



Darwin Initiative Final Report

Umthathi Africulture Project, Grahamstown, RSA
Project: 14-050



Garden@frica

A Project implemented
in collaboration with

Kew

Darwin Initiative – Final Report

Darwin project information

Project Reference	14-050
Project Title	Umthathi Africulture Project
Host country(ies)	South Africa
UK Contract Holder Institution	GardenAfrica
UK Partner Institution(s)	Royal Botanic Gardens, Kew
Host Country Partner Institution(s)	Umthathi Training Project
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Project Leader Name	Georgina McAllister
Project Website	www.africulture.co.za
Report Author(s) and date	Georgina McAllister (GA), Michelle Griffith (UTP), Prof Monique Simmonds (Kew)

1 Project Background

The Africulture Project was initiated to address the loss of biodiversity within the Eastern Cape (Albany Centre of Floristic Endemism), focussing on conserving indigenous medicinal plant species. Many species are currently harvested illegally from the wild and are threatened by over-exploitation. Changing land-use patterns have led to land privatisation resulting in reduced access to many wild plant populations, increasing pressure on those which remain accessible. Other species are also under threat due horticultural demand, or their value to the international market. This project has worked to advocate alternative rural livelihoods based on the sustainable cultivation and utilisation of indigenous plant species, hinging on the core assumption that it was possible to affect a shift from wild harvested to cultivated materials.

2 Project support to the Convention on Biological Diversity (CBD)

Through the conservation and propagation of plants used by the traditional healers in South Africa to treat patients the project has contributed to many of the CBD articles, especially Articles 8 & 10c that relate to “the protection and conservation of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements.” The project has provided a forum for the traditional healers to discuss and share some of their knowledge about the traditional uses of their plants, thus contributing to the conservation of this knowledge (article 8j & 9). The project has also involved students from Rhodes University, staff at Umthathi and local people including traditional healers identifying species that needed to be conserved and obtaining permits for their collection to enable material to be propagated in the nursery sites. This work has involved research and training (article 12), the transfer of different skills (articles 16, 17) and the presentation of different aspects of the projects at talks, articles and exhibits within South Africa as well as to international audiences (article 13). The project has also contributed to targets 3, 8, 12, 13, 14, 15 & 16 of the Global Strategy for Plant Conservation (GSPC). The traditional healers are also more aware of the importance of the need to propagate some of the endangered species and also the importance of using alternative species. Thus the project has contributed to the awareness within the community of Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), although it was not possible within the project to monitor the impact propagating endangered species might have on the trade of any of the endangered species used by the healers.

3 Project Partnerships

4 Project Achievements

4.1 Impact: achievement of positive impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits

Throughout this foundation phase, the Africulture goal has been to promote *'the conservation of biodiversity through the development of an alternative supply of natural resources, and local resource-use practice'* with the purpose of *'supporting and enhancing sustainable plant-based livelihoods that are underpinned by biodiversity in the Eastern Cape.'*

A critical outcome of the project has been to establish a target list of plants in consultation with THPs for propagation at the nursery. This has resulted in the identification of 49 target plants which they consider culturally acceptable for the project to cultivate, as well as being less/inaccessible under changing land-use patterns. This list has been verified by Tony Dold of the Selmar Schonland Herbarium in Grahamstown to ensure that species are included which contribute to wider conservation objectives (IUCN Red List & the GSPC). This has been no small feat, given the work required to build trust between the project and THPs and the task of deciphering the numerous lists provided to the team, with many different vernaculars used. While this list is now complete for the purpose of the foundation phase, it will necessarily continue to grow so as to represent the needs of other THP groups joining the project.

Despite staff losses, and lack of training and continuing training and supervision for the nurseryman, throughout the course of the project, over 16,000 plants have been propagated, many from seed due to the nature of Thicket species. These plants cover both those identified on target list, species which are desirable to the horticultural trade (project income), and other more common indigenous medicinals which have been distributed via UTPs schools and community programmes to promote bio-cultural diversity.

The lessons learned due to the challenges in cultivating slow growing and thicket species at the nursery have resulted in a manual to guide the cultivation (seed storage, propagation and care) of these materials in the future. This is based on the target species list and has been developed by Michelle Griffith with some advice from nurseryman Zolani Zondani as a result of lessons learned.

While it was always going to be a challenge to gauge the impact of the project in terms of increases in biodiversity within the lifetime of the foundation phase, an important outcome of the project was to facilitate a behavioural shift from the utilisation of wild harvested to cultivated medicinal species. To achieve this, working through traditional health practitioners (THPs) was always central in order to endorse a general acceptance of cultivated materials, before harvesters and traders would accept this as a viable (and profitable) alternative. Few had worked with THPs to affect this change. Those who had, had failed to get the buy-in of THPs – due primarily to cultural differences when balancing a widely viewed cultural/spiritual activity with a more empirical approach. Many others warned of the inherent dangers in working with THPs. Despite this, the gradual relationship that developed between the project and the THPs has generated a wealth of information and good will that has been the projects backbone. The importance of Umthathi's long-standing relationship with communities across the EC should not be underplayed here.

Awareness about the need to conserve bio-cultural diversity has also been increased through Umthathi's schools programme over the past year, with less contentious plants identified (such as *Mentha longifolia* and *Bulbine latifolia*) and propagated at the project nursery. This process has included knowledge transfer from the Africulture team to the schools team about the species that they were taking to plant with children in school gardens. This currently includes 40 schools, and is set to increase in the next year, and represents an important link between UTPs programmes which increases the projects sustainability.

Skills training at project staff level has been difficult. Staff originally engaged at project inception soon passed through, with other key members of staff lost later. This said, skills training has taken place with nurseryman Zolani Zondani, under Philip Crouse. With no formal training his plant recognition, interest and knowledge of traditional uses is impressive for a young Xhosa man. With no line manager after 2008, and a host of seed collected by Philip prior to his departure, Zolani propagated over 16,000 plants. With little prior involvement with plants Zolani, shows exciting promise, but has lacked discipline. This, combined with climate, water shortages, as well as insufficient training and equipment led to severe losses through lack of care for the propagated plants. Since the arrival of Michelle Griffith, he has received further training, and is monitored twice a day. As a result, Zolani's confidence and enthusiasm has increased, and no further plant losses have been reported. Zolani is now going on collection trips with THPs – which both reassures them, and increases his knowledge – enabling him to see first-hand the natural environment in which these species thrive. He has also been provided with computer training, and is encouraged to use the resources at UTP to improve his research skills. In recognitions of the need to transfer these skills more widely, to ensure continuity within UTP, two further nurserymen have joined Zolani more recently. Zamile Giba and Siyathemba Nqaba have now received training in plant identification and nomenclature, transfer of seedlings, and bagging up of more mature plants. They have also been preparing recently collected seed for storage. Should funding become available, it is hoped to retain Zamile and Siyathemba on a long-term basis.

4.2 Outcomes: achievement of the project purpose and outcomes

Behavioural Change:

The outcome of the foundation phase has been the total acceptance of cultivated plant materials by the six THP associations the project has made contact with. This has been the result of tireless consultation and advocacy which, in lieu of training, has spoken to the concerns already felt (but not fully realised or articulated) by the THPs about the loss of important plants for their practice. Through these processes trust has gradually increased, and has eased the process for contacting other THP groups (formal or informal). This acceptance will be critical for conservation of these species in future.

Despite the creation of THP associations in recent years, few have shared their concerns about species loss, due to deep-seated suspicions *between* THPs. The project has successfully created a forum which has encouraged active exchanges through the various advocacy and discussion points – spanning sustainable use of biodiversity, concerns about IKS protection, and HIV (ARVs, TM and safe practice). This has led to a realisation amongst THPs that they are able to work together to locate solutions in response to related challenges. This in itself represents an exciting sea change.

Of the six THPs groups (representing over 2,000 THPs) having been involved with the Project since its inception, three have come up with their own ideas about how they can respond to present challenges. As well as establishing its garden at Settlers Day Hospital (close to the Palliative Care Unit), Makana Association expressed an interest in trading their own cultivated alternatives at a market stall in Grahamstown (which currently has no trade in medicinals). This has been an interesting shift – both in terms of THPs becoming traders, and showing their enthusiasm for increasing public awareness about the need to utilise alternatives. As THPs, this would be a very public endorsement of their acceptance of cultivated materials, and the Project, and could lead to an Africulture trademark which clearly identifies these as being cultivated for the more discerning customer. Both Alice and Alexandria associations have also suggested establishing their own 'wild' collection areas, and will require land on which to establish this. As referred to below – collation of information on available grants and contacts will be compiled as part of a package for each THP assoc, specific to each municipality.

Physical Assets – nursery & plant propagation:

A 1 ha nursery has been established, and land secured for the safe keeping of information and plants propagated throughout the course of the project.

The cultivation of Thicket species represents a significant challenge, as these are extremely slow-growing. The project has responded to this by recognising the need to provide training in alternative livelihoods – which the THPs have been keen to pursue. In fact many have requested training in vegetable cultivation as well as information on product development with species which are more available and fast-growing. This fits well with General Cultivation Course (covered in more detail below) which was to be offered to harvesters and other interested parties.

To address the immediate needs of practicing THPs, the target plants under propagation at the nursery will be used to populate the remaining 9ha at the nursery to create a naturalised 'wild' harvesting and collection area. The THPs are extremely excited about this, and are willing (as is culturally expected) to pay for access to these materials. This has led to suggestions amongst 2 other THP associations that they would follow this lead by creating similar collection sites in their own areas. This represents a significant shift in real terms – with the resulting model speaking directly to the learning that has taken place around proposed nursery development. This is covered in more detail below.

Institutional networks:

Kew is working with AAMPS to provide botanical support to this to assist in gathering phytochemical and pharmacological data so that AAMPS can produce African Herbal Pharmacopoeias that are of the standard of those in Europe, America, Japan and Australia. Appropriate data obtained from the Project will contribute to this important initiative. The transfer of Africulture data fed into the AAMPS project will be under strict agreement with the contributing communities, ensuring that suitable agreements are in place to cover the ownership of their traditional knowledge.

Through Kew's authentication of 24 plants (14 from the project) on the target list, it has been possible to train UTP/project staff in extraction protocols. The team will be in a position to continue this process, taking regular extracts for fingerprinting at the Faculty of Pharmacy – to which Kew is in the process of handing over its related activities. Kew continues to guide UTP through this process, to ensure that agreements are in place to protect the project and its beneficiaries.

Despite earlier reticence from UTP to engage RU (due in part to RU's reputation for researchers gaining credit for community-based research often without appropriate recognition, and almost always without any real benefits being realised at community level), an MoU between UTP and Rhodes has now been signed under the establishment of a new Ethics Committee headed by Vice Chancellor Dr Peter Clayton. This has been established as a result of RU recognising the need to provide more support through its departments for community-base initiatives. A number of departments are listed in this MoU – including Environmental Education, Pharmacy, Parks & Gardens, the Institute for Social & Economic Research (ISER), and Botany. Rhodes is a welcome new partner to the project as it grows in maturity, and is an important part of the exit strategy from the foundation phase for the UK partners. While the first four departments are already engaged to some degree, it has been interesting to note that no contact has been forthcoming from Botany. EE has been working on the project's general cultivation course, while Pharmacy is currently looking for funding to undertake plant authentication and product development for transfer to THPs.

4.3 Outputs (and activities)

OUTPUT 1: Production of indigenous plants to secure a sustainable supply for training for growers and supply stock to micro nurseries.

Propagation of thicket species has thrown up a key challenge, which both forms an important lesson, and informs the project legacy. These species are particularly difficult to propagate and care for, and are extremely slow growing. Without proper training and support, nurseryman Zolani experienced a considerable loss of stock between late 2007-9. Despite this, there are a total of 8,434 plant (comprising 153 species. In relation to the target species list – there are 3,046 plants (comprising 27 of the species listed). Furthermore, this has resulted in the drafting of a manual to guide the future cultivation of many of the target species. With additional funding, it has been possible to employ Zamide Giba and Siyathemba Nqaba who are assisting Zolani in stepping up propagation and plant care at the site. All have benefited from skills training with Michelle Griffith to improve survival rates.

Given the reflexivity of our approach to implementation, and lessons learned (below), the majority of plants cultivated on-site will in future be made available to THPs via the collection area. This is now considered by all partners to be the most appropriate way in which the project can protect biodiversity.

Given the contributing activities – this outputs is considered to be 98% complete

1.1 Secure site and necessary authorisations for establishing a nursery and training facility

The Environmental Management Plan was obtained from DEAET in 2006, since which time this activity is 100% complete.

1.2 Identify target species through research & engagement with THPs for input into the selection of target species

The Project has continued to work with the formalised Makana THP Association, and Vukuzenzele, an informal association (not registered) to identify species useful for the treatment of patients. Other groups involved are Intando Ybabaphansi, Alexandria, Alice and Bathurst & Port Alfred. Given expansion covering these additional THP groups, the list of target species will necessarily increase over time to include requests from new groups.

With 49 target species, the list is now considered 100% complete.

1.3 Establish 1ha nursery site (to secure a sustainable supply of medicinal plants for training)

With plant production now based entirely at the dedicated 1 ha Africulture nursery site, and producing plants required for training, the nursery is fully operational. This activity was considered 100% complete during the mid-term review (April 07).

1.4 Supply cultivated stock for training

UTPs collection permit has now been received and collection restarted. However, this year's drought has affected the quantity of available seed. In addition to which, the areas visited for harvesting with THPs (4 collection trips since September) are so degraded as to feature few of the plants on the target list. This has highlighted the need to continue making contact with private land owners and game farms for access to wild plant populations. Furthermore, a decision was made to source seed materials locally, as these are better adapted to the conditions found at the Africulture site, rather than those coming from seed houses or collections further afield. Under present conditions it will take longer than originally hoped to build this collection.

Against the stated figures in the original documentation (inventory of 1000 plants comprising 10-15 species supplied to participants) this activity remains 60% complete. However, the nature of this training (covered in more detail below) has changed, affecting the way that plants will be made available. Plants are now being propagated at the nursery for planting out in the 'collection area' which THPs will have access to, on set days and will tie in with advocacy workshops.

1.5 Develop appropriate technologies for cultivation and propagation of target species

As a result of previously reporting failures v v propagation, practical training with Zolani and Zamilé has been stepped up, and the office library being made available to them when weather does not permit activities at the nursery. The manual on propagation and care specifically for thicket species, developed by Michelle Griffith with input from Zolani, has been developed to inform the work of others involved in this field.

This activity is considered 100% complete

OUTPUT 2: Beneficiaries trained in indigenous plant cultivation pilot. Micro-nursery and agri-entrepreneurship courses developed.

The reflexive approach to implementation taken over the past 12 months has allowed the project to shift the course of training as lessons have been learned. In all, 32 THPs from Makana Association took part in the pilot training – the quality of which was then questioned by all partners. However, the primary aim of this was to gain an endorsement from THPs for the concepts and approaches taken by the project, and as such has been a success. Other courses are also nearing completion – with the collation of relevant materials to be piloted in the next phase.

Given the contributing activities – this outputs is considered to be 88 % complete

2.1 Develop Cultivation Training Course with input from THPs and other key experts

As previously reported, the poor quality of the training materials developed during year 2 led to the project approaching Rhodes EE. In reference to the previous reviewers report, there are not cost implications for this, which is viewed (in budgetary terms) as funding in-kind. This MoU is included in the verification pack – along with in-kind value of RU inputs both for UTP and the project.

This training material was expected in draft form by August, to be included in the verification pack. However, Heila Lotz (RU EE) has since informed the team that it is not yet available – and could be delayed until mid January 2010. The course work will be available for use by all UTP programmes, in response to requests from THPs and others to increase skills to develop alternative sources of livelihoods, thereby reducing pressure on biodiversity.

With the revision of materials now complete this activity is considered 70%.

2.2 Develop Micro-nursery Course with input from THPs and other experts

As above, some of this coursework will overlap with the cultivation course. Materials have been collected from various sources – including the original RU EE materials developed for the general cultivation course, from GA's own training manual (chapter on nursery development & propagation techniques), and the manual specifically developed for propagation and care of target species by the project.

As it is unlikely that THPs themselves will develop nurseries, this course will be developed for later application with harvesters and other interested parties. Two THP associations have expressed an interest in developing 'collection' areas, similar to the one under development at the project, but in order to achieve this, they will still require propagation skills and information on care in order to replant these in collection areas. In relation to THPs, training will therefore be available to those people which each THP group puts forward, and harvesters looking to cultivate for sale to traders.

Given that THPs would ideally be involved in the final drafting of this, to ensure that this includes cultural considerations to ensure that the course work is culturally appropriate, this activity is 80% complete. These materials will remain in draft form until UTP can increase its capacity.

2.3 Develop Agri-business Course by amending & consolidating existing course material with input from key experts

UTP has permission from the South Africa Institute for Entrepreneurialship to use its AgriPlanner resource materials. This provides an excellent framework, given that many of those involved in the general cultivation course are interested in developing vegetable growing as an alternative source of income. UTPs general business skills course will be used to promote thinking around profit and loss for those considering developing nurseries and/or collection areas for medicinal plants.

Under the circumstances, and within the context of the foundation phase, this is considered adequate, and therefore 90% complete.

2.4 Conduct pilot Cultivation Course

Given the abovementioned rework of course materials, and despite phases 1-3 having already been piloted, it was agreed that Makana would simply receive a revised final phase (4) to complete their own process. Once this is completed, this activity will have been formally completed, and materials revised accordingly.

The fully revised course will be delivered to the next THPs association, which constitutes 2 association who have expressed an interested in combining forces, and have invited the Project to present both advocacy and training components. These 2 groups are costal (based at Port Alfred, and Bathurst). The different environmental conditions will be a test for the Project, which has thus far piloted in inland Makana. Further plants will no doubt be added to the list to take into account the needs of these THPs.

With the revised materials still requiring piloting, at the time of writing this activity is still only considered 75% complete

2.5 Ongoing monitoring and evaluation of training programmes to inform updated training materials

By engaging with RU EE, and undertaking the complete revision of the original materials – this is considered 100% complete.

OUTPUT 3: Advocating sustainable traditional uses, and appropriate recognition of plant-based rights and practices.

As previously mentioned, UTP long-standing reputation at community level has no-doubt increased trust in the project, but this alone cannot sustain progress with THPs. In consideration of the reviewers report for LTS regarding the quality of community liaison, and the need for someone who is experienced in participatory techniques, the author also continues to have some concerns in this regard. While Rhodes EE have recently completed training with UTP staff, this remains such a pivotal role at the heart of the project, more needs to be invested in this to develop a more systematised approach. Currently Sicelo Diyra serves the wider role of community liaison officer, thereby covering all of UTPs programmes. With more funding in place, it may be possible to identify a THP Liaison with particular experience in participatory approaches, or further train Sicelo for the sake of continuity.

While the trust that Sicelo has established is encouraging, progress with THPs has been slow, with lingering suspicions between any 'outsiders' and associations, driven by concerns about the misappropriation of IKS, as well as concerns that they will be forced to formally register with the Department of Health – which remains a source of considerable resistance. However, alternatives are being explored to engender greater trust through the development of training around product development and commercialisation of more accessible species which are quicker and easier to cultivate. But without fully functioning institutions, and policy decisions & guidelines which affect this output, it remains difficult to progress in this regard.

Given the contributing activities (below) this output is considered to be 88 % complete

3.1 Research key issues needing advocacy interventions with input from THPs and other experts

The adherence of THPs to all matters procedural has presented a challenge to the pace of change achievable within the project period. This has affected collective agreement on the advocacy issues to be presented to future THPs involved. While the project undertook considerable research on related areas prior to the projects inception, it was nonetheless important to get general agreement through

consultation. Along with repeated request for more information on IKS protection, there was a good level of correlation here – with considerable interest in the 3 day workshops on HIV and safe-use. Other areas which will be targeted in 1 day sessions are:

- THP Act
- NEMBA legislation and its implications
- Legal harvesting – applying for permits
- IKS protection
- Capacity building to develop constitutions, registration (if requested) and access to available grants and contacts for relevant departments

With these subjects identified, this activity is considered 100% complete

3.2 Engage in advocacy issues including the Traditional Health Practitioners Act, legal harvesting on private land, and indigenous knowledge protection

The approach of the project was designed in the context of a shifting policy environment, with new legislation being introduced from the R&D phase onwards. This has included stakeholder consultation on the establishment of the National Biodiversity Strategy and Action Plan (resulting from NEMBA). A number of amendments have resulted from concerns about the impact of articles specific to commercialisation which could undermine conservation initiatives, especially those which involved the cultivation & sale of alternative supplies. There remains some uncertainty about whether and how this legislation affects the project. Neil Crouch (SANBI) has now referred Michelle Griffith to someone at the NDEA. Until this is finally clarified, it has not been possible to develop the advocacy materials for this particular topic. Unfortunately the same situation applies to the THP Act, with a series of regulations due for release. These are both critical areas with which the project must be aligned. Poor communication within these departments has not assisted gaining clarity. However, another Dutch post-grad volunteer will be at UTP from February 2010 and one of the additional tasks she will be asked to do will be to extract information from the various departments which can contribute to structuring the related advocacy materials.

Until such time as guidelines are published on legislation - this activity can only be considered to be 40% complete.

3.3 Generate and disseminate information around practice and safe use of medicinal plants

A check has been undertaken of the plant chemistry of those on this list with the WHO pharmacovigilance committee to establish whether there have been reports of adverse responses. Kew research has shown that none of the selected plants have been reported to the WHO as being associated with negative interactions when combined with the anti-retrovirals presently being used in South Africa. As already discussed in 3.1 workshops have covered possible areas of concern, and to advise caution around combinations, and until such time as there is any clinical data available, the Project will continue using this mode of delivery, with regular check being undertaken by the Faculty of Pharmacy (RU) as part of its MoU with UTP.

Nine workshops were presented, as previously reported, covering information on HIV/AIDS, ARVs, TMs and contra-indications. Sessions also included which plants were effective for use in the face of other common ailments (such as hypertension and diabetes). These were extremely well attended, with many THPs not having been providing with this information. These sessions have greatly enhanced trust between THPs and the Project.

With this information now being further refined by the Dutch post-grad volunteer, this activity is considered to be 100 % complete.

3.4 Information sharing and awareness raising associated with the sustainable use of biodiversity

Despite this activity being 100% complete against our initial target, information & awareness raising has continued. However, the following presentations have taken place in the past year within South Africa.

- Local Economic Development Leadership Conference – hosted by Makana Municipality (31 March 2009) and attended by EC service delivery agencies (N/GOs).

- Global PACT Intensive Trainings – Rhodes . (6 July 2009)
- Thicket forum – formed in relation to STEP (Sub Tropical thicket Ecosystem Planning Project and consists of thicket related scientist, farmers and interested people. Annual conference. (19-21 August 2009)
- Community Based Natural Resource Management course (presentation and site visit) – this is a course run by Rhodes Environmental Science Department – presentation and site visit. (24 – 28 August 2009)
- World Food Day Launch (AC) – (8 May 2009)
- Grahamstown Flower Festival – (23 June 2009)
- Southern African Development Community students – site visit (20 August 2009)
- Diocesan School for Girls (Grade 5 students – site & field visit) – project on Xhosa medicinal plants (10 September 2009)
- Township and rural schools (x2) community certification ceremonies (x5) (between July and November).
- The Africulture Project was selected to feature as part of Kew’s 250th anniversary, illustrated on a large map at the entrance of the site.
- Presentation by Kew Director, Steve Hopper, and discussed at a Kew workshop (attended by staff and external organizations – academic institutions and NGOs) as a demonstration of Kew’s contribution to conservation activities through collaborative projects (also attended by GA).

Against the stated target of 50 items overall – 120 have been documented. More information can be found in 5.1 (below). This is considered to be 100% complete

3.5 Chemical fingerprinting

In lieu of extracts arriving from the project, analysis of plants began with Kew’s Living Collections where these aligned with those on the target list. In reference to the reviewers comments on the end of year 4 report, there were not cost implication in relation to this activity, given that Kew funds for this had been carried over to this extension period. Training by Prof Simmonds in extraction protocols took place with 5 UTP staff – including Zolani, Zamile, Sicelo and Michelle Griffith. This resulted in 14 extracts being transferred to Kew for authentication, and a further 10 from Kew’s Living Collections = totaling 24 of 49 species.

This activity is 100% complete

OUTPUT 4: Information on changes in behaviour and plant-use patterns arising from cultivation and advocacy activities.

As already discussed, anecdotal evidence from those THP associations that the project has been in contact with, has secured a high level of acceptance in the alternative use of cultivated materials. This has been achieved through initial sensitisation sessions with groups, highlighting the reasons for increasing difficulty in accessing plant materials for their practice. While all had been acutely aware of this, few had been able to articulate it, and none had resolved to find alternative solutions.

It had been intended that each THP having taken part in the pilot training (to phase 3) would be assisted to answer a questionnaire. However, it has become clear that none of the THPs are comfortable to do so in isolation (outside of the presence of the association’s secretary). For this reason, the questionnaire became a group exercise. What is clear from this exercise is that THP gardens are unlikely to increase biodiversity on a scale concordant with the loss experienced, or the level of biodiversity use by the profession. This has provided important learning.

Given the contributing activities (below) this output is considered to be 100 % complete

4.1 Measure the implementation of cultivation practices by trainees

While all accept the need to use cultivated plants, none have developed their gardens further. Many have only the plants used during training still growing in their gardens, these include *Bulbine latifolia*, *Tulbaghia violacea* and *Hypoxis*. It is difficult to gauge whether this was down to the quality of the original training, or concerns that too many people pass by the plants, and therefore affect their value

& potency for practice (as previously stated in relation to Makana Assoc's Settlers Day Hospital garden). In reality, it is likely to be a combination of these. Added to which goats play an important part in rituals. Many THPs keep goats in their garden. What has emerged is that it is less the shunning of cultivated materials, and more the importance of wild harvesting in terms of ritual and convening with the ancestors provides a pivotal role in plant-use patterns. The questionnaire is included in the verification pack.

This activity is considered 100 % complete

4.2 Measure uptake and use of cultivated materials by THPs

The use of plants distributed during training and at Settlers Day Hospital for Makana's garden has not been possible to measure. This will take place once the THPs consider them mature enough for use. Without written permission from the Dept Health, it has not been possible for the group to apply to Bisho (provincial govt.) for grant available for fencing. This has led to concerns about the impact that hospital visitors has on the plants. For this reason, Makana THPs have guided the orientation of the AC collection area to ensure that it is not affected by public access. This has been important learning for the THPs and the project – with THPs never having considered, less been involved in cultivation of medicinals.

Future monitoring will be built into workshops on an ongoing basis, given that tracking trainees proves difficult and time-consuming with people regularly moving from one area to another.

With the questionnaire now undertaken (via representative) – this activity is considered 100%

4.3 Survey to what extent cultivated materials have replaced wild harvested materials by trained THPs

Given that those plants distributed are still too young to harvest, it is still too early to make an assessment in relation to this activity. Having established a firm relationship with those THPs involved in the project, it is expected that they will be willing to share information on the scale of wild materials they are still using in due course – especially younger THPs who are far more flexible in their approach to plant-use and information sharing. This has become apparent on collection trips in degraded areas, with many THPs collected alien and invasive species, without knowing what they are, or what they should be used for. This information is delivered in dreams, and divined by the ancestors. This clearly demonstrates how THPs are responding to species loss – but does present some concerns about safe-use if these plants are not formally recognised as medicinal, and therefore with little information available on toxicity.

It is not expected that THPs will make a 100% shift to use cultivated plants as there are many cultural reasons why they use wild harvested material. Species such as *Hypoxis* are extremely slow growing and susceptible to pests. For these reasons, it is unlikely that THPs will cultivate these species themselves.

While it is understandably too early to gauge the real impact on biodiversity that cultivated materials will have over time, the survey (questionnaire) has been taken with THPs having attended the course – resulting in the above responses & information. This activity should therefore be considered 100%

4.4 Project standard measures and publications

Please refer to Annexes 4 & 5

4.5 Technical and Scientific achievements and co-operation

A key output of the project has been the identification and propagation of plants that can be used by the traditional healers. Horticultural skills needed to propagate the poorly studied indigenous species that the healers require are sparse. The employment of a well-qualified horticulturalist at Umthathi enabled the nursery to be developed and the propagation of a wide-range of species used in traditional medicine. However, the horticulturist left and although staff at UTP have been trained, the methods used to propagate the different species have not been fully documented. Kew is assisting to gather this data from their knowledge in growing some of the key species, and will forward the information on to Umthathi.

As yet the number of publications coming from the project are low but documentation about the medicinal plants and their chemistry have been collated and it is planned to submit these data to the Association of African Medicinal Plant Standards (AAMPS) for use in the development of the standards. These standards, if developed, will be subject to extensive peer review.

The links to Rhodes University have already started to provide benefits for the project, with the transfer of participatory skills for all UTP staff. The relationship will extend to scientific co-operation with Pharmacy, as well as further research opportunities which have been under discussion with ISER and Pharmacy.

4.6 Capacity building

GA was involved in supporting staff when UTP management was in turmoil – ensuring that momentum was sustained as much as possible, with a focus on targets to be met. This involved direction and support for staff when direction was lacking from the director, and then providing direction for acting director Philip Crous. GA's project leader also played the role of intermediary between both GA and UTP boards, even to the point at which they asked her to take on the role as acting director when Philip left the organisation.

In the absence of any working materials for the project's general cultivation course, GA's materials have been handed to RU EE as the basis for revised materials. These were piloted as part of a GA funded projects in Swaziland, and served to attract EU funding for the roll-out programme. GA's recently developed materials for nursery development & propagation have also contributed to the nursery course, with a view to complimenting Michelle Griffith's more specialised information on Thicket species.

GA was primarily involved in writing the EU application for UTP over 2007 which led to an agreement being signed in December 2007 (covered in 7.2 below).

GA has also been happy to guide Sicelo Diyra's approach with THPs – providing support in developing a more strategic approach to delivering advocacy subjects. This resulted from concerns that all issues were being broached all at once, during initial sensitisation – leading to some confusion amongst THPs regarding whether the project expected them to have first registered with the Dept of Health, which deterred further involvement of 2 groups. This support has also included the need to establish a ToR with THP associations prior to committing to any engagement, with a view to improving Sicelo's time management, highlighted by the THPs lack of commitment to turn up to meetings on time, and sometimes at all. It is hoped that a more systematic approach will engender greater respect for the programme, and the value they attach to it. GA has provided UTP with the DI DVDs of other projects and the CBD. It has been agreed that this should be part of the sensitisation sessions with THPs groups, partly to demonstrate the amount of knowledge already in the public domain, and to stimulate discussion about how THPs themselves can be part of a larger movement of activities globally. The development of Power Point presentations for each of the advocacy subjects should provide a more accessible approach to what are otherwise difficult subjects to communicate – without getting bogged down in well known case studies which can serve to exacerbate concerns about misappropriation of IKS – making protection more difficult to achieve in practice.

To support the development of a more appropriate and staged approach to capital development on the site, GA drafted in its own consultants to assist the team with participatory business planning, and identified and liaised with green architects from Durban during the design phase. This enabled the team to fully understand the sheer scale of planning required, and was an important capacity enhancement process in refocusing the team towards training & cultivation outputs.

Kew's assistance in both linking the project to wider initiatives and networks has been extremely valuable to the project, as well as ensuring its focus remains targeted to the relevant to the CBD and GSPC. This is a perspective which has been lacking at ground level, but is now being addressed by Michelle Griffith as far as possible.

With the authentication of species on the target list having taken place with the transfer of extraction protocols, Professor Simmonds has continued to guide the UPT in the impending relationship with RU Pharmacy to ensure that agreements are in place to protect both UTP and its stakeholders. This has included co-authored correspondence with RU Vice Chancellor Peter Clayton. The aim here has been to build the confidence of the project team, and particularly Michelle Griffith, to better enable them in future negotiations. Prof Simmonds will remain on hand as an advisor to Michelle.

The Kew team have provided valuable back-up in the form of validating the species on the plant list, to the point of being able to identify some of those provided with vernacular names. These were then checked against any published information on contra-indications when applied to those prescribed with ARV used in South Africa.

Staff at Kew have increased their understanding of the diverse views and needs of indigenous communities that should be considered when developing conservation strategies. This project has highlighted the need to consider in more detail the cultural and spiritual interactions that communities have with their habitats. As a result of this project Kew staff has increased their links with institutes that have these skills to discuss how the impact of conservation on human well being can be measured. This has resulted in a workshop being held at Kew with outside organisations to discuss how Kew could best work with them to collect plant resources and disseminate information about the resources that can maximise effective conservation and the sustainable use of plant resources. This project has also impacted the development of the research vision for Kew that is outlined in the seven objectives of their Breathing Planet Programme, especially objective 4 that deals with the conservation of plants that are relevant to the needs of local communities. Through these activities more staff at Kew are aware of the importance of conserving plants that are relevant to community needs.

GardenAfrica has applied lessons learned as a result of the original ambitions of the project have been applied to other GA projects, with clearly defined deliverables workshopped with all IPs during R&D to ensure that *all* staff involved have ample opportunity to fully consider the implications, comment and refine. Partnership issues which arose early in this project have provided a stark example of how misunderstandings and protectionism can risk derailing any initiative. GA now uses the example of the AC to encourage greater openness with existing partners. This transparency has been welcomed by all, stimulating excellent dialogue, and seems to have allayed any such repeats. GA's capacity has also been greatly enhanced with the support of Kew – with increased knowledge of medicinal species and their uses, as well as increased understanding of, and access to professional and scientific networks. Ongoing communication, and information flows from Kew are now being applied elsewhere – with further collaborations under discussion.

4.7 Sustainability and Legacy

The purchase of the 10ha site has enabled the programme to grow as funding allows, increasing the number of rescued and cultivated plants and species available to the traditional health sector, and those who depend on these plants as a primary source of income.

Broad acceptance of cultivated medicinals by THPs as a result of stakeholder workshops, and their willingness to advocate a shift in use to others will have an ongoing and important impact on the use of biodiversity.

The project has, for many, highlighted the critical issue of biodiversity under threat, and the impact this will have on both livelihoods, and on the Dept of Health – upon which the weight of over 80% of the population will fall unless support can be provided to the THPs.

The integration of the project into UTPs wider programme activities has not only provided the project with greater financial security when other funds were not forthcoming, it has disseminated indigenous medicinal plants, and related activities on bio-cultural diversity to schools and community groups.

An important legacy for the project has been the establishment of links with Rhodes University. The involvement of these departments will be an important part of both the project and UTP's development. Materials developed under this phase will provide a timely update to UTPs exist materials in line with current thinking on environmental education and knowledge transfer. It has also been important for Rhodes to take on this responsibility as part of its wider initiative to develop scientific research with social links.

As a result of project costs and staffing being shared across other programmes, UTP has so far received confirmed funding of over £43,000, and remains only £6000 short of its target for 2010/11. GA will continue to work with the UTP team to support the project, and its ongoing links to extend bio-cultural activities to schools. Monique Simmonds has also indicated that she will continue to support Michelle Griffith wherever possible.

5 Lessons learned, dissemination and communication

Project's target audience can be broadly divided into 3 groups: THPs, informal harvesters, and traders. The DI funded foundation phase primarily sought to engage THPs, but lessons learned about the impact that biodiversity loss has on the other groups is pertinent to the ongoing programme.

THPs have been engaged during the foundation phase so as to inform their understanding of the processes to be undertaken within the ongoing project, in order for THPs to validate this process and endorse the projects wider aims. However, few THPs intend to grow the plants themselves, and claim that they harvest sustainably from the wild – and therefore do little damage (with over 200,000 THPs this is thought to be unlikely). Some do use harvesters to source materials, but most harvest materials themselves as this is seen as an important part of the ritual. Working with this group has, and will continue to be, an important step in the life of the project, but extending the projects reach to the other groups will be critical to increasing the biodiversity benefits of the project.

Harvesters: It was expected that by gaining the trust of THPs that the project would be introduced to networks of harvesters. As the majority of THPs claim not to use harvesters, this group remains largely hidden from view. THP groups engaged in consultation with the project have nonetheless recognised the damage done by this group, and with it, the need to extend its membership to include them. While the signs are encouraging, there are, as yet, no reports of this having happened. Should THP associations decide to develop their own cultivation areas (more below), these associated harvesters can be put forward for training, therefore allaying concerns that THPs currently have about quality control (chemical and cultural) issues when it has been suggested that informal harvesters were to be trained to grow medicinal plants.

Traders: Unlike THPs, traders approached have no such concerns about cultivated vs wild harvested materials. This provides a level of reassurance for the project, and indeed any harvesters being trained to cultivate materials for market. Good quality material will therefore be saleable to both THPs and traders – providing a viable alternative for harvesters.

As a result of this learning plans are now afoot to extend the fencing over a wider area to secure all 10 ha owned by UTP to create a 'collection area' which includes a plan to host plants being removed for building works taking place on the Grahamstown commonage (RU expansion), and has the potential to include the extraction industry (local mines and quarries). This is part of the Project's logical extension towards restoration ecology, under Michelle Griffith, which provides excellent links with existing activities, as well as a source of income.

It has also been considered more appropriate for the target list to be expanded via collection with THP associations in the future. This was previously considered too sensitive, risking trust. However, the contrary has been found. With the need to develop trust earlier in the cycle, and to streamline the information on plants – with the many local names being discussed together for greater clarity and speed – these will be undertaken at the earliest opportunity with THP associations.

To date the project has waited for clarification on legislation and resulting guidelines prior to developing its full raft of advocacy workshops. However, in future the project needs to be more proactive in representing the concerns of the sector (including harvesters) in advocacy with these institutions. This will be an important part of both enhancing trust, and raising the profile of the project amongst other interested bodies. However, this will require increased capacity at UTP.

More information relating to this subject can be found under capacity building (above – 4.6).

5.1 Darwin identity

Until the arrival of Michelle Griffith, little was conveyed about any of the UK partners involvement, let alone the DI. Since this time the DI DVDs are shown to THPs as part of their sensitization to the project. These are excellent tools for contextualizing the project, and will continue to be used. It has been interesting to note that initial mention of ‘Darwin’ has been viewed with suspicion amongst UTP staff, due to a religiously founded rejection of evolutionary theory. The link to the DI has resulted in some lively discussions, with all now fully aware of the role of the DI.

The DI support is recognised as distinct to the foundation phase, but will continue to be linked to the ongoing programme – with the DI logo clearly represented at the entrance of the site. GA includes the DI logo on all materials sent out relating to the project, featuring it on the homepage of its website, as does UTPs project webiste.

In the UK, the project was represented at GardenAfrica’s show garden exhibit at the Chelsea Flower Show in 2006, which the then Minister, Barry Gardiner used this opportunity to announce a new round of DI grants, which was widely picked up by the press (print and online).

Overall, the project has been highlighted in over 120 talks given at international and national (South African and UK) conferences as well as local society meetings within the UK. These talks have highlighted the importance of developing sustainable conservation strategies to propagate plants required to support the well-being of local societies. The talks have highlighted Darwin support. The project was also selected as part of the 250th anniversary of Kew in 2009 and formed part of the global map that visitors (estimated to be greater than 800,000 people) to Kew saw as they entered the gardens. The plinth credits Defra as well as Garden Africa and Umthathi. The project also appears on the world map on the new Kew website launched in October 2009.

6 Monitoring and evaluation

A significant reconstruction of the project was advised, and workshopped with all partners by the reviewer (Fonda Lewis). Overall this was a positive process, enabling staff not previously involved in the initial development to have some input, and to gain a more complete understanding of the project and its implications.

The demystification of the logframe allowed us to reframe the project purpose in order to more clearly define the related outputs and activities. An important part of this exercise was to reduce the number of activities, and therefore the scale of the task ahead.

It was never clear whether growing operational difficulties at this point were the result of a lack of clear definition and overcomplicated activity plan, or UTPs own internal difficulties. In reality it is likely to have been a combination of the two. But with these internal politics ongoing at UTP, the review came at an important time, allowing the team to focus, and the hand-over of knowledge to take place about

the project at a time when the projects manager, who conceived the project, was in the process of leaving the organisation. The teamwork by all during this review was clearly on display, and served to consolidate the UK/SA partnership from this point onwards.

The result was a more manageable activity plan, and a logframe which became a tool which everyone was able to use. This has made outputs-to-purpose review every six months simpler, with readily identifiable and measurable targets.

With fundamental staff changes, it has not always been easy to track why certain verifiers were stated – these particularly relate to numbers of beneficiaries trained, and numbers of plants provided during training. These are considered particularly unrealistic, even had training continued as originally envisaged. With learning about garden-based cultivation, and changes in approaches which followed, these cannot still be considered relevant. Broadly speaking, outcome indicators remain largely relevant to impact indicators. However, the same cannot be said for the standard output measures, which were never revised at the mid-term point. Staff losses have also exacerbated our attempt to address many of these measurements.

The reviews have largely been very helpful in guiding changes throughout, and assisting us to address areas which were lacking in clarity during our reporting. Likewise, we trust we have not made life too difficult for the reviewer/s.

6.1 Actions taken in response to annual report reviews

All reviews have been forwarded to partners and discussed when they have been received by GA. Issues were clarified in direct relation to the first review (2006) with a response sent shortly after receipt. Concerns about the clarity of the initial logframe and reporting were addressed with a significant rework at the time of the mid-term report and review with Fonda Lewis (2007). This provided a scaled down schedule for implementation and delivery, and increasing the focus on core activities (training, advocacy & plant production).

The new team have worked to secure the future of the project, both by increasing staffing and funding, and skills transfer amongst staff. With earlier resistance to UK involvement in guiding staff selection, and the ramifications of this, more care is being taken in selection and retention. However, staffing remains a challenge across this sector as a whole. All recognise the need to increase the capacity of Sicelo Diyra to ensure that he is more able to apply participatory approaches to working with beneficiaries and stakeholders, and to guide the nurserymen more closely.

While the project is not moving at the speed that was originally intended, a more gradual approach is now being taken, which is supported by UK partners. This has reduced the ambition of the project, but should also ensure that lessons are learned prior to large amounts of funding being expended. According to current projections (extending the site to include the collection area, and construct simple wooden buildings to host admin, a resource 'centre' and another shade area) the budget for this year is only short of approx £5,000. This is not insurmountable, but will require additional support if the team is to retain the two additional nurseryman. GA has agreed to assist UTP in sourcing UK funds where possible.

Many issues raised by the reviewer in the last review pertain to the need for greater clarity and detail with regard to these reports (especially lessons learned). We have attempted to address this in this report. The project outcomes should become clearer through the verification of the outputs and activities – which will follow in the form of the verifier pack – covering from the project's mid-term to the present.

7 Finance and administration

7.1 Project expenditure

Note: Due to UTP's request that all DI funding be concentrated into the first 2 years, changes applied during the mid-term review did not alter expenditure in South Africa. UK costs remained as per the original Darwin agreed budget.

Category	Darwin Grant	Project expenditure
Staff costs	£	
Project manager		
training manager		
Financial administrator		
Finance Officer		
Admin officer		
Director		
Financial Support officer		
training support officer		
AC nurseryman		
Secretary		
Centre management & horticulturalist		
Horticulturalist		
Project support officer		
AC nursery assistant		
AC nursery assistant		
Cultivation facilitator		
UK project leader/management		
UK M & E		
Casual wages		
Medicinal plants specialist retainer		
materials development consultant		
nusery consultant		
CASRA		
Anthropologist consultant		
Consultant - tony Dodd		
Consultant - (ext 7)		
Scoping report consultant		
M & E consultant		
Consultants		
Architect		
Structural engineer		
Quantity surveyor		
Green Earth - IKS & IP		
CMDS		
CA Hills - Media		
Coastal and Environmental services		
Geoff Nichols - Nusery consultant		
Project people - course research		
Project people - monitoring and evaluation		
CES environment management plan		
Financial Management consultant		
M Kijne - Advocacy		
Mark Higham - Business plan/workshops		
Mike Terry - Marketing & development consultant		
Fundraising consultant		

Rent, rates, heating, lighting, cleaning

Postage, telephone, stationery

Travel & subsistence

Printing

Conferences, seminars

Capital items

Centre construction

shaded roof section

vehicle

Trailer

nursery supplies

office and training furniture

Fencing

site purchase

walling and drainage

computers & software

printer, photocopy

misc pumps, hosepipes benches

tools and small items

Other:

Subscriptions

Plants and seedlings

Nursery inputs

Accounting, audit, reporting

insurance & security

legal fees

municipal submissions

Teaching materials & resources

protective clothing

Tables, stoves, storage containers

tanks, base & pumps

training materials

Stakeholder workshops

Pilot training

Advertising & promotions

Research & permits

Kew validation

Banking

Contingency

Total expenditure

7.2 Additional funds or in-kind contributions secured

The MoU with Rhodes has been costed at R733,000 (£61,083) – this document will be provided in the verification pack (appended to end of year 4 report).

Makana Municipality provided the nursery space prior to the instalment of services, ground works and fencing (March 2007). This was not costed by was an important in-kind contribution.

Over the course of the project small grants were made by (from UK bodies):

Body Shop Foundation - £10,000, Rowan Charitable Trust - £2,000, William A Cadbury Trust - £3,000, Rufford Maurice Laing Foundation - £5,000

The integration of the Project into UTPs programmes has resulted in cost-sharing via allocation of staff and resources due to difficulties in accessing funding for conservation project (particularly those associated with traditional healthcare) from within South Africa. Under Ken Mitchener, UTP has been able to cut all but necessary expenditure – slashing overheads by 51.8%. Some of these savings have been transferred to increasing staff salaries, and training inputs & supplies.

Ackermann funding (2008-9) of R500,000 (approx £41,666) was granted to the project, on the basis of an ongoing relationship with UTP to train community groups to develop a production area (on the original AC site at township extension 7) to supply Pick & Pay with local organic produce. This was a tribute to Marlene Mitchener's negotiation skills.

Other funding was sourced from GEF (\$50,000), TG Murray Trust (£8,333) DT Hudson (£4,166) and Misereor (£16,666) to extend the site and develop the resource centre.

Despite the considerable work that went in to developing, and negotiating the EU grant (via Thina Sinako, and signed in Dec 2007) it was not possible to take the grant, as SARS (South African Revenue Services) were unwilling to make a ruling on the VAT implications. This has affected all EU funded projects in South Africa, and remains unresolved to this day. UTP made a decision to pull out of the process rather than spend any further time and resources on this.

7.3 Value of DI funding

The vast majority of project funding came from the DI, and as such is credited with the progress made to date. Given the difficulty in attracting South African funding for conservation projects, and in particular those associated with traditional healthcare, the DI funding has been a vital contribution to this initiative – without which it could not have happened. It was expected that the DI funding would attract further funders from the UK, but negative perceptions of traditional medicine also prevail in the UK, with few NGOs or donors recognising the importance of this sector to both health provision, and biodiversity loss. Despite the problems with EU funding, the DI support (as well as UK partner involvement) was very much part of the attraction for the reviewers. It is hoped that the team will be in a position to capitalise on this during a later EU funding round.

This initiative also opened the door to the establishment of a relationship between Kew and GA. This will continue to add value to GA's activities in years to come. The DI funding has changed the way in which many donors (current and potential) view GA in terms of the breadth of our programmes, and the way in which we work with our local partners. This will have an enduring impact on GA.

Annex 1 Report of progress and achievements against final project logframe for the life of the project

•Project summary	•Measurable Indicators	•Progress and Achievements	• Actions required/planned for next period
<ul style="list-style-type: none"> • 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 		<ul style="list-style-type: none"> • Relationship with 6 THP Associations in target area established (representing approx 2,000 THPs) • Target list of species identified in consultation with THPs. • Information disseminated on biodiversity pressures • Broad THP acceptance of the need to use cultivated plant materials for practice • In-house training & capacity building with local team. • Plant stock cultivated for alternative supply (THPs, schools & community training) • Partnership agreement with Rhodes University to continue support for specific outputs 	<p><i>Final report for DI</i></p>
<ul style="list-style-type: none"> • Purpose: Support and enhance sustainable plant-based livelihoods that are underpinned by biodiversity within the Eastern Cape 	<ul style="list-style-type: none"> • Input from beneficiaries to tailor project in each targeted area & community • Behavioural change in related plant based practices in target area • Indigenous plants produced to secure a sustainable supply for training, growers and supply of stock to micro-nurseries 	<ul style="list-style-type: none"> • THP consultation resulted in target plant list of 49 species requested by THPs and aligned with Red List & GSPC. • Sensitisation workshops to convey pressures on biodiversity & need for behavioural change – resulting in wide acceptance of cultivated alternatives. • 8,434 plant (153 species). Of which 3,046 plants (comprising 27 target species) 	<ul style="list-style-type: none"> • Expand plant list to incorporate new groups representing needs and biodiversity of specific areas • Extend gen cultivation course, and product development course as alternative income. • Increase plant production – focus on faster growing plants for more immediate use, and distribution to schools and community projects to increase biodiversity.

	<ul style="list-style-type: none"> •Beneficiaries trained in Indigenous Plant Cultivation course, Micro-nursery pilot, Agri- business courses Developed •Issues identified around the sustainable traditional uses and appropriate recognition of plant based rights and practices •Physical construction of nursery, processing, demonstration & training areas 	<ul style="list-style-type: none"> •Partial delivery of pilot, revision of material, and partial development of additional coursework. •Advocacy developed as far as possible, and delivery of safe-use workshops •1 of the 10 ha site fenced and serviced to host and grow plant collection 	<ul style="list-style-type: none"> •Deliver revised coursework (RU) to new THP groups, and finalise other courses. •Extract information from relevant departments in order to prepare presentations on each topic •Extend the site (fence all 10 ha) to incorporate collection area for THPs and harvesters, and establish simple resource 'centre' in a series of wooden buildings.
<ul style="list-style-type: none"> •Output 1. Production of indigenous plants to secure a sustainable supply for training for growers and supply of stock to micro-nurseries 	<ul style="list-style-type: none"> •Purchase site •List of target species for training •Operational nursery •Inventory of 1000 seedlings of 10-15 different medicinal plant species supplied to participants •Appropriate cultivation technologies developed and documented for 30 target species 	<ul style="list-style-type: none"> •Site purchased •Target list of 49 species established – aligned with Red List & GSPC. •26 target species under cultivation (seed collection & propagation ongoing) •Changes to training approach (to establish collection area mean stated figures no longer relevant/appropriate) •Plants supplied to THPs under pilot, 40 schools, and community groups under UTP training. •Propagation techniques trialled & documented. <p>All but 1 indicator remains appropriate. This output is 92 % complete</p>	
<ul style="list-style-type: none"> •Activity 1.1. Secure a site and necessary authorizations for establishing a nursery and training facility 	<ul style="list-style-type: none"> •100% complete. Site was purchased in year 1 and the environmental management plan approved. 		
<ul style="list-style-type: none"> •Activity 1.2. Identify target species through research and engaging THPs for input into the selection of target species 	<ul style="list-style-type: none"> •100% complete. Target species list has undergone final consultation, has been checked by Tony Dold (Schonland Herbarium) & aligned with GSPC & Red List. 		
<ul style="list-style-type: none"> •Activity 1.3. Establish 1 ha nursery site (to secure a sustainable supply of medicinal plants for training) 	<ul style="list-style-type: none"> •100% complete. 1 ha nursery fenced, serviced & resourced for production. 		
<ul style="list-style-type: none"> •Activity 1.4. Supply cultivated stock for training 	<ul style="list-style-type: none"> •60% completed – due to changing training & distribution approach. Also affected by SANBI delay in collection permit renewal (1 year), shortage of available seed, and plant losses. 		

<ul style="list-style-type: none"> • Activity 1.5. Develop appropriate technologies for cultivation and propagation of target species 	<ul style="list-style-type: none"> • 100% completed with documentation of successes and failures, and production of guide for 30 species. 	
<ul style="list-style-type: none"> • Output 2. Beneficiaries trained in Indigenous Plant Cultivation pilot. Micro-nursery and Agri-entrepreneurship courses developed. 	<ul style="list-style-type: none"> • Peer-reviewed training material Indigenous Plant Cultivation, Micro-nursery and Agri-entrepreneurship course • Revisions to pilot training material • Pilot training conducted • Feed back of participants • Monitoring system in place 	<ul style="list-style-type: none"> • Initial training materials for General Cultivation Course developed • Course partially piloted (up to 3 of 4 phases) with THPs to gain endorsement • Revision of materials nearing completion with Rhodes EE & GA inputs. • Facilitation materials and coursework for other courses have been collated • Monitoring tools developed & questionnaire undertaken with participants <p>Indicators remain appropriate. This output is 88 % complete.</p>
<ul style="list-style-type: none"> • Activity 2.1. Develop cultivation training course with input from THPs and other key experts 	<ul style="list-style-type: none"> • 70% completed – due to revision by Rhodes EE. 	
<ul style="list-style-type: none"> • Activity 2.2. Develop micro-nursery course with input from THPs and other key experts 	<ul style="list-style-type: none"> • 80% completed; materials developed within the overall Africulture model – with some repetition from Gen Cult Course, GA materials and completed target propagation guide. 	
<ul style="list-style-type: none"> • Activity 2.3. Develop agri-business course by amending and consolidating existing course material with input from key experts 	<ul style="list-style-type: none"> • 90% completed; course has been broadly planned to align with general cultivation course (as opposed to medicinals) – for alternative livelihoods in response to THP requests. 	
<ul style="list-style-type: none"> • Activity 2.4. Conduct pilot general cultivation course 	<ul style="list-style-type: none"> • 75% completed; Delivery of 1 of 4 phases prior to revision by Rhodes EE. 	
<ul style="list-style-type: none"> • Activity 2.5. Ongoing monitoring and evaluation of training programmes to inform updating training materials 	<ul style="list-style-type: none"> • 100 % completed ongoing evaluation and final questionnaire now complete 	
<ul style="list-style-type: none"> • Output 3. Advocating sustainable traditional uses and appropriate recognition of plant based rights and practices 	<ul style="list-style-type: none"> • Identified key issues needing advocacy interventions • Agreements in place with research collaborators 	<ul style="list-style-type: none"> • Advocacy issues have been identified in consultation with experts and THPs • Agreements are in place with Rhodes EE and Pharmacy, with contributing research projects underway.

	<ul style="list-style-type: none"> • Inventory of advocacy activities • Outcomes of advocacy activities • List of where and to whom information is disseminated to and which information is disseminated on information on practice and safe use pertaining medicinal plants • Publication and broadcasting of project activities and outcomes (50 items) • Number of species tested for chemical fingerprinting 	<ul style="list-style-type: none"> • Advocacy workshops around HIV and TMs have been delivered and outcomes monitored. • Information to contribute to workshops on NEMBA cannot be delivered until guidelines are released by SANBI. • Communication is ongoing with Dept Health and HPCSA as regulations applicable to the Traditional Health Practitioners Act are still under development. • Sensitisation sessions with each THP group have included information on all identified advocacy issues, in lieu of available material and guidelines from relevant institutions. • Information packs are being developed for THPs, covering municipal contacts, private land owners contacted by UTP who are willing to give access for sustainable harvesting, and available funding for groups to develop gardens, nurseries and/or collection areas. This will be supported with capacity building sessions in due course. • Under the circumstances, publications have not been feasible. However, considerably more than 50 items have been achieved. • Skills training (extraction protocols) undertaken with UTP staff, 14 extract sent from the Project. A total of 22 extracts authenticated by Kew. <p>Against related indicators, this output is 88 % complete.</p>
<ul style="list-style-type: none"> • Activity 3.1. Research key issues needing advocacy interventions with input from THPs and other experts 		<ul style="list-style-type: none"> • 100% complete; via research and consultation
<ul style="list-style-type: none"> • Activity 3.2. Engage in advocacy issues, including the Traditional Health practitioners Act, legal harvesting on private land and Indigenous knowledge protection 		<ul style="list-style-type: none"> • 40% completed against 5 topics agreed upon; workshop on NEMBA and IKS protection are under design – awaiting information from SANBI, and THP Act awaiting guidelines from Dept Health.
<ul style="list-style-type: none"> • Activity 3.3. Generate and disseminate information around practice and safe use around traditional plants 		<ul style="list-style-type: none"> • 100% completed; 9 workshops with THPs on information sharing & dissemination on plant interactions & HIV/AIDS undertaken. Pharma-vigilance checks on final species list complete.
<ul style="list-style-type: none"> • Activity 3.4. Information sharing and awareness raising associated with sustainable use of biodiversity 		<ul style="list-style-type: none"> • 100%. In excess of 50 items to be broadcasted/presented on project activities and outcomes in the UK and SA.

<ul style="list-style-type: none"> • Activity 3.5. Chemical fingerprinting 	<ul style="list-style-type: none"> • 100 % completed; Extracts protocols transferred to local team. 24 plants authenticated at Kew (14 from site and a further 10 from Kew’s Living Collections)
<ul style="list-style-type: none"> • Output 4. Information on changes in behaviour and plant use patterns arising from cultivation, training and advocacy activities 	<ul style="list-style-type: none"> • Number of trainees cultivating medicinal plants • Number of THPs trained using cultivated plant material • Number of THP stakeholders using cultivated plant material • <i>List of wild harvested species which are now partly cultivated</i>
<ul style="list-style-type: none"> • Questionnaire revealed that few THPs have expanded their gardens beyond those plants provided during training. Unlikely to change due to use of garden to keep animals, and concerns about how a populated area affects efficacy. • THPs established garden (food & medicinals) at Settlers Day Hsp – without fencing, many patients visited, leading to realised concerns about efficacy. • 36 THPs took part in the pilot cultivation course, continue to feed in to the development of the project via representative group, and complete questionnaire. • This has been too early to gauge due to plant having not reached maturity. • All indicators (apart from final one) remain appropriate. <p>100 % complete (while it is still too early to gauge use – measurement has still be undertaken).</p>	
<ul style="list-style-type: none"> • Activity 4.1. Measure the implementation of cultivation practices by trainees 	<ul style="list-style-type: none"> • 100% completed; • Monitoring mechanisms during pilot. • Questionnaire undertaken.
<ul style="list-style-type: none"> • Activity 4.2. Measure uptake of use cultivated materials by THPs 	<ul style="list-style-type: none"> • 100% completed; • Monitoring mechanisms during pilot. • Questionnaire undertaken. Uptake will not be possible until plants are mature enough for use/harvest
<ul style="list-style-type: none"> • Activity 4.3. Survey to which extent cultivated material has replaced wild harvested material by trained THPs 	<ul style="list-style-type: none"> • 100% completed; • Questionnaire undertaken.

Annex 2 Project's final logframe, including criteria and indicators

Project Goal: The Conservation of biodiversity through the development of alternative supply of natural resources and local resource use practice

Purpose: Support and enhance sustainable plant-based livelihoods that are underpinned by biodiversity in the Eastern Cape

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Develop training and advocacy programmes to support and enhance sustainable resource management & skills in the cultivation of traditionally used indigenous medicinal plants to reduce stress on wild plant populations; to supply cultivated indigenous plants; and to develop an infrastructure to generate project income for long term sustainability.</p>	<ul style="list-style-type: none"> • Input from beneficiaries to tailor project in each targeted area & community • Behavioural change in related plant based practices in target area • Indigenous plants produced to secure a sustainable supply for training, growers and supply of stock to micro-nurseries • Beneficiaries trained in Indigenous Plant Cultivation pilot, Micro-nursery, Agri- Entrepreneurship and Agri-Product Developed • Issues identified around the sustainable traditional uses and appropriate recognition of plant based rights and practices • Appropriate income generation streams created to reinforce project impact and contribute to long term project sustainability • Physical construction of nursery, processing, demonstration & training areas 	<ul style="list-style-type: none"> • Documented model for training & outreach • Documentation of meetings & reporting by stakeholders • Data collected indicating changes in behaviour and plant use patterns arising from cultivation, training and advocacy activities • Reports from partners & service providers • Documentation of site development planning and the physical structures on site • Photographs of activities and outcomes 	<ul style="list-style-type: none"> • Partners, stakeholders & beneficiaries remain committed to the process • Broad acceptance of cultivated medicinal plants • Community ownership enhances project outcomes • Harvesters make the transition to cultivated materials • THPs understand the impact of current behaviour and are willing and able to move to more sustainable practices • Project is able to supply the demand for indigenous seedlings generated by courses until micro-nurseries can take over supply • Building work completed within existing physical, time & financial constraints

Outputs	Activity	Indicator	Verifier	% Complete
1. Production of indigenous plants to secure a sustainable supply for training for growers and supply of stock to micro-nurseries	1.1. Secure a site and necessary authorizations for establishing a nursery and training facility	1.1. Site	1.1. Title deed and authorizations	1.1. 100% completed; Environmental Management granted by DEAET
	1.2. Identify target species through research and engaging THPs for input into the selection of target species	1.2. List of target species	1.2. Minutes of meetings and workshops conducted with THPS (SD); List of research docs and other orgs & institutions contacted	1.2. List of 49 plants 100 % completed
	1.3. Establish 1 ha nursery site (to secure a sustainable supply of medicinal plants for training)	1.3. Operational nursery	1.3. Plant stock, materials, site development plan, contractors' appointment documents, infrastructure, staff.	1.3. Fenced & resourced 100 % completed
	1.4. Supply cultivated stock for training	1.4. Inventory of 1000 seedlings comprising of 10-15 different medicinal plant species supplied to participants	1.4. 5 groups received stock (1000 seedlings of 10-15 different medicinal plant species) + photographs	1.4. Against indicator figures - 60% complete
	1.5. Develop appropriate technologies for cultivation and propagation of target species	1.5. Methods developed and documented for 30 target species	1.5. Training material is available for <u>30</u> target species	1.5. Trialled with guide 100% complete
2. Beneficiaries trained in indigenous plant cultivation pilot. Micro-nursery and agri-entrepreneurship courses developed.	2.1 Develop cultivation training course with input from THPs and other key experts	2.1. Peer-reviewed training material	2.1. Document and course work material	70% completed; revised materials due Jan '10 (RU)
	2.2 Develop micro-nursery course with input from THPs and other key experts	2.2 reviewed training material	2.2. Document and course work material	80% completed; course materials collated & broadly planned within revised model
	2.3 Develop agri-business course by amending and consolidating existing course material with input from key experts	2.3 Reviewed training material	2.3. Document and course work material	Course broadly planned within the overall Africulture model 90% completed

Outputs	Activity	Indicator	Verifier	% Complete
	2.4. Conduct pilot cultivation course	2.4.1 revisions to training material 2.4.2. Pilot training conducted 2.4.3. Feed back of participants	2.4.1. Revised training material 2.4.2. Attendance register 2.4.3. Recorded feed back of participants	phases 1-3 delivered – prior to revision of materials 75% completed;
	2.5. Ongoing monitoring and evaluation of training programmes to inform updating training materials	2.5. Monitoring system	2.5. Evidence that the monitoring system is applied	feedback on cultivation training 100 % completed
3. Advocating sustainable traditional uses and appropriate recognition of plant based rights and practices	3.1. Research key issues needing advocacy interventions with input from THPs and other experts	3.1. Issues identified	3.1. Documentation of workshops and minutes with research collaborators	5 area selected with research & consultation 100% completed
	3.2. Engage in advocacy issues, including the Traditional Health Practitioners Act, legal harvesting on private land and Indigenous knowledge protection	3.2.1. Agreements in place with research collaborators 3.2.2. Inventory of advocacy activities 3.2.3. Outcomes of advocacy activities	3.2. Agreements with research collaborators, documentation on advocacy workshops and activities	Workshop conducted HIV & Safe-Use – awaiting guidelines on legislation for other topics 40% complete
	3.3. Generate and disseminate information around practice and safe use around traditional plants	3.3. List of where and to whom information is disseminated to and which information is disseminated	3.3. Documentation of information disseminated	Dissemination workshops on plant interactions & HIV/AIDS 100% complete
	3.4. Information sharing and awareness raising associated with sustainable use of biodiversity	3.4. Publication and broadcasting of project activities and outcomes (50 items)	3.4. Articles in journals and popular media, exhibitions presentations on conferences and public events	Despite being short on publication – excess presentations & media mean that this is considered 100% complete
	3.5. Chemical fingerprinting	3.5. Number of species tested	3.5. Chemical profiles obtained	Total of 22 species authenticated at Kew - 100 %

Outputs	Activity	Indicator	Verifier	% Complete
4. Information on changes in behaviour and plant use patterns arising from cultivation, training and advocacy activities	4.1. Measure the implementation of cultivation practices by trainees	4.1. Number of trainees cultivating medicinal plants	4.1. Number of trainees cultivating medicinal plants after 12 months	Meetings and questionnaire undertaken with THPs 100% complete
	4.2. Measure uptake of use cultivated materials by THPs	4.2.1 Number of THPs trained using cultivated plant material 4.2.2. Number of THP stakeholders using cultivated plant material	4.2.1 Number of THPs trained using cultivated plant material after 12 months 4.2.2. Number of THP stakeholders using cultivated plant material after 12 months	Meetings and questionnaire undertaken with THPs 100% complete
	4.3. Survey to which extent cultivated material has replaced wild harvested material by trained THPs	4.3.1. List of wild harvested species which are now partly cultivated	4.3.2. Baseline and post intervention research report and photographs of cultivated plants	Meetings and questionnaire undertaken with THPs 100% complete

Annex 3 Project contribution to Articles under the CBD

Contribution to Articles under the Convention on Biological Diversity

Article No./Title	Project %	Article Description
6. General Measures for Conservation & Sustainable Use	0	Develop national strategies that integrate conservation and sustainable use.
7. Identification and Monitoring	0	Identify and monitor components of biological diversity, particularly those requiring urgent conservation; identify processes and activities that have adverse effects; maintain and organise relevant data.
8. In-situ Conservation	10	Establish systems of protected areas with guidelines for selection and management; regulate biological resources, promote protection of habitats; manage areas adjacent to protected areas; restore degraded ecosystems and recovery of threatened species; control risks associated with organisms modified by biotechnology; control spread of alien species; ensure compatibility between sustainable use of resources and their conservation; protect traditional lifestyles and knowledge on biological resources.
9. Ex-situ Conservation	25	Adopt ex-situ measures to conserve and research components of biological diversity, preferably in country of origin; facilitate recovery of threatened species; regulate and manage collection of biological resources.
10. Sustainable Use of Components of Biological Diversity	25	Integrate conservation and sustainable use in national decisions; protect sustainable customary uses; support local populations to implement remedial actions; encourage co-operation between governments and the private sector.
11. Incentive Measures	0*	Establish economically and socially sound incentives to conserve and promote sustainable use of biological diversity.
12. Research and Training	0*	Establish programmes for scientific and technical education in identification, conservation and sustainable use of biodiversity components; promote research contributing to the conservation and sustainable use of biological diversity, particularly in developing countries (in accordance with SBSTTA recommendations).
13. Public Education and Awareness	10	Promote understanding of the importance of measures to conserve biological diversity and propagate these measures through the media; cooperate with other states and organisations in developing awareness programmes.
14. Impact Assessment and Minimizing Adverse Impacts	0	Introduce EIAs of appropriate projects and allow public participation; take into account environmental consequences of policies; exchange information on impacts beyond State boundaries and work to reduce hazards; promote emergency responses to hazards; examine mechanisms for re-dress of international damage.
15. Access to Genetic Resources	0	Whilst governments control access to their genetic resources they should also facilitate access of environmentally sound uses on mutually agreed terms; scientific research based on a country's genetic resources should ensure sharing in a fair and equitable way of results and benefits.

Article No./Title	Project %	Article Description
16. Access to and Transfer of Technology	0*	Countries shall ensure access to technologies relevant to conservation and sustainable use of biodiversity under fair and most favourable terms to the source countries (subject to patents and intellectual property rights) and ensure the private sector facilitates such assess and joint development of technologies.
17. Exchange of Information	0*	Countries shall facilitate information exchange and repatriation including technical scientific and socio-economic research, information on training and surveying programmes and local knowledge
19. Bio-safety Protocol	0	Countries shall take legislative, administrative or policy measures to provide for the effective participation in biotechnological research activities and to ensure all practicable measures to promote and advance priority access on a fair and equitable basis, especially where they provide the genetic resources for such research.
Other Contribution	30	Smaller contributions (eg of 5%) or less should be summed and included here.
Total %	100%	Check % = total 100

Annex 4 Standard Measures

<u>Code</u>	<u>Description</u>	<u>Total</u>
Training Measures		
1A	Estimated 2 South Africans - via other funding	2
1B	Estimate 2 South Africans - via other funding	1
2	Estimate 2 South Africans - via other funding	1
6A	Estimate total of 1365 South Africans Trained	515
	Cultivation Training Course: est 60 in yr 3 / est. 60 in yr 4.	68
6B	Weeks actual contact training with each group (weeks 1&4 at Centre and weeks 2,3&5 on site)	11
	36 weeks non-contact training activities by participants	8
	3 days (per group) interim field support during the non-contact training phase	14
	Kew training of 6 in authentication techniques (yr 3)	4
	Training of all nursery staff and Umthathi Projects Manager in details of CBD and Biodiversity Act by SANBI and DEAET (15) yr 3	2
	In-house ongoing supplementary training of nursery manager, course facilitators and nursery workers (people)	15
	Silverglen courses in indigenous medicinal plant propagation	0 (no longer offered)
	Training of course facilitators and Project field volunteer in basic biodiversity monitoring of select species y3	0 (no longer relevant – as of mid-term)
	14 stakeholder workshops, involving 15 stakeholders per workshop	79
7	3 x training manuals for facilitators	1 (under revision – 2 other nearing completion)
	3 x course material for participants	1 (as above)
	3 x support workshop content lay-out for facilitators	1 (as above)
Research Outputs		
8	8 weeks p/a	22
9	Dependent on species selection. Estimate input to 30 target species management plans (or action plans) country – y3	0
10	2 individual field guides/manuals to be produced to assist work related to species identification, classification and recording	1
11A	Kew authentication methods – 15 (yrs 3/4).	24
11B	Estimate 4 papers published in peer reviewed journals – SA. At least 3 – UK	4
	Estimate 11 papers to be submitted to peer reviewed journals / At least 5 - UK	2
Dissemination Outputs		
14A	4 x conferences/seminars/ workshops to be organised to present/disseminate findings	2
14B	8 x conferences/seminars/ workshops attended at which findings from Darwin project work will be presented/ disseminated.	99
15A	3 x of national press releases in SA	0
15B	10 x local press releases in SA	8
15C	4 x national press releases in UK	5

15D	4x local press releases in UK	3
16A	4 x electronic newsletters to be produced	7
16B	Est circulation = 500 through IPUF/SANBI	4,122
16C	Est circulation of newsletter in the UK 5-7,000	9,137
	Est 2 SA dissemination networks to be est	3
17A	Est. 10 SA dissemination networks to be enhanced/ extended	6
17B	Est 5 dissemination networks to be enhanced – UK/Int	4
18A	Est 3 SA national TV programmes/features (2 news items, one video documentary in year 4)	1
18B	Est 3 national TV programmes/features (2 news items, one video documentary in UK)	4
18C	Est 5 x local TV programmes/features in SA	0
18D	Est 2 x local TV programmes/features in UK	0
19A	Est. 2 national radio interviews/features SA.	0
19B	4 national radio interviews/features p/a in UK	0
19C	Est 8 local radio interviews/features in SA	0
19D	4 local radio interviews/features in UK	4
Physical infrastructure		
20	Physical assets to be handed over to host = £71,635 (funds for building to be sourced separately)	45,701
21	1 productive nursery producing indigenous target species for training	1
	1 permanent educational / training / research facility / organisations to be established and continued after Darwin funding has ceased	0 (simple resource centre to be sited 2010)
22	Estimate 80 permanent field plots to be established during the project, and continued after Darwin funding has ceased (yr 3/4)	10 (no longer relevant)
Financial Inputs		
	Remaining funds secured	122,081

Annex 5 Publications

As yet the number of publications coming from the project are low but documentation about the medicinal plants and their chemistry have been collated and it is planned to submit these data to the Association of African Medicinal Plant Standards (AAMPS) for use in the development of the standards. These standards, if developed, will be subject to extensive peer review.

Type * (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £
Journal	Murray, S. Verheijen, A. 'Twinning Traditional Healers and Western Health: Is it possible?,' (December 2006) 58-59.	South African Labour Bulletin 30 (5)	SABL , Oasis 117 Eleventh street, Parkmore, 2196, South Africa	2.50
Journal	Collaborating with Traditional Health Practitioners in Grahamstown: promoting comprehensive care for HIV/AIDS Sunitha C. Srinivas, Marieke Kijne, Phyllis Mnyamana	Essential Drugs Monitor WHO, Geneva	www.who.int/publications/en/	online
Journal Medicinal and Aromatic Plants.	Wiersum, K.F., Dold, A.P., Husselman, M. & Cocks, M.L. 2006. Cultivation of medicinal plants as a tool for biodiversity conservation and poverty alleviation in the Amatola Region, South Africa. pp 43 – 57	Springer, Netherlands.	http://library.wur.nl/frontis	online

Annex 6 Darwin Contacts

Ref No	14-050
Project Title	Umthathi Africulture Project
UK Leader Details	
Name	Georgina McAllister
Role within Darwin Project	Project Leader
Address	GardenAfrica, GardenAnnex, High St. Burwash. East Sussex. TN19 7HA
Phone	
Fax	
Email	
Other UK Contact (if relevant)	
Name	Dr Robert Close
Role within Darwin Project	GA finance
Address	(as above)
Phone	
Fax	
Email	bob@gardenafrica.org.uk / Robert.close15@aol.com
Partner 1	
Name	Michelle Griffith
Organisation	Umthathi Training Project
Role within Darwin Project	Project Manager
Address	21 West Street. PO Box 6075. Grahamstown 6139. South Africa
Fax	
Email	
Partner 2 (if relevant)	
Name	Prof. Monique Simmonds
Organisation	Royal Botanic Garden Kew
Role within Darwin Project	Technical & scientific advisor
Address	Royal Botanic Garden Kew, Richmond. Surrey. TW9 3AB
Fax	
Email	