycorrhizal fungi in the pine plantations and natural forests of North and Central Vietnam. Fruitbody and root collections were made in forests managed by Forest Seed Enterprise stations at Lang Son and Quang Binh. At both stations, an introductory seminar on mycorrhizas was given to Enterprise staff. Practical training was provided to staff assigned to the mycorrhizal work, through field collection of fruitbodies and roots, and laboratory examination and identification of collections

The specialist was accompanied by the recently appointed field co-ordinator (Ms. Thanh –who spent 4 weeks in the UK undergoing intensive training at the end of the first year). In Lang Son 10 people attended the training seminar and four people were trained in field work over the following 4 days. At Quang Binh 8 people attended the seminar and three people were trained in field work over the following 4 days. Staff members were selected on the basis of the applicability and usefulness of the training within their current jobs. Fruit bodies and root samples that were collected during the specialist's visit as well as those that the Vietnamese co-ordinator had collected at other times of the year, were exported to the UK to provide training material for her second visit. During that visit, production of the manual proceeded.

Propagation: Vietnam

The propagation specialist made two visits to Vietnam during the reporting year. The first was a return visit to the southern Forest Enterprise station near Dalat between October 27-30th. During this visit, work from the previous year was reviewed and training in the preparation and presentation of scientific papers reporting the results of propagation trials was given to 5 staff from the enterprise. Four papers reporting the results of the work of the trainees being planned. Plant materials for field plot establishment were inspected and it was agreed that they would be planted when mature enough

The second visit took place between 16th February and the 1st of March. It was based at the Lang Son Forest Enterprise. During the visit, project staff who had been trained during the previous year's workshop, were required to run a small one day vegetative propagation workshop for four community nursery managers attached to the EU funded Cao Bang – Bac Can Rural Development Project. The workshop was successful and appreciated by the senior managers.

*A cone induction (a hormone based method used to produce seed where other factors make seed production impossible) trial with the rare and valuable *Cupressus tonkinensis* in Huu Lien Nature reserve was initiated. Vietnamese project staff are monitoring the trial and are required to produce a report during the third year.*

Plans for propagation manual were finalised. Following extensive discussion with project staff a dual language manual was agreed with line diagrams and a few

colour photographs. A series of photographs were taken during the trip and a few selected to be used for line diagrams.

Meetings were also held with managers of the Cao Bang – Bac Can Rural Development Project to discuss a potential EU bids under the ‘OPTION’ programme.

Conifer Taxonomy and Conservation: Vietnam

The visit by the UK conifer specialists took place over 4 weeks in October and November. Meetings were held with the principal Vietnamese co-ordinator, Dr Tai, to monitor the overall progress of the project and the timetable for the third year. A national conference organised by the DANIDA Indo-China Tree Seed Project was attended, and a paper outlining the remit of the project was presented to the delegates.

*Meetings were also held with staff from the Global Trees Campaign and Flora and Fauna International’s Darwin funded Hoang Lien Mountain Conservation project to discuss collaborative fieldwork and joint initiatives for the integrated conservation of a recently discovered population of the globally threatened conifer *Taiwania cryptomerioides*. As a result, a strategy involving both in-situ and ex-situ measures has been adopted. The project team spent five days in the field implementing the agreed strategy. Work will continue during the third year.*

*Further meetings were held with senior staff from the Institute for Biological Resources (IEBR) – the principal taxonomic institute in Vietnam - to discuss the progress of this Darwin Initiative and explore possibilities for joint work. As a result, one of their students joined the field work in the far north of Vietnam. This field work initiated a comprehensive survey of the distribution and conservation status of the newly described conifer *Xanthocyparis vietnamensis* and is ongoing, under the supervision of the principal co-ordinator, N.D.T.Luu.*

A two day workshop was held at the headquarters of the Central Forest Seed Company. This was attended by 16 people, including representatives of all northern Forest Enterprise Stations, as well as Provincial Departments of Agriculture and Rural Development and provincial Forest Development Departments. The main theme of the workshop was conifer taxonomy and conservation. Certificates of attendance were awarded at the end.

*Field work during the 4 week visit was concentrated on several sites. At the *Taiwania* site in Lao Cai Province the remaining population was surveyed and material collected for ex-situ conservation work. In Hagiang Province, survey work was commenced for *Xanthocyparis vietnamensis* and material collected for ex-situ conservation work. These collections have been integrated into the propagation strand of the project.*

*Field work was also undertaken in Cao Bang and Lang Son provinces as well as in HuLien Nature reserve and Van Linh district. In the last two areas, a misidentified species of *Cupressus* has become almost extinct due to the extremely high demand for its timber and its resin. The majority of international experts have assumed that the tree was an introduced, naturalised Mexican or Himalayan cypress but it appears that it may be a species that has previously only been known from herbarium records. Work is still underway at the RBGE to determine its true identity. Further fieldwork to try and locate any remaining natural populations is planned for the third year. An agreement in principle has been reached with the EU project, Cao Bang –Bac Can Rural Development Project 5, for market research to be carried out and land allocated for plantation trials once plants have been propagated. The *Cupressus* would be the main species but *Xanthocyparis* (which has similar qualities) would also be included. If this work is*

successful, then it will represent a variation on one of the key outputs of the project.

During all the field work, training was given to a range of people for varying lengths of time. It concentrated on practical field skills learnt through active collecting of herbarium specimens of conifers and their associated species.

Conifer Taxonomy and Conservation Scotland:

A 4 week period of training in conifer conservation, taxonomy and the management of botanic gardens was scheduled to be carried out at the RBGE in April to coincide with the visit by the mycology trainee. However, due to delays in processing visa application, the visit was delayed until May and June 2003. The trainee was selected on the basis of his involvement with the management of a new botanic garden set up by the northeast Forest Enterprise in Lang Son. During the visit work on the conifer identification manual was commenced. These activities will be reported in the final report.

Discuss any significant difficulties encountered during the year.

No significant difficulties were encountered during the second year of the project.

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

The overall design of the project remains the same as at the end of the first year. The in-country co-ordinators continue to be an asset to the project. Major outputs and objectives are on schedule although some of the measurable outcomes such as published or submitted papers may not be available until the end of the third year.

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

Provisional Work Schedule 2003/2004

Section 1 Mycology		
<i>Period</i>	<i>Staff</i>	<i>Activity</i>
<i>Jun – March 2004</i>	<i>Vietnamese counterparts</i>	<i>Continuation of work on identification of fruit bodies and root samples.</i>
<i>June 2003</i>	<i>Specialist and co-ordinator</i>	<i>Third visit for field work – north and northwest Vietnam</i>
<i>February 2004</i>	<i>UK staff and Vietnamese counterparts</i>	<i>Completion of manuals</i>
<i>February/March 2004</i>	<i>UK staff and Vietnamese counterparts</i>	<i>Final workshop, presentation of manuals and main results</i>
Section 2 Propagation		
<i>Period</i>	<i>Staff</i>	<i>Activity</i>
<i>June 2003- June 2004</i>	<i>UK staff and Vietnamese counterparts</i>	<i>Continued liaison with Dalat and Lang Son staff re experiments. Collation of results</i>
<i>February 2004</i>	<i>UK staff and Vietnamese counterparts</i>	<i>Completion of manuals</i>
<i>February/March 2004</i>	<i>UK staff and Vietnamese counterparts</i>	<i>Final workshop, presentation of manuals and main results</i>
Section 3 Conifer Conservation		
<i>Period</i>	<i>Staff</i>	<i>Activity</i>
<i>June – October 2003</i>	<i>UK staff and Vietnamese counterparts</i>	<i>Preparation for third visit to Vietnam</i>
<i>Oct – Nov 2003</i>	<i>UK staff and Vietnamese counterparts</i>	<i>Third visit by UK specialists. Joint field work with other Vietnamese institutions and practical training for Vietnamese counterparts</i>
<i>Feb 2004</i>	<i>UK staff and Vietnamese counterparts</i>	<i>Completion of manuals</i>
<i>February/March 2004</i>	<i>UK staff and Vietnamese counterparts</i>	<i>Final workshop, presentation of manuals and main results</i>
<i>June 2004</i>	<i>All project members</i>	<i>Completion of final reports</i>

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?

As outlined in the sections above the collaboration between the UK and host country partner has been excellent.

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?

Several collaborative projects have been established in the last year.

The EU funded Cao Bang –Bac Can Rural Development Project 5 is undertaking market research with the Forest Science Research Institute on the commercialisation of non-timber forest products for 2 of the main threatened conifers that this Darwin project has been focussing on.

*A joint programme for the integrated conservation of the recently discovered population of the threatened conifer *Taiwania cryptomerioides* has been established. This programme involves collaboration between another Darwin Initiative (FFI Community Based Conservation of Hoang Lien Mountain Ecosystem), Forest Inventory and Planning Institute (Hanoi) and the University of Hanoi.*

*An collaborative survey on the distribution and conservation status of the threatened conifer *Xanthocyparis vietnamensis* is in progress. This involves Forest Research Institute (Hanoi), Forest Inventory and Planning Institute (Hanoi) and the Institute for Biological Resources.*

Both of these projects are supported by the IUCN Conifer Specialist Group.

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 continues to be promoted within the country through meetings with other local and national Vietnamese government departments as well as other foreign organisations working within Vietnam. The profile of the project was significantly raised as a result of the presentation at a major National Conference of Conservation. The impact of the project in terms of increasing interest and capacity for biodiversity is evidenced in the increasing collaboration between our principal partner and other key Vietnamese organisations with a conservation remit. The exit strategies for this project are the same in principal as in the proposal and are detailed below.

As the seminar/ workshop approach is aimed at the postgraduate staff and field specialists exchanging techniques with the UK specialists, the project will continue in two directions. The postgraduate staff will incorporate the knowledge gained into their teachings and the local field technicians will teach these techniques to members of their staff – this is already happening as trained staff run their own workshops and supervise field work. At a national level, the Vietnamese government will continue with the strategy of rehabilitating montane

forests in line with their Biodiversity Action Plan and their reforestation plans. In addition, proposals are still being developed for the long term sustainable utilisation of non timber forest products.

Post-Project Follow up Activities (max 300 words)

This section should be completed ONLY if your project is nearing completion (penultimate or final year) and you wish to be considered for Post Project Funding. *Each year, a small number of Darwin projects will be invited to apply for funding. Selection of these projects will be based on promising project work, reviews to date, and your comments within this section. Further information on this scheme is available from the DEFRA website.*

From project progress so far, what follow-up activities would help to embed or consolidate the results of your Darwin project and why would you consider these as suitable for Darwin Post Project Funding?

What evidence is there of strong commitment and capacity by host country partners to enable them to play a major role in follow-up activities?

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)

Project Section	Scheduled Code No.	Achieved Code. No	Scheduled Quantity	Achieved outputs	Description
<i>Combined</i>	8		12	13	<i>UK staff – extra week in Vietnam by Propagation expert</i>
<i>Conifer work (Vietnam)</i>	4A	4C	7	6	<i>6 Vietnamese postgraduates trained for conifer identification and conservation assessment. Length of training varies from 1-4 weeks per person</i>
	4B	4D	7	11	<i>sum of the number of training weeks provided</i>
	13B	13B	1	1	<i>specimens deposited in host country and at RBGE</i>
	14A	14A	0	1	<i>seminar on conifer identification, diversity, taxonomy and conservation for 15 Vietnamese staff from the CFSC and Forest Enterprise, Forest Development Department and Forest Protection Department from 4 provinces</i>
	<u>11A</u>	<u>11A</u>	<u>0</u>	<u>1</u>	<u>Paper submitted to Oryx journal</u>
	<u>11B</u>	<u>11B</u>	<u>0</u>	<u>6</u>	<u>Conference papers, newsletter articles, experimental reports</u>
	<u>14B</u>	<u>14B</u>	<u>0</u>	<u>1</u>	<u>Project profile presented at National Workshop on Conservation of Forest Genetic Resources, 8 November 2002, Sun City Hotel, Hanoi</u>
	<i>Conifer work (UK)</i>	<u>4A</u>	<u>4C</u>	<u>0</u>	<u>1</u>
<u>4B</u>		<u>4D</u>	<u>0</u>	<u>4</u>	<u>Training weeks provided at the RBGE</u>
<i>Mycology work (Vietnam)</i>	4A	4C	5-10	5	<i>Four Vietnamese trained in field and laboratory work for two weeks; 5 others trained in field work for one week each</i>
	4B	4D	2	2	<i>2 weeks training</i>
	13B	13B	1	1	<i>Reference collection of fungal</i>

					<i>fruiting bodies enhanced</i>
<i>Mycology work (UK)</i>	<u>4C</u>	<u>0</u>	<u>1</u>		<u><i>In the Agreed Schedule no visits to the UK were scheduled for Year 2. One trainee was based at CEH</i></u>
	<u>4D</u>	<u>0</u>	<u>4</u>		
<i>Propagation</i>	4A	4A	10	10	<i>One four day training workshops held in Lang Son (N Vietnam)</i>
	4B	4B	2	2	
Other outputs			23	\$US 1200	Field costs for continuing field survey on <i>Xanthocyparis vietnamensis</i> . Paid for by DANIDA Indo Tree Seed Project

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?

In Table 2, provide full details of all publications and material produced over the last year **that can be publicly accessed**. Details will be recorded on the Darwin Monitoring Website Publications Database. Mark (*) all publications and other material that you have included with this report.

Table 2: Publications

Type *	Detail	Publishers	Available from	Cost
(e.g. journal paper, book, manual, CD)	(e.g. title, authors, journal, year, pages)	(name, city)	(e.g. contact address, email address, website)	£

The publications that have been produced during the second year consist of draft papers, submitted (but not published papers) and internal reports. These are currently unavailable to the public. A number of these will be available at the beginning of the third year – outside of the current reporting year.

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?

Dissemination activities have involved inviting members of related government departments, other institutions and other conservation projects based in Vietnam to attend practical workshops and meetings. They have also included the

presentation of a paper detailing the work of the project to a major meeting of Vietnamese conservation organisations in Hanoi. Dissemination activities will continue beyond the finish of the project through the distribution of the manuals to relevant organisations. These manuals will provide a constant reminder of the work of the project. We do not foresee that this activity will require extra funding. Dissemination of the outputs of the project will also continue through global public access to a website. The exact content (e.g. on-line copies of the manuals) and the cost of maintaining the website beyond the end of the project has not been decided yet.

Project Expenditure

Please expand and complete Table 3.

Table 3: Project expenditure during the reporting period

Item	Budget	Expenditure
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- *There is an underspend as at 31/03/03 due to a delay in the issue of the visa for one of the Vietnamese trainees (Mr Thang). He was due to arrive within the second financial year but did not arrive until May 8 2003. This resulted in a delay in spending in the T&S budget heading. There has also been a carry forward of £750 from Others to the 03/04 financial year.*

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

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 are the indicators of achievements (both qualitative and quantitative) and how are you measuring these?

The purpose of the project is to provide Vietnamese researchers and field staff with the knowledge and skills to enable them to undertake the sustainable management of the remaining montane forests.

The methods that have been employed to monitor and evaluate the project in its second year have been similar to those used in the first e.g. group discussions between UK staff and key Vietnamese collaborators during their visit to the UK,

continuing evaluation of the progress made with work agreed during visits to Vietnam. Tasks involved the continued collection of fruiting bodies for the mycorrhizal work (evidenced by the specimens brought to the UK by the Vietnamese trainee, the collection of specimens for the conifer work and the continuation of experiments set up during the visit by the propagation specialist (evidenced by the rooted cuttings of the new conifer Xanthocyparis vietnamensis brought to the RBGE by the second Vietnamese trainee). Draft reports have been produced summarising initial results of the field surveys for newly discovered conifers and propagation work relating to those conifers. A joint paper on the conservation status of selected Vietnamese conifers (written by the principal Vietnamese co-ordinator, N.D.T.Luu, P. Thomas (RBGE) and Dr A. Farjon (Chairman of IUCN Conifer Specialist Group) has been submitted to the international conservation journal Oryx.. This paper includes the results of work that was carried out in the first year. Work is progressing well on the production of the three manuals that represent one of the major outputs of the project. It is obvious that the visits by the UK staff and the practical and theoretical training that was given has had a positive effect that was enhanced by the training undertaken in the first year.

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

The second year of this project built on the lessons learnt, and the shortcomings identified in the first year. Priority has been given to greater contact with other projects within Vietnam and this has led, and will continue to lead to greater collaboration with the aim of ensuring the development of integrated conservation strategies e.g. the joint project that is developing with FFI's Darwin initiative in the Hoang Lien Mountains and the joint project that is developing with the European Union funded Cao Bang Rural Development project. Better financial management at the RBGE (following the appointment of a dedicated project finance office for all externally funded projects) has improved the efficiency of the project. The final year will be an extremely busy year but should also be a very productive one.

Author(s) / Date

Martin Gardner (project leader)

Dr Nguyen Duong Tai (project leader)

Philip Thomas (gymnosperm specialist)

Ngueyn Duc To Luu (principal co-ordinator)

Jan Dick (propagation expert) N.V. Canh (propagation co-ordinator)

Kevin Ingleby (senior mycologist), Xuan Thanh Vu (mycology co-ordinator)

Appendix 1. Logical framework as per original proposal

Project summary	Measurable indicators	Means of verification	Important assumptions
<p><i>Goal</i></p> <p>To assist countries that are rich in biodiversity but poor in resources with the conservation of biological diversity and the implementation of the Biodiversity Convention</p>			
<p><i>Purpose</i></p> <p>To provide Vietnamese researchers and field staff with the knowledge and skills to enable them to undertake the sustainable management of the remaining montane forests through an integrated programme of training in theoretical and practical aspects of biodiversity assessment and utilisation.</p>	<p>1. Development of a publication identifying the long-term conservation status of the montane forests of Viet Nam based on the initial assessment</p> <p>2. Twenty seven Vietnamese scientists, foresters, nurserymen trained in and able to display the knowledge and skills necessary to rehabilitate and sustainably manage the threatened conifer component of the montane forests of Viet Nam</p> <p>3. Production of publications and manuals containing data-sets, assessments and the technology amassed by UK and Vietnamese project staff for wide dissemination to Vietnamese foresters/ organisations</p>	<p>Workshops</p> <p>Reports of Workshops</p> <p>Illustrated training field guides/manuals given to each Vietnamese person attending workshops</p> <p>Annual visits by UK experts</p> <p>Oral presentations by Vietnamese personnel</p> <p>Data collected and assessed by Vietnamese personnel and discussed with UK experts during visits</p> <p>Final Report</p>	<p>Able to visit montane forests to undertake observations, make assessments and provide training</p>
<p><i>Outputs</i></p> <p>1. Assessment of the conservation status of the montane forests of Viet Nam and establishment of a long term monitoring framework</p> <p>2. Capacity building for conservation, sustainable exploitation and restoration of the montane forests of Viet Nam</p> <p>3. Joint application with a commercial company for commercial development of non timber forest products e.g. taxol, mushrooms</p>	<p>1. Vietnamese personnel able to assess and monitor the long term conservation status of the montane forests of Viet Nam</p> <p>2. Twenty seven Vietnamese personnel able to utilise the information/ technology transferred during workshops and seminars organised by UK experts for sustainably managing montane forests of Viet Nam</p> <p>3. Development of a collaborative link and joint application with a commercial company for commercial development of non timber forest products e.g. taxol, mushrooms</p>	<p>Annual visits by UK experts</p> <p>Oral presentations by Vietnamese personnel</p> <p>Final seminar</p> <p>Submission of papers</p> <p>Submission of joint application with commercial company</p> <p>Final Report</p>	<p>Able to visit montane forests to make assessments and provide training</p>

<p><i>Activities</i></p> <p>1. <i>Monitoring of threatened conifer taxa and their associated mycorrhizal fungi</i></p> <p>2. <i>Establishment and maintenance of compact mycological herbaria containing reference collections of named mycorrhizal fungi and the associated hosts</i></p> <p>3. <i>Assessment of the conservation status according to the current IUCN guidelines and in line with the recommendations of the recently published Conifer Action Plan (IUCN, 1999) and the Biodiversity Action Plan for Viet Nam (Hanoi 1994)</i></p> <p>4. <i>Assessment dissemination and uptake of conservation priorities and strategies for the montane forests</i></p> <p>5. <i>Assessment dissemination and uptake of options for sustainable and participative small scale exploitation by local communities</i></p> <p>6. <i>Assessment and uptake of sustainable exploitation of non timber forest products with a commercial company e.g. Taxol, mushrooms</i></p> <p>7. <i>Assessment dissemination and uptake of options for restoration of degraded areas through the development of appropriate methods of plant propagation</i></p>	<p>1. <i>Recording and creating a data base of occurrence and diversity of threatened conifer taxa and their associated fungi at selected sites</i></p> <p>2. <i>Deposition of reference collections of named mycorrhizal specimens and fruitbodies together with specimens of the associated threatened conifer taxa,</i></p> <p>3. <i>Publication identifying the conservation status of threatened conifers and their associated mycorrhizal flora</i></p> <p>4. <i>Evaluation of conservation strategy applicable to the montane forests of Viet Nam</i></p> <p>5. <i>Development of a strategy for sustainable and participative small scale exploitation by local communities (especially edible mushrooms)</i></p> <p>6. <i>Development of a joint application with a commercial company for commercial development of non timber forest products</i></p> <p>7. <i>Development of propagation technology for restoring threatened conifer taxa to montane forests</i></p>	<p><i>Publications</i></p> <p><i>Web Page</i></p> <p><i>Reference collections of named mycorrhizal specimens and fruitbodies deposited in herbaria together with specimens of the associated threatened conifer taxa,</i></p> <p><i>Database of trees sampled and assessed for their mycorrhizal fungi (on Web Page)</i></p> <p><i>List of conifer taxa sampled (on Web Page)</i></p> <p><i>List of mycorrhizal fungi identified (on Web Page)</i></p> <p><i>List of edible fungi recorded (on Web Page)</i></p> <p><i>Propagation methods appropriate to each conifer taxa placed on Web Page and in Final Report</i></p> <p><i>Stocks of threatened conifers established in Central Forest Seed Company Nurseries</i></p> <p><i>Submission of joint application with commercial company</i></p> <p><i>Final Report.</i></p>	<p><i>Able to visit montane forests to undertake field work</i></p> <p><i>Suitable climatic conditions for general plant growth and the production of the appropriate material e.g. Fruitbodies formed mycorrhizal fungi during life of project</i></p>