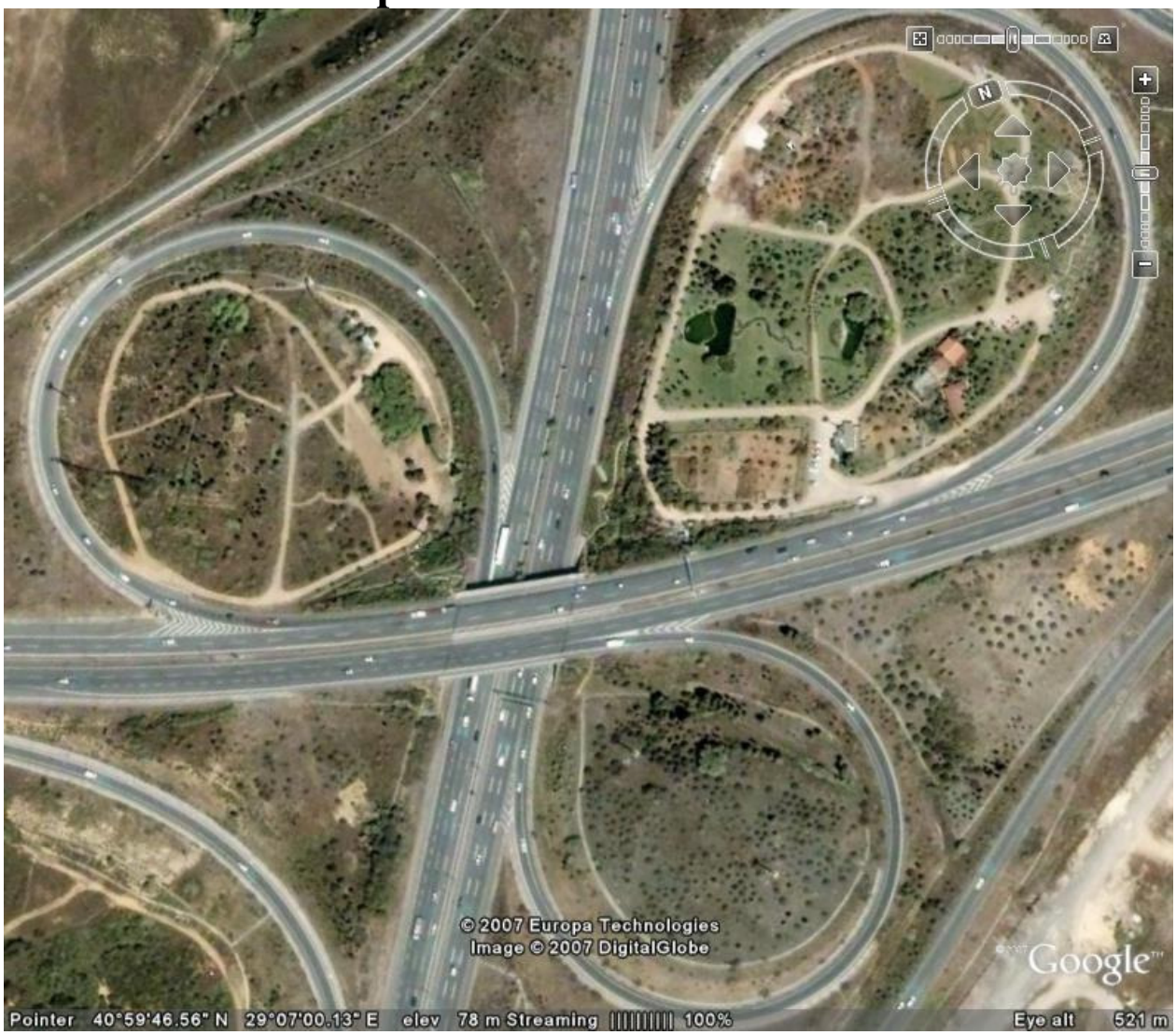
Horticulture and education for conservation in Nezahat Gökyiğit Botanik Bahçesi, Istanbul, Turkey

Annual Report No. 2
April 2006 – March 2007



Google Earth view of part of Nezahat Gökyiğit Botanik Bahçesi

Compiled by Dr David Rae and Prof Dr Adil Güner

Funded by the Darwin Initiative for the Survival of Species

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Darwin Project Information

Project Ref. Number	14-026
Project Title	Horticulture and education for conservation in Nezahat Gökyiğit Botanik Bahçesi, (Istanbul, Turkey)
Country(ies)	Turkey
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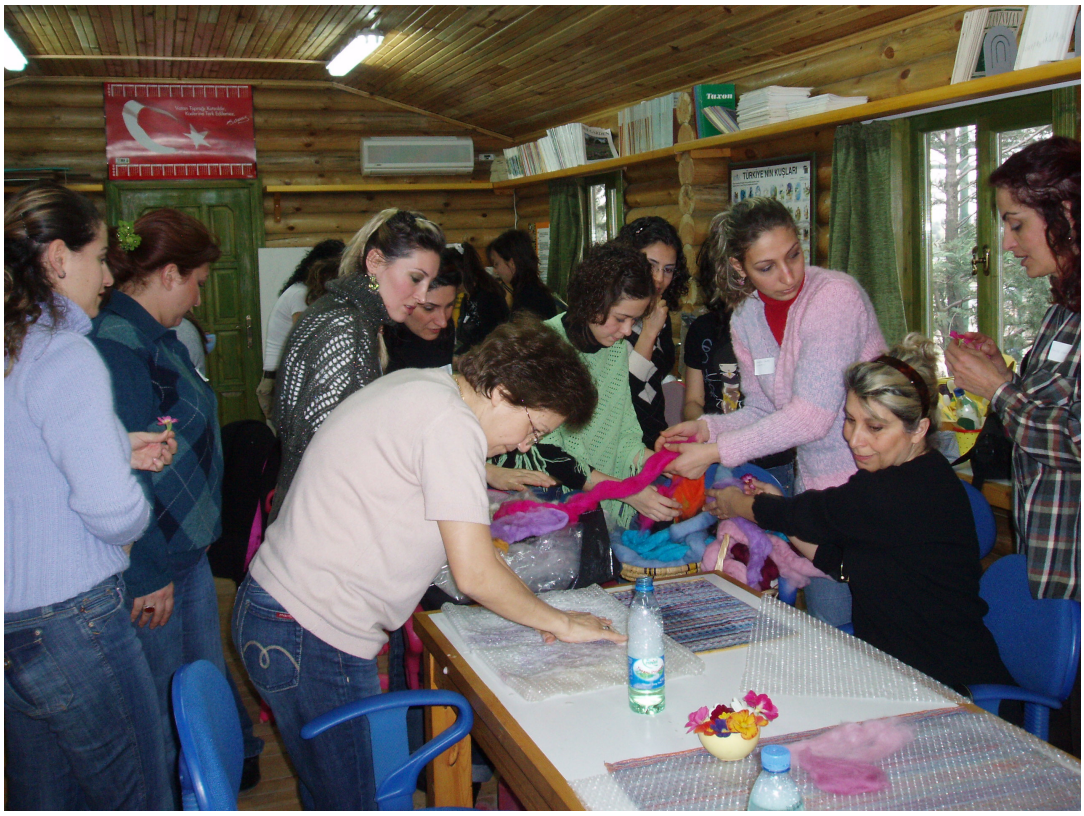

Teachers in an 'art for education' workshop

1. Project background

The project is based at Nezahat Gökyiğit Botanik Bahçesi (NGBB) which is located in the intersection of two motorways in eastern Istanbul. NGBB was established as a park in 1995 and was subsequently designated a botanic garden in 2003. The garden is therefore young and, while the staff are very enthusiastic and innovative, they lack core skills in horticulture and education. Without these skills the garden will not progress from being a park to becoming a 'true' botanic garden, able to contribute to native plant conservation. Turkey has a large and important flora but with increasing development and few other botanic gardens or environmental NGOs there is real concern for its conservation.

The primary purpose of NBGG is the conservation of Turkey's unique flora through education, research and direct, practical conservation (*in situ* and *ex situ*) techniques. To do that it needs skilled staff. Until the staff have the relevant experience and expertise the Garden will not be able to contribute to the objectives of the Convention on Biological Diversity (CBD). Likewise, until

the Garden is attractive and functioning well it will not attract visitors, either local or tourist, and will not be able to inform people about biodiversity/conservation issues. Put simply the project aims to increase expertise in horticulture and education so that the Garden will eventually be able to play its part in conservation, education and research and therefore fulfil its responsibilities within the CBD.

Teachers in an 'art for education' workshop

2. Project partnerships

The main partnership is between Nezahat Gökyiğit Botanik Bahçesi (NGBB) and the Royal Botanic Garden Edinburgh (RBGE) and it is pleasing to record that this partnership has developed and progressed well during the year. There have been no problems with the partnership and all the staff involved, on both sides, have found the partnership stimulating and rewarding. While friendships are strong both parties recognise the importance of making every effort to achieve the stated outcomes, stay within budget and respect the abilities of all colleagues. Both parties have also developed during the year and are that little bit more effective at delivering the required outcomes of the project. Also, during the year other organisations have begun to be involved such as Botanic Gardens Conservation International (BGCI) and several Turkish Universities. The partnership between the two main institutions is not just channelled between the two key contacts (Prof Dr Guner and Dr Rae) but, as more staff have become involved, then professional friendships have started developing to the benefit of the project.

The conservation and networking workshop (described in more detail in the following section) has started a process that will help Turkish botanic gardens, particularly university botanic gardens, build their capacity to meet CBD commitments. RBGE and NGBB are both members of the UK-based botanic garden networking organisation BGCI and it was excellent that their Director General was able to accept our invitation to join the conservation and networking workshop.

BGCI has excellent networking and capacity building expertise and superb knowledge of relevant policies and strategies and it was highly worthwhile to get them involved with the project.

The project has not yet made a link with CBD officials or the CBD focal point in Turkey but this is an expressed outcome of year 3 of the project. NGBB is still very new and so it has not yet had the capacity to collaborate with similar projects in Turkey but, as it matures, it is very much their intention of doing so. Prof Dr Güner is extremely well known amongst the scientific, botanical and environmental communities in Turkey and he is very good at inviting others to visit and take an interest in NBGG. Collaboration and networking with others, both at home and abroad, will be a key component of the way in which NGBB operates projects in the future.

Teachers in an 'art for education' workshop

3. Project progress

Project progress during the year has been good. All the planned activities have taken place and a few additional activities have been made possible through additional external funding. All activities have been carried out in the manner and time planned. No changes to the Logical Framework have been sought and progress against it are outlined in section 3.2 below. In addition, activities and outcomes have been inserted into the Logical Framework shown in Annex 1. All activities remained within budget.

3.1. Progress in carrying out project activities

Activities are reported against 'Project outputs' as they appear in Q21 of the Stage 2 application. A brief description of the activity is given and, where appropriate, reports which are included in the appendix, have been compiled.

6A Staff at NGBB to receive a period of on-the-job training. Approx 6 staff to be trained for 3 weeks in horticultural techniques.

Garden Supervisor Graham Stewart and horticulturist Phil Ashby spent 3 weeks at NGBB leading this training period. Their work was broken up into three sections- formal instruction in specific techniques, work on a specific project and shoulder-to-shoulder work with NBGG staff undertaking routine maintenance. A report on their work appears in Appendix I.

6A Two staff from NGBB to spend 5 weeks at RBGE undertaking horticultural training.

As agreed by the Darwin Initiative Secretariat and reported in last year's report, instead of two staff from NGBB coming to RBGE in Year 1 and a further 2 in Year 2, it was decided that, that for a number of reasons, it would be better for four to come over in Year 2. During this time at RBGE the NGBB staff attended formal training demonstrations of horticultural techniques, worked alongside staff on routine maintenance and took part in discussions on aspects of botanic garden work and purposes. During their visit they were also able to visit the Royal Botanic Gardens Kew and Benmore Botanic Garden. These were structured visits and they were shown around by members of staff.

6A Three staff from RBGE to lead a Botanic Garden Education Workshop at NGBB for three weeks.

The original plan, as presented in the Stage 2 application form, was for three of RBGE's education staff to visit NGBB for 2 weeks to lead education workshops. Having discussed NGBB's particular needs/requirements with Dilan Bayindir (NGBB's education officer, who had not been appointed at the time of the original Darwin project application) it seemed better to undertake two separate visits, each with a different focus. Additionally, there were sufficient funds available in the budget to send two staff for two weeks and two staff for one week.

Leigh Morris (Head of Education) and Cath Evans (primary school teacher) took part in the first visit. Leigh Morris concentrated on horticulture skills training and developed a system to introduce courses in basic horticulture that could be certificated by RBGE. This will give staff the opportunity to study core skills, adapted to their environment and then receive recognition in the form of a Certificate from RBGE. Discussions were very fruitful and it is planned to offer these Certificate courses to selected staff in 2008 (but not specifically as part of the project).

Cath Evan's work focused on the children's garden and how this could be used effectively for conveying issues about recycling, sustainability, the importance of plants, food, plant growth and cultivation. The site for the children's garden had been prepared during the visit by Graham Stewart and Phil Ashby and so Cath was able to move straight in to utilisation of the area for educational uses by children. She was able to work with the Education Officer, Dilan Bayindir, often accompanied by school children and teachers, to discuss and develop ways of using the garden for educational purposes. Leigh Morris' and Cath Evans' joint report is appended in Appendix II.

Susie Kelpie (Head of Schools Education and secondary school teacher) and Jacqui Pestell (arts education officer) visited NBGG for one week to develop an education programme for secondary school pupils. Susie Kelpie worked with Dilon Bayindir and a group of secondary school teachers to develop the best and most effective ways of using the resources of the garden for teaching secondary school children aspects of plant biology.

At RBGE Jacqui Pestell uses art to teach plant biology from primary school children right the way through to adult education courses. During her visit to NBGG she worked with Dilan Bayindir and a group of teachers to explore ways of using the resources of the garden and simple, cheap and

easy to source items from shops to lead art workshops. These were highly successful and very well received. Susie Kelpie and Jacqui Pestell's joint report appears in Appendix III.

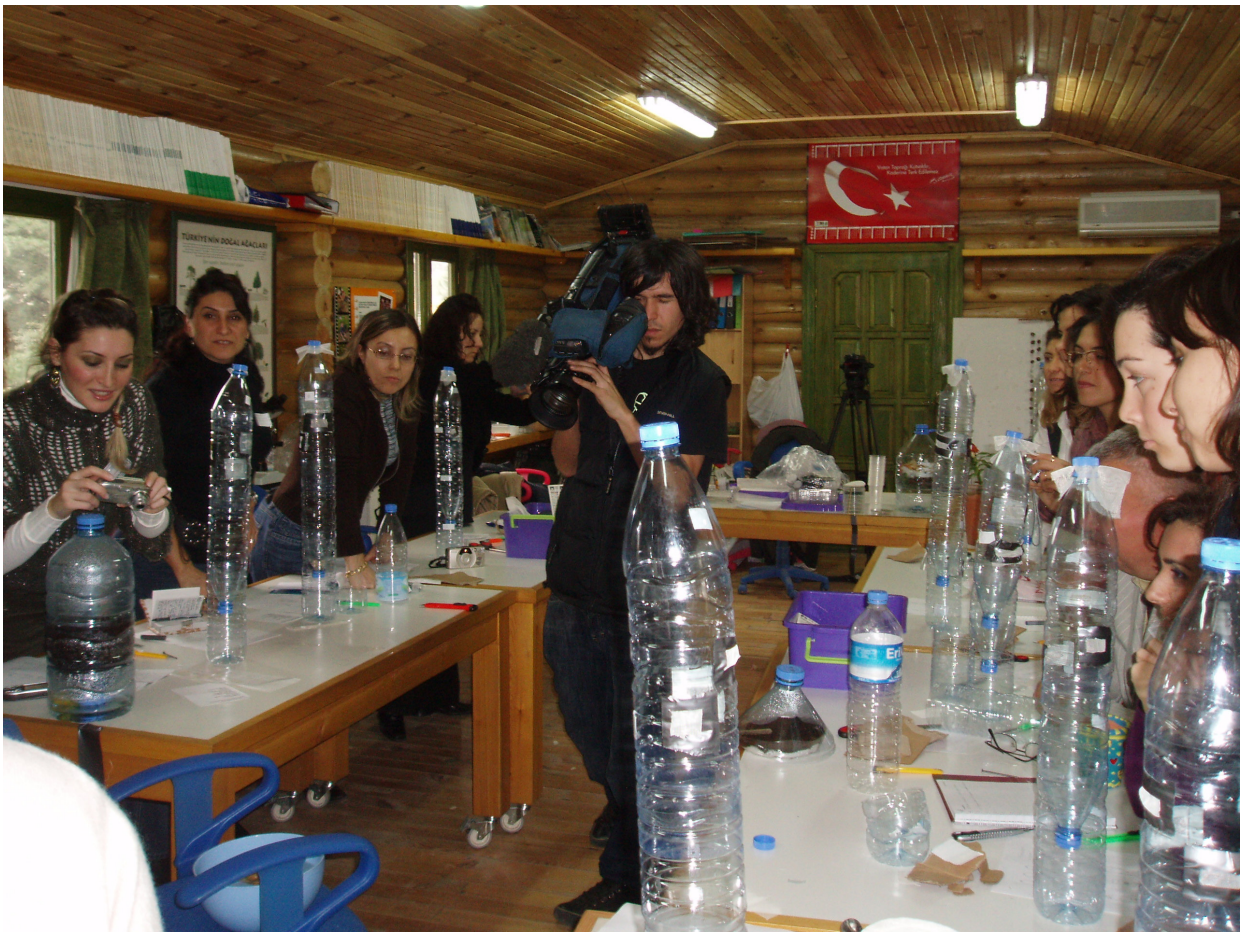
6A Three staff from RBGE to join with specialists from Turkey for a one week workshop in conservation techniques and planning.

Dr David Rae (Director of Horticulture and Darwin project leader), Prof Mary Gibby (Director of Science) and Tony Miller (taxonomist and SE Asia plant specialist) travelled from RBGE to take part in the workshop. It had also been possible to invite Sara Oldfield (Director General of Botanic Gardens Conservation International) to take part under a funding package arranged by NGBB separately from the Darwin Project. Furthermore, again using additional funds secured by NGBB, it was possible to invite several more staff from other Turkish botanic gardens, universities and institutions than had at first been thought possible.

The presentations were given by all staff from RBGE and BGCI along with Prof Dr Adil Güner and other staff from Turkey. Topics covered included the work of botanic gardens in conservation, examples of conservation projects, Important Plant Areas, the value of networking and the Global Strategy for Plant Conservation.

The workshop was attended by 47 people and appeared to be a great success. English presentations were translated into Turkish. Apart from raising the potential of plant conservation in botanic gardens and discussing conservation issues and techniques, a major outcome was the intention to try and create a Turkish network of botanic gardens. Some of the presentations have been bound into a report which appears in Appendix VI. There is no electronic version of this report and it is emphasised that it does not cover every presentation.

The short descriptive accounts above cover all the planned areas of activity for the year. However, using additional external money a number of additional, but linked, activities were made possible. These were as follows:



Teachers taking part in a secondary schools level plant biology workshop (and being recorded doing so for Turkish television).

Tony Garn, Robert Tindall and Fiona Inches visited NGBB to give instruction in horticultural techniques, help with maintenance and provide further plant records training. Tony Garn and Robert Tindall visited for two weeks and Fiona Inches for one week. Phil Ashby (who had visited earlier in the year) was able to return to NGBB for a further period to continue the installation of the meteorological station and help further with the construction of the children's garden. Tony Garn produced a booklet of notes on Health and Safety issues for NGBB and this is included in Appendix IV.

3.2. Progress towards project outputs

The short accounts presented above provide brief descriptions of the various elements undertaken on the project during Year 2. In this subsection the activities carried out are cross referenced against actual project outputs as presented in the original and unchanged Logical Framework presented in the Stage 2 application.

i. "A botanic garden with a well curated collection of plants".

The measurable outputs were that at least 6 staff would have been given basic horticultural training and that the number of plants in cultivation would increase. Staff have been given training and demonstrations of horticultural techniques at NGBB twice (in years 1 & 2) by staff from RBGE and at least six staff have attended these on both occasions. In addition four of NGBB's horticultural staff have now visited RBGE for intensive training. The effect of this training is clear and visible for all to see. The garden at NGBB goes from strength to strength and is improving visually year on year. In addition the quality of cultivation and care is increasing and staff are cultivating more challenging plants with increased confidence. New plants are coming into the collection all the time and it is pleasing to see that the number of native plants is increasing, in

particular. The collection of bulbs is impressive by any standards and NGBB are to be congratulated on their horticultural management of this important conservation collection. It is also pleasing to see NGBB starting to cultivate threatened species from Turkey. New areas of the garden are being cultivated and, again, it is very pleasing to see the confidence with which the staff are developing and then maintaining new aspects of the landscape and collection.

ii. "A functional nursery with two trained staff". An efficient and functional nursery is a key component of a successful botanic garden. Without new plants entering the system a botanic garden soon becomes static and dysfunctional. The nursery facilities are small but very functional and, as a result of the propagation and nursery work workshop in year 1, it is satisfying to note that the nursery is working well and that, as the measurable indicators notes, "plants grown from seeds and cuttings survive and are grown in the Garden". Horticultural training subsequent to the original propagation workshop has continued to reinforce the importance of a functional and efficient nursery.

iii. "Staff receive training in collection techniques, data sources and seed cleaning and storage. New plants enter the collection". This workshop was held in year 1, right at the start of the project, as it is so vital to ensure that plants collected for a botanic garden are collected in the right way and that all the necessary field data is attached. These plants, with their data then feed into the nursery and then out into the garden. The training given and the timing of that training has been designed to follow the journey through from collection to planting out and aftercare and it is very pleasing to see that plant material continues to be collected following the agreed protocols and that appropriate care is taken of them and their data in the nursery (and database) and that this follows with careful planting and aftercare. In this context it was superb to see plants of the threatened *Centaurea iconiensis* that had been collected in the wild and then propagated and grown on, being boxed up ready for transport back into the field. How many botanic gardens of this stage of their development could have managed a reintroduction programme so soon after being established? This really is a magnificent achievement and, while we cannot claim that it was entirely due to the Darwin project, it is very satisfying to know that horticultural and propagation training given to staff at NGBB has contributed directly to this plant being reintrocuded back into the wild.

iv. "An accurate plant records database in place". The botanic garden database *BG-BASE* was installed, and training given, in year 1 of the project but training continued during Year 2. Some technical problems were encountered during the year but these have now been solved.

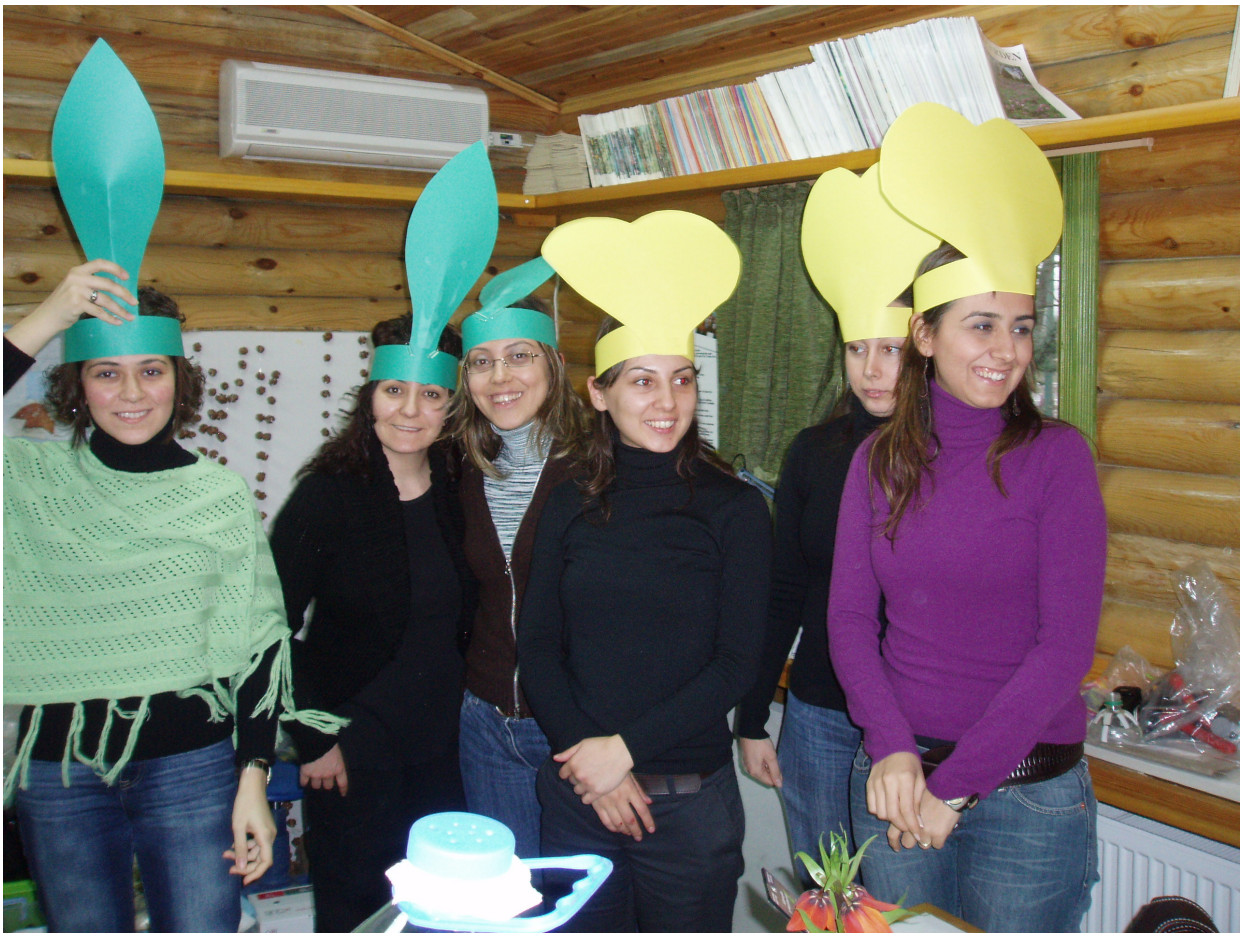
v. "An Education Policy showing how to use the Garden for educational purposes". As stated in the section above the Darwin application was written before Dilon Bayindir, NGBB's Education Officer, was in post and her needs and requirements were discussed in detail at the end of Year 1 so as to ensure that the education training given in Year 2 was what was required. As described above, four RBGE education staff visited on two occasions (two for two weeks and two for one week). Those visits covered horticultural training, primary education, secondary education and the use of art in education, all in connection with deriving the best use from botanic garden resources to deliver these levels/types of education. Having interviewed Dilon Bayindir after the visits it was very clear that the training and workshops had been very beneficial to her and she now has many more ideas and examples of how to use the garden and its plants for these types of training.

vi. "A management plan for the three conservation zones". The workshop covered conservation *and* networking at the request of NGBB management. A considerable amount of conservation work has been done both within the Darwin project and by others but it is too early yet to write a management plan. The workshops discussed ideas and issues in general but these now need to be applied to the areas in question. Initial survey work has been carried out and an inventory of plant species now exists.

vii. "An Interpretation Master Plan". This will be produced in year 3.

viii. "Small conference on CBD and GSPC issues in Turkey". This will take place in Year 3.

This subsection has showed how overall progress is being made towards project outputs. It demonstrates that everything that should have been completed by the end of year 2 has been completed and that the only outstanding outputs are those earmarked for year 3.



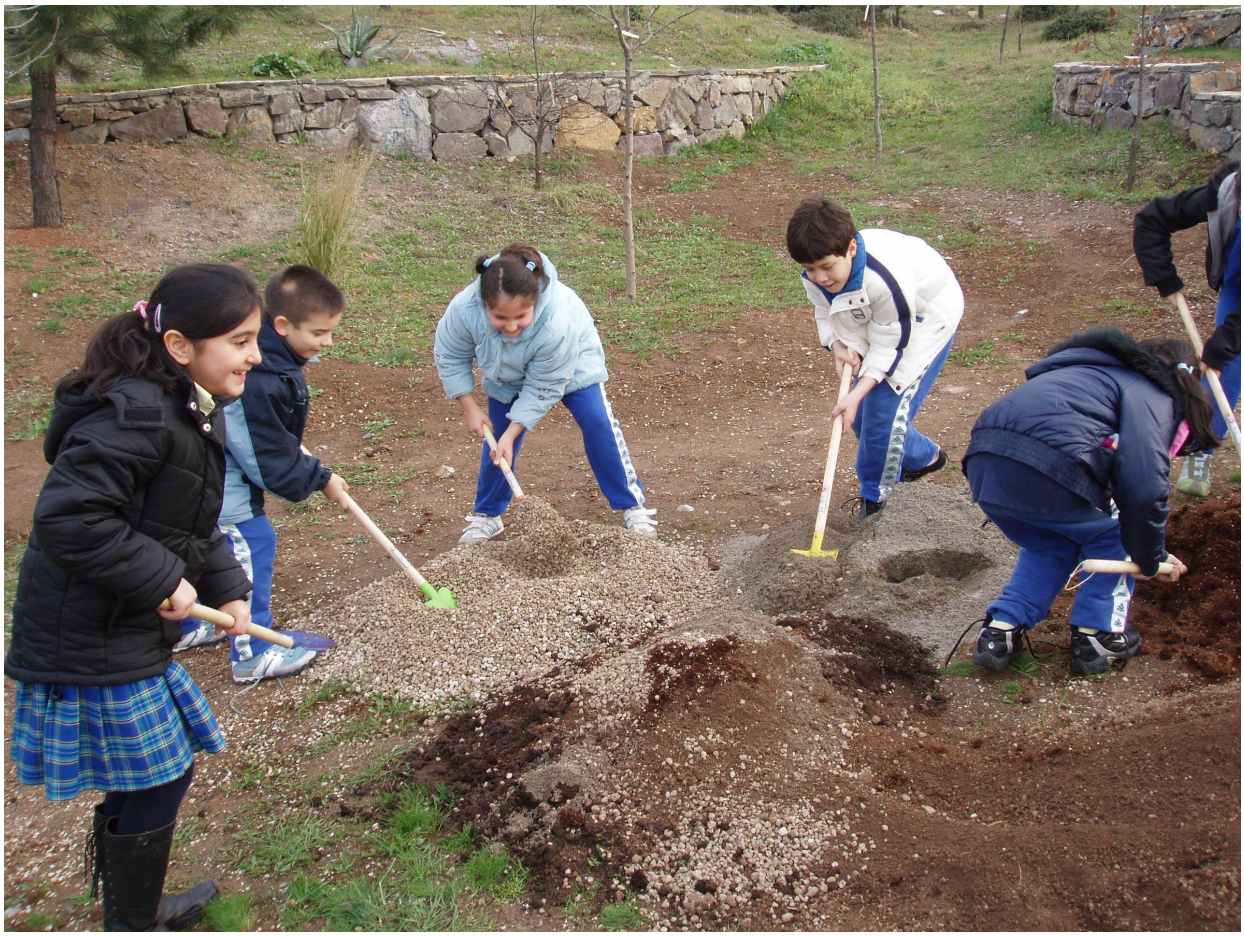
Secondary school teachers taking part in an education workshop at NGBB.

3.3 Standard Output Measures

Table 1 Project Standard Output Measures

Code No.	*Description*	*Year 1 Total*	*Year 2 Total*	*Year 3 Total*	*Year 4 Total*	*TOTAL*
6A	*Horticultural training*	*8 staff for 3 weeks*	*6 staff for 3 weeks 4 staff for 5 weeks*			*68 weeks*
6A	*Propagation & nursery training*	*8 staff for 2 weeks*				*16 weeks*
6A	*Education workshop*		*3 staff for 2 weeks 3 staff for 1 week*			*9 weeks*
6A	*Conservation and Networking workshop*		*8 staff for 1 week*			*8 weeks*
6A & 13A	*Field work training & enhancement of one collection*	*6 staff for 1 week each*				*6 weeks*
6A &12A	*Database training & installation*	*6 staff for 3 weeks plus installation of one database*				*18 weeks & 1 database*
20	*Cost of database*	*£6,903*				*£6,903*
20	*Cost of nursery*	*£5,000*				*£5,000*

	equipment					
23	*Resources raised from other sources*	*£26,830*	*29,705*			*£56,535*



Children taking part in the Children's Garden training workshop

3.4. Progress towards the project purpose and outcomes

The stated project purpose is as follows: "to develop the horticultural and educational potential of NGBB so that it can contribute effectively to species conservation in Turkey. Delivered through a series of workshops, staff exchanges, hands-on practical work and field trips, and driven by local demand, the project will equip staff with the training and knowledge necessary to conserve plants species through horticultural techniques and educational programmes. The idea is that, through these programmes of training, capacity building and technology transfer, the Garden will be able to contribute effectively to the objectives of the CBD, GSPC and to sustainable development".

It is certainly true that horticultural and educational potential are being developed and that workshops, staff exchanges, hands-on practical work and field trips are taking place. Through these programmes and activities staff are being equipped with the training and knowledge necessary to conserve plant species through horticultural techniques and educational programmes. The question of how effective these activities are being in achieving the outcome of conserving plant species and enabling the Garden to contribute effectively to the CBD and GSPC remains to be seen in the long term.

One obvious and very tangible outcome, the reintroduction of *Centaurea iconiensis,* has been reported above and it is a truly remarkable achievement that such a new garden has been able to organise and put into place a reintroduction so soon after being created. While amny other skills and resources were used to bring about this reintroduction project it is certainly true that the horticultural skills developed through the Darwin project will have been a major component of the success of the project. It is probably also true to say that the various discussions that have taken

part during the visits, demonstrations and workshops would have contributed to the intellectual and logical elements of organising the reintroduction.

Educational activities are focussed in years 2 and 3 and so it is still early to judge their long term effectiveness. However, in the short term it is certainly very clear to see that excellent progress has been made as evidenced in the children's garden, the adoption of certificated courses for horticultural techniques, curriculum development in both primary and secondary courses and the adoption of art in developing educational courses and techniques.

The purpose level assumptions hold true now as much as they did at the start of the project and we believe that the indicators adopted at the start of the project are still fair, adequate and accurate in measuring outcomes.

Primary school children attending gardening courses as part of the education programme (and being filmed for Turkish television).

3.5. Progress towards impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits

It was made very clear in both the stage 1 and stage 2 application forms that this Darwin Initiative project is a means to an end. The end point is that the Garden will be able to contribute to biodiversity conservation in Turkey and to the CBD and GSPC. It will do this by through building capacity in the new botanic garden, particularly by strengthening horticulture and education. It was argued that though these two disciplines the garden would grow and develop and, eventually, be in a position to contribute to biodiversity conservation.

So, the Garden and its staff needed to develop first, and only then would they be in a position to contribute to conservation. To acquire these skills and abilities takes time and energy and it is too early to be considering any progress towards the impact on biodiversity, sustainable use or the equitable sharing of biodiversity benefits. This point seems to have been very well understood by the reviewer of the Year 1 report. However, it is perfectly fair and reasonable to analyse whether

the project is on target with the outcomes that were agreed at the start of the project and the answer is that every aspect and activity that is listed in the application has been carried out successfully and on budget and both Dr Rae and Prof Dr Güner believe that these are the activities required to equip the garden and its staff to be able to make progress towards biodiversity conservation in the future. We believe that the garden will become a major focus for biodiversity conservation in Turkey and the effort being put into training and capacity building now, through the Darwin Initiative project, will be seen as a massively important and helpful investment into the conservation of Turkey's plant biodiversity in years to come.

Primary school children attending gardening courses as part of the education programme

4. Monitoring, evaluation and lessons

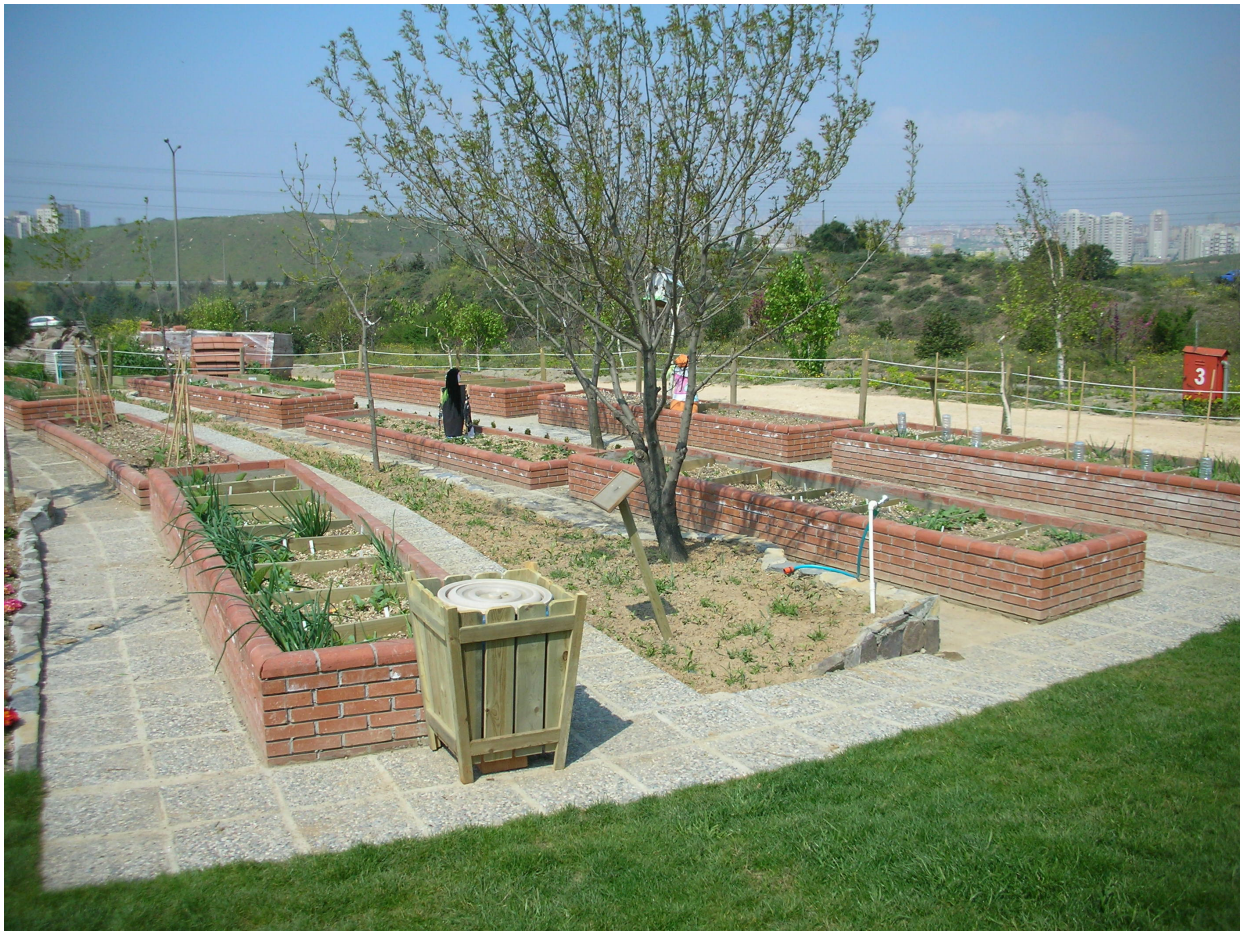
A lot of effort has been put into monitoring, evaluation and lessons this year to ensure that the project is achieving what is set out to achieve. The first point to note is that the two project leaders constantly refer back to the application form to remind themselves, and also the staff taking part in each element of the project, of the overall purpose of the project and of the outcomes expected. For instance, before any staff depart from RBGE for NGBB they have a briefing session with David Rae where he describes the overall project and then discusses their element and what is expected in terms of outcomes and contributions to the whole project.

In last year's review of the Annual Report the reviewer noted that there had been no formal feedback or appraisal of the training sessions. It was noted that there had been verbal feedback but he/she felt that there should have been a more formal process. This was a fair comment and this year formal feedback sheets were distributed after the horticultural training at NGBB and after the second education workshop at NGBB. These are incorporated into the relevant reports.

Other types or aspects of monitoring and evaluation take place during the annual meeting at NGBB and the end of year/start of new year meeting at RBGE in which all those who have taken part in the project get together to discuss progress.

Much of what has been achieved can be seen and this is perhaps the best way of evaluating progress - the database can be seen, the improved standards of horticulture, the way in which educational programmes are being used in the garden, the quality and success of nursery work and the fact that an endangered species has now been reintroduced back into the wild.

The main lesson is one that was learnt long ago with a previous Darwin project, and that is to keep absolutely focussed on the outcomes of the project, as described in the application form. It is very easy, especially when lots of different staff members are involved, for the project to drift from the stated purpose and for different staff to deviate from their allotted tasks. With this in mind each staff member is fully briefed before departure so that they know exactly what they are expected to do.



Newly constructed Children's Garden

5. Actions taken in response to previous reviews

The lead partners were generally satisfied with the comments of the reviewer and during the second year have tried very hard to incorporate any suggestions made. They found the comments helpful and constructive and, where there have been a few misunderstandings, these are explained below.

1. Workshops and training evaluation and feedback. This was a perfectly reasonable comment and evaluation and feedback has been incorporated into Year 2 workshops and training. Information has been included in the report.

2. Propagation of Turkish Plants: a practical training manual. The reviewer asked for a copy and this is enclosed both as a hard copy and on disk. The reviewer complained that another report should have been referred to as 'Training Notes', rather than 'A Manual' and it is possible that the same could be said of this document. Either way, it is long and detailed and very much appreciated by staff at NGBB where it is slowly being translated into Turkish.

3. In heading 2 of the review (comments and queries for project leader), section 3 the reviewer states that there are several issues concerning the workshop schedule. The project leaders hope to be able to reassure the reviewer that all training and workshops that were planned as part of the project have taken place. The only confusion that sometimes happens is that staff exchanges cannot always take place exactly when they were originally planned for due to both work and personal commitments. However, apart from the one occasion noted (and agreed by the Darwin secretariat) each element of the project has taken place within the year stated. So, the landscape management training referred to in Q23 of the application is the same as the first element in Q21 of the application and is the same as paragraph 1 of page 6 of the Year 1 report and their reports appear in Appendices III and IV of the Year 1 report. Arboricultural training is listed for Year 2 and therefore was not expected to feature in the Year 1 report.

4. Heading 3 (summary of progress), paragraph 2. As described in 3, above, the landscape management training was not cancelled and it took place, as planned, but in October instead of May/June. This was by mutual agreement between RBGE and NGBB. Again, paragraph 2, the propagation workshop did take place as noted in Q19, Q20, Q21 and Q23, table B. Admittedly it does not appear in Q25 table A. This is an oversight and I apologise. The training was originally planned for either the autumn of 2005 or the spring of 2006 but in the end it took place in March 2006 (see paragraph 4, page 6 of the Year 1 report and Appendix VII). Again, the change in dates was to accommodate work and personal reasons and was agreed mutually between RBGE and NGBB.

   Paragraph 3 – yes, the arboriculture training will go ahead as planned for Year 2. The conservation and networking workshop timetabled for May 2006 is indeed the same as the conservation techniques and planning workshop originally scheduled for Feb/March 2007. NGBB specifically asked if networking could be incorporated into the workshop and this seemed reasonable. Also, due to the complexities of those attending the dates had to be changed, but it took place within Year 2 as originally planned.

5. Heading 4 (Scientific and technical assessment). Collecting expedition – a duplicate collection of herbarium specimens was lodged at RBGE and there was an agreement for this to happen for herbarium specimens. No such agreement was sought for seed or live plants as this was thought to be inappropriate at present.

   Horticultural techniques – we apologise for referring to this as a manual. Yes, all reports are slowly being translated into Turkish by one of the garden volunteers.

   Propagation workshop visit – as noted before a hard copy and CD of the 'Manual' is included with this Year 2 report.

6. The project leaders thank the reviewer for his/her comments, most of which were extremely encouraging. We apologise for any confusion or misunderstanding and hope that the notes given above clear these up.

Part of nursery showing recently propagated plants awaiting planting in the Garden.

6. Sustainability

The profile of the botanic garden and therefore of the project are developing slowly, but surely within Turkey and the more people who visit the Garden the more potential there is for informing them of the Darwin project contribution to the Garden. The conservation and networking workshop was an excellent opportunity to inform participants about the project and every opportunity was taken to do so. The fact that virtually every university with an interest in plant sciences and every botanic garden were represented ensured that the message was delivered to a very important audience. As a result of that workshop, in particular, there has been an opportunity to increase interest and capacity for biodiversity and its conservation. The fact that time was devoted to the GSPC and some of the conservation targets within it, and the fact that the value of networking was discussed in detail has given the opportunity to lay the foundations of more collaborative biodiversity conservation actions tackled collaboratively amongst botanic gardens. Other stakeholder groups have been involved with the Garden such as the Forestry Department and the TEMA Foundation and they have been made aware of the project and have discussed opportunities for conservation collaboration.

Discussions have already started on an exit strategy in the sense that RBGE wishes to remain involved with NGBB after the end of this Darwin project. To start with, as a result of the workshop and the involvement of BGCI a plan is being developed to apply for another Darwin project, this time in conjunction with BGCI, to involve a networked approach to Target 8 (plus associated activities) of the GSPC. In addition, as RBGE has, and will continue to have, a long term interest in SW Asia, including Turkey, there will always be a exchanges of staff between the two institutions. Staff from Edinburgh regularly attend the 'Plants of SW Asia conference' and from now on will always make the time to visit NGBB either on the way out or on the return. Discussions have also been held with the School of Horticulture at RBGE as a result of Leigh Morris' visit and plans are being developed to run certificate level horticulture courses at NGBB

in the future and also to place two HND students in NGBB for six months each year for the next five years as part of their practical training/experience.

The hope and intention is that through a continuing, but lower level and less frequent series of visits and practical support, project outputs, outcomes and impacts can be sustained.

General view of recently completed landscape works in the north-west loop of the motorway.

7. Dissemination

Dissemination of the project continues at a moderately low, but continuous, level. All 'high level' visitors are told about the Darwin project and its aims and the Darwin logo appears on any literature generated from the project. All participants at the workshop were told about the Darwin Initiative in general and the aims and objectives of this particular project. Likewise, all participants in the projects are informed of the Darwin Initiative. Wherever possible, in general presentations about the work of RBGE, this Darwin project is mentioned and highlighted as an example of the capacity building projects which RBGE is involved in. As an example David Rae was able to describe the project and its purposes at the Annual Public Open Meeting held at RBGE. As shown in some of the illustrations Turkish TV featured some of the education workshops.

West end of north-west loop showing native asphodeles and iris. This area is managed as a conservation area.

8. Project Expenditure

Table 2 shows that the project is slightly within budget and that no individual items are more than 10% from budget. Each individual element of the project is costed and, prior to departure, each participant is given a budget which they must adhere to. This approach appears to work well. Finances are overseen by the Accounts Department at RBGE and are subject to review and scrutiny by RBGE's auditors.

View of the newly constructed Children's Garden showing, on the left, the tool shed, demonstration area and toilets.

9. Outstanding achievements this year

It is a remarkable success story that NGBB has been able to re-introduce a species of plant into its former habitat soon after its foundation. As mentioned within the report, it would be wrong to claim that the re-introduction of *Centaurea iconiensis* was made possible only through the work of this Darwin project. However, it is true to say that the training and capacity building provided by the Darwin project has contributed to the staff having the confidence and technical ability to attempt to collect, germinate, cultivate, plan for, and then re-introduce the species. This was an ambitious project and one that very few botanic gardens have attempted, especially ones that are only four years old. The management and staff at NGBB are to be congratulated on this remarkable achievement.

Plants of *Centaurea iconiensis* boxed up and ready for re-introduction.

Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2006/07

Project summary	Measurable Indicators	Progress and Achievements April 2006 - March 2007	Actions required/planned for next period
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* *The conservation of biological diversity,* *The sustainable use of its components, and* *The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources*		*(report on any contribution towards positive impact on biodiversity or positive changes in the conditions of human communities associated with biodiversity eg steps towards sustainable use or equitable sharing of costs or benefits)*	*(do not fill not applicable)*
Purpose To develop the horticultural and educational potential of NGBG so that it can contribute effectively to species conservation in Turkey. Through specialist training and institutional capacity building the staff will acquire the skills and knowledge necessary to develop the garden, conserve species and inform the public. In this way the NGBG will be able to contribute effectively to the aims of the CBD and to sustainable development.	i) Visually improved botanic garden landscape ii) Effective curation of the living collection iii) Successful conservation of plant species in conservation zones iv) Effective communication of biodiversity issues in Turkey to	i) Existing areas improved and new areas developed (eg Children's Garden and western loop) due to horticultural training ii) Collection policy written (not completed as part of the Darwin project), records system functional (year 1 of project) & nursery functioning well (following training in year 1) iii) Botanical survey completed, report to be available in year 3. iv) Interpretation plan to be completed in year 3 and educational	Propagation and nursery work training to continue in year 3 as part of horticultural training in RBGE and NGBB

	residents of Istanbul and visitors v) Appropriate environmental management of site	workshops and training completed in year 2 v) Environmental policy to be completed in year 3	
Botanic Garden A botanic garden with a well curated collection of plants.	At least 6 staff given basic horticultural training. Number of plants in cultivation.	Horticultural training at RBGE and NGBB has taken place this year. Number of plants in the collection are increasing due to prop & nursery training	Propagation and nursery work training to continue in year 3 as part of horticultural training in RBGE and NGBB
Nursery A functional nursery established with 2 trained staff.	Plants grown from seeds and cuttings survive and are grown in the Garden.	Propagation and nursery training given in year 1 and continued as part of hort training in year 2	Propagation and nursery work training to continue in year 3 as part of horticultural training in RBGE and NGBB
Field trip Staff receive training in collection techniques, data sources and seed cleaning & storage. New plants enter the collection.	Number of new species in the collection, especially endangered species, increases.	This training was given in year 1 but has been reinforced this year	
Database An accurate plant records database in place.	A minimum of 2 staff trained in BG-BASE and in data entry & management.	Database training completed in year 1	
Education An Education Policy showing how to use the Garden for educational purposes.	A written Policy document resulting from a workshop describing the ways in which the Garden can be used for a variety of educational uses.	Two education workshops and training were given and reports are included with this report	
Conservation A management plan for the three conservation zones.	The workshop will discuss management, survey and recording techniques so that progress over time can be measured.	Conservation and networking workshop was held this year. See separate report.	Botanical survey to be complete in year 3

Interpretation An Interpretation Master Plan	A written Master Plan describing how best to implement an interpretation strategy in the Garden	Year 3.	To be completed following the interpretation workshop & training in Year 3 of the project
Conference Small conference on CBD and GSPC issues in Turkey.	Attendance of about 50 key government, NGO and conservation staff from all over Turkey.	Year 3	To be held in year 3 of the project

Annex 2 Project's full current logframe

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Goal: **To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve** • **the conservation of biological diversity,** • **the sustainable use of its components, and** • **the fair and equitable sharing of benefits arising out of the utilisation of genetic resources**			
Purpose To develop the horticultural and educational potential of NGBG so that it can contribute effectively to species conservation in Turkey. Through specialist training and institutional capacity building the staff will acquire the skills and knowledge necessary to develop the garden, conserve species and inform the public. In this way the NGBG will be able to contribute effectively to the aims of the CBD and to sustainable development.	i) Visually improved botanic garden landscape ii) Effective curation of the living collection iii) Successful conservation of plant species in conservation zones iv) Effective communication of biodiversity issues in Turkey to residents of Istanbul and visitors v) Appropriate environmental management of site	i) Visual inspection by senior officials, Director of NGBG and Director of Hort at RBGE ii) Collections policy written, functional plant records system and efficient output from nursery iii) Botanical survey of conservation zones iv) Interpretation plan and educational policy put into place v) Environmental policy and environmental audits established	NGBG can become a major focus in Turkey for the conservation of plant species through horticultural techniques, a place for learning about biodiversity issues and a garden to enjoy plants and be inspired by nature. Visitors who visit the Garden will leave knowing more about biodiversity and conservation issues. In this way NGBG can contribute very effectively to the objectives of the CBD and to sustainable development. However, the designed landscape only covers 25% of the whole site and while it will be the focus for horticulture and visitors it does not represent the whole project. Other parts include 12 ha of oak conservation, a 12 ha 'managed' conservation site and a 12 ha 'un-managed' conservation zone. All these add to the unique mix of the Garden and will form part of the project.

Outputs Botanic Garden A botanic garden with a well curated collection of plants.	At least 6 staff given basic horticultural training. Number of plants in cultivation.	Visible assessment using photographs over the 3 years of the project.	An attractive species-rich garden will attract visitors. Without visitors the Garden will not be able to reach its educational objectives.
Nursery A functional nursery established with 2 trained staff.	Plants grown from seeds and cuttings survive and are grown in the Garden.	Physical evidence of plants being propagated and grown on.	The Nursery is the main route by which new plants enter the collection and its development is fundamental to the success of the project.
Field trip Staff receive training in collection techniques, data sources and seed cleaning & storage. New plants enter the collection.	Number of new species in the collection, especially endangered species, increases.	Physical evidence and verification in the plant records database.	Wild origin plants are vital for research and conservation. Field collecting requires special training to ensure the maximum benefit is derived from the work in terms of both cost and conservation gain.
Database An accurate plant records database in place.	A minimum of 2 staff trained in BG-BASE and in data entry & management.	Participant's attendance records. Database of plant Collection.	The database is used to catalogue and manage the living collection. This is a fundamental requirement of botanical collections and species management.
Education An Education Policy showing how to use the Garden for educational purposes.	A written Policy document resulting from a workshop describing the ways in which the Garden can be used for a variety of educational uses.	Physical evidence of the policy's existence. Workshop participant's attendance records.	There are very few urban greenspaces in Istanbul and the garden will be a primary focus for environmental education (both the designed and conservation areas of the Garden).
Conservation A management plan for the three conservation zones.	The workshop will discuss management, survey and recording techniques so that progress over time can be measured.	Physical evidence of the management plan.	The three conservation areas will be prime areas for conservation, education, training and research. They will also bring a strong science-based element to the project ensuring that conservation plans are strongly underpinned by science.

Interpretation An Interpretation Master Plan	A written Master Plan describing how best to implement an interpretation strategy in the Garden	Physical evidence of the Master Plan.	Residents and tourists understand the components and issues concerned with Turkey's biodiversity – why it is so rich, why it is threatened and how it can be conserved.
Conference Small conference on CBD and GSPC issues in Turkey.	Attendance of about 50 key government, NGO and conservation staff from all over Turkey.	Physical or photographic evidence of attendance.	The Darwin project will provide a good platform from which to hold a conference to discuss CBD and GSPC issues in Turkey. They will also provide strong evidence of the link between the CBD and the project.
Activities Workshops		**Activity Milestones (Summary of Project Implementation Timetable)** Year 1 Propagation and nursery work Year 2 Plant records, Education and Management of conservation areas Year 3 Interpretation	
Staff exchanges to train horticultural staff		For each of the three years of the project staff from RBG Edinburgh will work in NGBG alongside staff to both improve the quality of horticulture and help train staff. In addition, two staff from NGBG will visit Edinburgh each year to receive specialist horticultural training.	
Project management, monitoring and assessment.		D Rae to visit NGBG each year for one week to manage the project and monitor progress. Prof Adil Güner to visit RBGE in year 2 to review progress and receive botanic garden management training.	
Field trip		A short field trip is planned for year 1 of the project involving staff from both botanic gardens.	
Conference		A three day conference will be arranged in year 3 of the project to discuss and review CBD and GSPC issues relevant to Turkey	