Darwin Initiative Main Project Annual Report

Important note: *To be completed with reference to the Reporting Guidance Notes for Project Leaders: it is expected that this report will be no more than 10 pages in length, excluding annexes*

Submission Deadline: 30th April 2017

Darwin Project Information

Project reference	3319
Project title	Promoting the use of plant resources in research and development
Host country/ies	Ethiopia
Contract holder institution	Botanic Gardens Conservation International
Partner institution(s)	Ethiopian Biodiversity Institute
Darwin grant value	£268,475
Start/end dates of project	April 2016 – March 2019
Reporting period (e.g., Apr 2016 – Mar 2017) and number (e.g., Annual Report 1, 2, 3)	April 2016 – March 2017 Annual Report 1
Project Leader name	Suzanne Sharrock
Project website/blog/Twitter	
Report author(s) and date	Suzanne Sharrock, Kate Davis, Tesfaye Awas, Ashenafi Ayenew. 28 April, 2017.

1. Project rationale

At a time of global environmental change, population growth and economic development there is an increasing demand for genetic resources, both for local exploitation and for research and development. The utilisation of plant genetic material is governed by two international treaties: the Nagoya Protocol (NP), which operates on a bilateral basis through individually negotiated contracts, and the International Treaty on Plant Genetic Resources of Food and Agriculture (ITPGRFA), which takes a multilateral approach using a standard contract. While the aim of these two agreements is to promote the conservation and sustainable use of genetic resources and equitable sharing of benefits derived through their utilisation, many countries have yet to put in place functional mechanisms to effectively operationalise these agreements. Ethiopia has a framework in place but has identified as a priority the need to further promote and increase the amount of genetic material available for research, development and subsequent commercialisation. There are a wide range of stakeholders involved in the chain of custody and use of plant resources, and a growing range of institutions that acquire, hold and supply resources as intermediaries. Differences in Access and Benefit Sharing (ABS) understanding between these groups and the lack of a common 'language' leads to mistrust, misunderstandings and bottlenecks in the flow of genetic resources and the generation of benefits that can be shared with providers. Of particular concern to this project is the lack of guidance to support the access to plant genetic resources for research purposes and the general lack of awareness amongst collection holders of both the NP and the ITPGRFA. The project will aim to build the capacity of plant collection holders to act as trusted intermediaries

between the providers and users of plant resources and develop widely applicable recommendations for simplified measures to facilitate research on plant resources.

The project covers collection holders and researchers located across the whole of Ethiopia.

2. Project partnerships

The main project partner is the Ethiopian Biodiversity Institute (EBI). Prior to the initiation of this project, BGCI was already working with EBI in the framework of an agreement between the two organisations, the focus of which was to build capacity amongst members of the emerging botanic garden network in Ethiopia. Access and benefit sharing is a key issue in Ethiopia and EBI are keen to further develop awareness and understanding amongst the main stakeholders. This project was developed as joint activity and has helped to further consolidate the partnership between BGCI and EBI. All project activities are carried out in partnership, with EBI being responsible for all local arrangements and contacts with other local partners and stakeholders and coordinating with the National Steering Committee, while BGCI provides expert technical support, coordination with the International Steering Committee and facilitation for meetings etc.

3. Project progress

3.1 Progress in carrying out project Activities

Output 1: A methodology for reviewing and identifying ABS bottlenecks for research and benefit sharing and options for overcoming these published.

Activity 1.1: Establish Steering Committee

Two project Steering Committees have been established – a National Steering Committee and an International Steering Committee. The National Steering Committee has met twice during Year 1 of the project. Members of the International Steering Committee (ISC) met once by Skype and once in person during Year 1. The notes of these meetings are provided in Annex 4.1. Additional discussions were held with members of the ISC during the 13th Conference of the Parties to the CBD in Mexico in December 2016.

Activity 1.2 Identify key stakeholder groups

Following discussions with representatives from EBI's ABS Directorate, *ex situ* collection holders and researchers, key stakeholder groups have been identified. These consist of *ex situ* collection holders and academic researchers within and outside Ethiopia, conducting basic and applied research. Researchers that will be surveyed and consulted include those working in taxonomy, ethnobotany, ecology, agriculture and pharmacy research groups/departments. Lists of institutions to involve have been compiled by EBI.

Activity 1.3: Develop guidelines and process for stakeholder consultations

The methodology for the stakeholder consultation was piloted as part of the first consultation exercise. This included an initial survey to gather the baseline level of understanding of ABS issues before the start of the consultation. This was followed by a mix of presentations, guided participatory working group discussions and the collection of data and stakeholder comments via a questionnaire. Guidelines for all following consultations will be formalised and recorded before the next consultation exercise (planned for late May 2017).

Activity 1.4: Carry out an ABS baseline survey

A list of 328 ABS agreements signed since 2010 has been compiled by EBI and provided to the project. Around 215 of these agreements concern plant resources. The list, together with information collected during the initial consultation exercise, constitutes the baseline for the project. The list will additionally be used to identify foreign researchers for consultation regarding current Ethiopian ABS procedures.

Activity 1.5: Carry out stakeholder consultations

The first stakeholder consultations were planned for November 2016, but postponed until January 2017 due to the state of emergency in Ethiopia at the end of 2016. Consultations with *ex situ* collection holders were held in January, involving 44 individuals from 15 institutions. The results of the initial consultation exercises have been compiled but not yet fully analysed. Examples of some of the results obtained to date are provided in Annex 4.2. It can be seen that *ex situ* collection holders acquire plant materials from a wide range of sources and supply it to many different users, including universities and other collections. Material in collections is widely used for research, including collecting and investigating traditional knowledge and half of the institutions including in the consultation work with partners outside Ethiopia. Most collection holders consulted believed that ABS legislation was relevant to the work of their institutions but only half of the institutions had used any internal guidelines or policies on ABS. Particular issues identified include the lack of awareness amongst some collection holders of the Guide and Code of Conduct to Access to Genetic Resources and Community Knowledge and Benefit-Sharing in Ethiopia (both developed in 2012) and the need to develop capacity to manage information on collections using databases. A follow-up workshop on databases has been held for a sub-set of collection holders and further training will be organised in the framework of the project (see Output 2).

A subset of foreign researchers who are party (via their institutions) to ABS agreements with Ethiopian institutions will be consulted regarding their experiences and impressions of the current ABS process.

Output 3: Recommendations on adopting, or modifying as appropriate, best practices for collections and researchers into the existing Ethiopian ABS framework, based on a global review of best practices and case studies and consideration of national and regional context

Activity 3.1: Compile examples and case studies of best practice

This is an on-going activity for the project consultant. A number of case studies have already been identified and some of these were presented at a side event organised by the project at the 13th Conference of the Parties to the CBD in December 2016 (Annex 4.3). These included examples from Mexico, Brazil and the UK.

The description of the side event is provided below:

This side event will explore how different national definitions of 'access' affect ex situ *collection holders and researchers operating at the earlier end of chains of custody and utilization of plant resources. Using examples, including from a project in Ethiopia funded by the UK's Darwin Initiative, the side event will look at capacity needs for the different stakeholders involved in 'access' and efforts underway to address these needs. The side event will aim to encourage discussion and the sharing of experiences on how building capacity and understanding of ABS issues amongst a wide range of stakeholders can help to promote the use of plant resources in research and development*.

The side event was attended by at least 50 COP participants and provoked a lively discussion on the issue around ABS and *ex situ* collections.

Members of the ISC have also agreed to assist with identifying relevant case studies, with one specifically focussing on examples of Codes of Conduct and Guidelines for ABS being used within the agriculture community and in the framework of the ITPGRFA; the Seeds for Needs project (in several countries, including Ethiopia) was also put forward as a strong case study for inclusion.

3.2 Progress towards project Outputs

Output 1: A methodology for reviewing and identifying ABS bottlenecks for research and benefit sharing and options for overcoming these published.

The stakeholder consultations conducted so far (Activity 1.5) mark the first attempt in Ethiopia to gather baseline information on *ex situ* plant collections relevant to access and benefit sharing.

The methodology developed for the first stakeholder consultation exercise proved to be an effective way to gather baseline information. An initial survey of all participants gathered information on the level of understanding of ABS issues at the individual level. Comprehensive data was then collected on a collection-by-collection basis on the origin of material in *ex situ* collections, how such material, and information related to it, is managed within the collection and who this material and related information is supplied to. Opportunities for benefit sharing were also discussed. Using a participatory approach to discuss these issues allowed the participants to gain a common understanding of the questions being asked. Following the discussion sessions, information generated was recorded using a formal questionnaire that allowed responses to be coded and analysed.

This process is providing important information to help understand how such collections are used by researchers and where bottlenecks might occur.

We are confident that applying this methodology during further consultations will allow us to establish a comprehensive baseline and to review and identify ABS bottlenecks for research and benefit sharing. We expect this to be completed by the end of Year 2 – as planned in the project proposal. During Year 3 of the project, we will focus on identifying and proposing possible options for overcoming bottlenecks.

Output 2: Capacity built amongst collection holders and researchers to enable the use or appropriate modification of best practices and model ABS agreements, to support the development of simplified access measures for non-commercial research.

While specific activities related to this output are not scheduled to start until year 2 of the project, the consultation process itself has also served to build capacity and understanding of ABS issues amongst collection holders. The consultation exercise began with presentations on the international and Ethiopian ABS frameworks, with opportunities for extensive questions and discussion; furthermore the participatory small-groups approach was new to EBI partners and is helping to build their own capacity for ABS training. One issue already identified is the inconsistency in record keeping across collections and the lack of databases to manage the information on materials in collections. Without reliable systems to manage collection information (such as origin of material, agreements under which materials were collected and who they are being supplied to) it is very difficult for *ex situ* collections to fully comply with national ABS obligations. In March 2017 therefore, two training courses in collection management were held – one focussing on databases and one on the management of living collections (Annex 4.4). These training courses served to highlight the importance of data management in relation to living and herbaria collections. Following the completion of the consultation process, a more in-depth analysis of the data obtained will be carried out to guide the further development and delivery of a training strategy during years 2 and 3 of the project.

Output 3: Recommendations on adopting, or modifying as appropriate, best practices for collections and researchers into the existing Ethiopian ABS framework, based on a global review of best practices and case studies and consideration of national and regional context.

A start has been made on compiling examples and case studies of best practice as a first step towards this output – see Activity 3.1 above.

Output 4: A widely-disseminated policy brief making recommendations for the development of simplified measures for access for non-commercial research and use of best practices

Activities related to this output have not yet been initiated.

3.3 Progress towards the project Outcome

Project outcome: Collection holders, researchers and policy makers will have a 'road map' to guide decision-making and policy development to facilitate access to and utilisation of plant resources for research and development.

The project has made good progress towards achieving indicator 0.3: *"By the end of the project, stakeholders in Ethiopia will have a better understanding of, and involvement in, ABS issues."* The focus in Year 1 has been on collection holders, Year 2 will address researchers and Year 3 will involve policy makers. There will be a need to compare the level of understanding of ABS issues amongst collection holders and researchers at the end of the project as compared to the baseline (as assessed during the initial questionnaires completed during the consultations).

Progress is also being made against indicator 0.1: "*By year 3, a tested methodology to identify research and benefit sharing bottlenecks in national ABS frameworks at collection holder/researcher level and options for addressing these will be available."* Progress in this area is described under Output 1 and Activity 1.3.

Indicator 0.2 has not yet been addressed by the project but remains a valid indicator. Indicator 0.4: "*By the end of the project, new ABS agreements are being developed by a greater range of stakeholders*" may be beyond the scope and influence of the project. We believe the outcome of the project will be achieved, but indicator 0.4 may be viewed rather as an impact of the project than an indication of the achievement of the project outcome.

3.4 Monitoring of assumptions

The important assumptions identified in the project proposal still hold true. For those relevant to activities carried out to date, we have the following comments

Assumption 1: *Stakeholder groups are representative of the wider community.*

Comments: Having clearly defined the stakeholder groups specific to our project, we believe that the individuals from these groups that we will interact with in the framework of the project are representative of their groups as a whole. We have been careful to put limits around the project and not try to extend to stakeholders that are beyond the immediate focus of the project. For example, the project will not consult with local communities, as the Ethiopian ABS team prefers that this project should closely address the collections and research communities, which have been under-involved in other ABS work in Ethiopia.

Assumption 2: *Stakeholders are willing to participate in the process*

Comments: Our experience to date is that the stakeholders are very willing to participate in the process. This is because the focus of the project (ABS) is very relevant to their work and they therefore keen to engage.

Assumption 3: *Full participation of collection holders in the consultation and training process.*

Comments: As with assumption 2, collection holders have so far been very engaged in the project process. Comments received from participants during the consultations have been extremely positive and the participative methodology adopted, although new to many participants, is much appreciated.

3.5 Impact: achievement of positive impact on biodiversity and poverty alleviation

Project impact: Plant genetic resources are being used in research and development and such activities enable the generation and sharing of benefits thus helping to achieve the ABS provisions of the CBD

At this stage the project has identified a wide range of projects where plant resources are being used in research and development, in Ethiopia and abroad. Documentation of the extent and range of use is an essential first step in being able to measure increased use. The consultations are also serving to identify and document how well benefits are being shared. In

many cases benefits are non-monetary and as such are not always recognised as benefits. Again, documentation of benefit sharing is essential and prior to this project, no effort had been made to document and record non-monetary benefit sharing.

4. Contribution to the Global Goals for Sustainable Development (SDGs)

The following SDGs are relevant to our project:

SDG 15 – Life on land, especially Target 15.6: *Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed.*

Our project has contributed to raising awareness of and building capacity to achieve fair and equitable sharing of the benefits arising from the utilization of genetic resources.

The project is also contributing to:

SDG 1: End poverty in all its forms everywhere, and particularly Target 1.4: *By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance*.

Although our project does not address community rights, by building awareness and capacity amongst collection holders and researchers of ABS issues, this will ensure that plants accessed from communities will be done with due recognition of communities' rights and involve the sharing with communities of benefits from plant research.

5. Project support to the Conventions, Treaties or Agreements

The project is specifically focused on the implementation of the Nagoya Protocol (NP) and the ITPGRFA. The main project partner (EBI) is the ABS and ITPGRFA Focal Point in Ethiopia, and the Institute is currently considering how to update their pre-NP ABS laws and measures so that Ethiopia will be in compliance with both the NP and the ITPGRFA. The project is particularly contributing to core NP provisions on benefit sharing (Article 5) and will identify opportunities to implement Article 8a (Special Considerations) regarding non-commercial research, evaluate guidance on best practices and model ABS agreements (Articles 20 and 19), and contribute to awareness-raising (Article 21) and capacity-building (Article 22). The project is also raising awareness and promoting the NP amongst a wide range of stakeholders, with a focus on *ex situ* collection holders and researchers, and is building capacity to implement the NP amongst these groups. With regard to the ITPGRFA, the project is assessing and will make recommendations on how this and the Nagoya Protocol can be implemented in a mutually supportive manner, gathering and analysing relevant case studies and examples.

6. Project support to poverty alleviation

The project is supported by Defra and does not include a specific focus on poverty alleviation.

7. Project support to gender equality issues

8. Monitoring and evaluation

Monitoring and evaluation is the responsibility of the International Steering Committee. This Committee reviewed project progress against the project workplan at a meeting in March 2017. The report of this meeting is provided as part of Annex 4.1. A number of issues identified at this meeting include:

- The difficulty of organising meetings of the ISC due to everyone's busy timetables. It was suggested that the ISC should try to meet more regularly by skype, not expect everyone to participate in each meeting, use email to address particular issues, and having specific issues or reports to discuss.
- The possibility of expanding the ISC was discussed – with suggestions including the leader of the Seeds for Needs project.
- The concern that the relatively small Darwin project will be 'swamped' by the upcoming GEF project was noted. It was suggested that regional coordinator of that project (once identified) be invited onto the ISC.

9. Lessons learnt

We experienced most difficulty with coordinating the International Steering Committee. We selected very experienced and helpful people, but it has proved virtually impossible for everyone to meet in person or even participate in a single Skype call, so have had to convene varying sub-groups and, going ahead, will work in a more targeted manner, engaging particular people separately via Skype and/or email and then sharing the outcomes of discussions.

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

11. Other comments on progress not covered elsewhere

Unidentified risks

- **Competition for resources**

One previously unidentified risk was the possibility of a similar larger project being initiated in the country and 'swamping' the Darwin project. There is a new UNDP/GEF Global ABS project entitled '*Strengthening human resources, legal frameworks and institutional capacities to implement the Nagoya Protocol*' due to be initiated in Ethiopia (and 23 other countries) shortly. This will take up much of the time of the staff of EBI's ABS Directorate. It will be important to ensure that the Darwin project is implemented in harmony with the UNDP/GEF project. Discussions on the relationship between the Darwin project and the UNDP project have already been held with the Director of the ABS Directorate and we are hopeful that the UNDP/GEF project will provide opportunities to enhance the impact of the Darwin project. Building trust between users and providers to facilitate bio-discovery is one of the main objectives of the UNDP/GEF project, but academic and research institution participation is under-developed in the project document, while the Darwin project has a strong and practical focus on the research community, so our project team sees ample opportunity for synergy.

- **Security concerns**

Project activities in Year 1 were delayed due to the security situation in Ethiopia. A State of Emergency declared in October 2016 meant that some project activities were delayed until 2017. While the situation is presently calm, the State of Emergency is still in place and there is the potential for security issues to cause project delays in the future. One impact of this situation may be that travel within the country becomes difficult or unsafe, restricting project activities to the Addis Ababa area.

12. Sustainability and legacy

ABS is an important issue in Ethiopia and the Ethiopian Biodiversity Institute recognises the project as providing important support for its own work in building awareness and capacity amongst key stakeholders. At the time of project initiation, the Director of EBI was Dr Gemedo Dalle and he took a personal interest in the project. Dr Dalle is now the Hon. Minister of Environment, Forest and Climate Change for Ethiopia and as such, is in an influential position to promote and support the project. Dr Dalle attended the side event organised by the project at the CBD CoP in Mexico and participated actively in the discussion.

13. Darwin identity

The Darwin Initiative was prominently introduced and thanked and its logo used at the CBD COP side event and for all stakeholder consultation and capacity building exercises in Ethiopia. The project is clearly and consistently identified as a Darwin Initiative project – as indicated in Annexes 4.3 and 4.4

At the international level, members of the International Steering Committee come from the CBD Secretariat, the ABS Capacity Development Initiative and Bioversity International. All are now well aware of the project and the support from the Darwin initiative for this work.

14. Project expenditure

Table 1: Project expenditure <u>during the reporting period</u> (1 April 2016 – 31 March 2017)

Project spend (indicative) since last annual report	**2016/17 Grant (£)**	**2016/17 Total Darwin Costs (£)**	**Variance %**	**Comments (please explain significant variances)**
Staff costs (see below)	21,147	21,482	-1.6%	
Consultancy costs	10,500	10,500	0.0%	
Overhead Costs	5,722	5,691	0.5%	
Travel and subsistence	33,500	34,592	-3.3%	
Operating Costs	7,500	7,547	-0.6%	
Capital items (see below)		0		
Monitoring and evaluation (inserted)	4,000	4,180	-4.5%	
Others (see below)				
TOTAL	**82,369.00**	**83,992.60**	**-2.0%**	

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2016-2017

Project summary	Measurable Indicators	Progress and Achievements April 2016 - March 2017	Actions required/planned for next period
Impact Plant genetic resources are being used in research and development and such activities enable the generation and sharing of benefits thus helping to achieve the ABS provisions of the CBD		The project has identified a wide range of projects where plant resources are being used in research and development, in Ethiopia and abroad. Non-monetary benefits being derived from these projects are being identified and documented for the first time.	
Outcome Collection holders, researchers and policy makers will have a 'road map' to guide decision-making and policy development to facilitate access to and utilisation of plant resources for research and development.	0.1 By year 3, a tested methodology to identify research and benefit sharing bottlenecks in national ABS frameworks at collection holder/researcher level and options for addressing these will be available. 0.2 By the end of the project, recommendations on simplified measures for access to materials for non-commercial research will be submitted to policy makers. 0.3. By the end of the project, stakeholders in Ethiopia will have a better understanding of, and involvement in, ABS issues. 0.4 By the end of the project, new ABS agreements are being developed by a greater range of stakeholders.	The project has made good progress in developing a methodology for identifying bottlenecks in ABS implementation in Ethiopia, as well as identifying what these bottlenecks are - including the need for better data management by collection holders. The project has also gathered a significant amount of information on on-going ABS agreements and the role of *ex situ* collection holders with regards to the use of plant resources in research and development.	Key activities in Year 2 will be to complete consultations with *ex situ* collection holders and researchers; analyse the results of these consultations; develop and initiate delivery of a capacity building / training programme. In year 2 there will also be greater focus on outreach and promotion of the project and the gathering of further case studies and relevant information from other countries.
Output 1. A methodology for reviewing and identifying ABS bottlenecks for research and benefit sharing and options for overcoming these published.	1.1 By December 2016, review of existing ABS-agreements carried out and baseline established with respect to stakeholders involved 1.2 By September 2017, at least 8 stakeholder consultations completed and major ABS bottlenecks for	Good progress has been made in reviewing existing ABS agreements and identifying key project stakeholders – see section 3.1 Activities 1.2 and 1.4 Stakeholder consultations are on-going and a methodology for conducting these, which allows the identification of ABS bottlenecks and issues, is being developed – see section 3.2 and Annex 4.2	

	research identified. 1.3. By September 2018, options for overcoming bottlenecks reviewed and recommendations provided to Ethiopian partners. 1.4 By December 2018, a report detailing the methodology used to identify and overcome bottlenecks available on CBD and BGCI websites.	
Activity 1.1 Establish Steering Committee		Completed
Activity 1.2. Identify key stakeholder groups		Completed
Activity 1.3: Develop guidelines and process for stakeholder consultations		On-going – will be refined, completed and recorded in Year 2.
Activity 1.4: Carry out an ABS baseline survey		Completed
Activity 1.5: Carry out stakeholder consultations		On-going – will be completed with consultations with collections holders and researchers in Year 2
Output 2. Capacity built amongst collection holders and researchers to enable the use or appropriate modification of best practices and model ABS agreements, to support the development of simplified access measures for non-commercial research.	2.1 By September 2017, capacity gaps amongst collection holders identified and training strategy developed. 2.2 By October 2018, training materials developed, 4 national training courses held and at least 20 staff trained. 2.3 By March 2019, training resources available on-line to support capacity building more widely.	Activities towards this output are not scheduled to start until Year 2. However the consultation proves has allowed initial capacity building to take place amongst collection holders and some gaps to be identified. See section 3.2 and Annex 4.4
Activity 2.1. Use results of consultations with collection holders to identify capacity gaps		See Activity 1.5
Activity 2.2. Prepare training strategy and training materials		This activity will start in year 2
Activity 2.3 Deliver training courses		This activity will start in year 2
Activity 2.4 Adapt training materials to self-learning modules and make available on-line		This activity will start in year 3
Activity 2.5 Carry out survey of trained researchers to evaluate learning success		This activity will start in year 3

Output 3. Recommendations on adopting, or modifying as appropriate, best practices for collections and researchers into the existing Ethiopian ABS framework, based on a global review of best practices and case studies and consideration of national and regional context.	3.1 By September 2017, examples of best practice and case studies on simplified measures for access from around the world compiled and made available on the CBD and BGCI websites. 3.2. Recommendations on adopting these provided to Ethiopian partner by December 2017. 3.3 Continuing addition of cases studies to websites until March 2019.	A start has been made on compiling examples and case studies of best practice as a first step towards this output. See Section 3.1 – Activity 3.1 and Annex 4.3
Activity 3.1 Compile examples and case studies of best practice		Ongoing
Activity 3.2 Analyse, review and make recommendations for their use in existing Ethiopian framework		This activity will start in year 2
Activity 3.3.Make cases studies etc. available on-line and continue updating		This activity will start in year 3
Output 4. Recommendations on adopting, or modifying as appropriate, best practices for collections and researchers into the existing Ethiopian ABS framework, based on a global review of best practices and case studies and consideration of national and regional context.	4.1. By August 2018, policy brief drafted based on examples and case studies and on field experience in Ethiopia. 4.2 By December 2018, policy brief reviewed and finalised and disseminated via BGCI and CBD channels. 4.3 Final results of the project reported at final project meeting in March 2019.	This activity will start in year 3
Activity 4.1 Draft policy brief based on field experience in Ethiopia and using examples of best practice		This activity will start in year 3
Activity 4.2 Carry out peer review of policy brief		This activity will start in year 3
Activity 4.3 Develop strategy for communicating policy brief		This activity will start in year 3
Activity 4.4 Launch final version at final project meeting		This activity will start in year 3

Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed)

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: Plant genetic resources are being used in research and development and such activities enable the generation and sharing of benefits thus helping to achieve the ABS provisions of the CBD (Max 30 words)			
Outcome: (Max 30 words) Collection holders, researchers and policy makers will have a 'road map' to guide decision-making and policy development to facilitate access to and utilisation of plant resources for research and development.	0.1 By year 3, a tested methodology to identify research and benefit sharing bottlenecks in national ABS frameworks at collection holder/researcher level and options for addressing these will be available. 0.2 By the end of the project, recommendations on simplified measures for access to materials for non-commercial research will be submitted to policy makers. 0.3. By the end of the project, stakeholders in Ethiopia will have a better understanding of, and involvement in, ABS issues. 0.4 By the end of the project, new ABS agreements are being developed by a greater range of stakeholders.	1.1 Methodology available on CBD and BGCI websites. 1.2 Relevant text in Ethiopian ABS reports. 1.3 Researcher questionnaires and comparison with baseline information.	There is political will to implement ABS agreements in Ethiopia. Stakeholders understand that utilisation is necessary for benefit sharing. Simplified access measures are acceptable to stakeholders and policy makers. Lead agency will actively promote supportive policies to relevant decision makers.
Outputs: **1**. A methodology for reviewing and identifying ABS bottlenecks for research and benefit sharing and	1.1 By December 2016, review of existing ABS-agreements carried out and baseline established with respect to stakeholders involved	1.1. Report on baseline situation 1.1 Reports from stakeholder consultations including information on key ABS bottlenecks.	Stakeholder groups are representative of the wider community.

options for overcoming these published.	1.2 By September 2017, at least 8 stakeholder consultations completed and major ABS bottlenecks for research identified. 1.3. By September 2018, options for overcoming bottlenecks reviewed and recommendations provided to Ethiopian partners. 1.4 By December 2018, a report detailing the methodology used to identify and overcome bottlenecks available on CBD and BGCI websites.	1.2 Project reports including information on draft methodology and mechanisms for finalising. 1.3. Methodology available.	Methodology developed in Ethiopian context is applicable in other country contexts. Stakeholders are willing to participate in the process.
2. Capacity built amongst collection holders and researchers to enable the use or appropriate modification of best practices and model ABS agreements, to support the development of simplified access measures for non-commercial research.	2.1 By September 2017, capacity gaps amongst collection holders identified and training strategy developed. 2.2 By October 2018, training materials developed, 4 national training courses held and at least 20 staff trained. 2.3 By March 2019, training resources available on-line to support capacity building more widely.	Training course reports including self-assessments from participants on knowledge gained. Training materials available on-line .	Full participation of collection holders in the consultation and training process. Collection holders remain in post. Existing best practices and model agreements are appropriate or can be modified to fit the Ethiopian context.
3. Recommendations on adopting, or modifying as appropriate, best practices for collections and researchers into the existing Ethiopian ABS framework, based on a global review of best practices and case studies and consideration of national and regional context.	3.1 By September 2017, examples of best practice and case studies on simplified measures for access from around the world compiled and made available on the CBD and BGCI websites. 3.2. Recommendations on adopting these provided to Ethiopian partner	Project reports. Information on CBD and BGCI websites.	Suitable case studies and examples are available and can be accessed.

	by December 2017. 3.3 Continuing addition of cases studies to websites until March 2019.		
4. A widely-disseminated policy brief making recommendations for the development of simplified measures for access for non-commercial research and use of best practices.	4.1. By August 2018, policy brief drafted based on examples and case studies and on field experience in Ethiopia. 4.2 By December 2018, policy brief reviewed and finalised and disseminated via BGCI and CBD channels. 4.3 Final results of the project reported at final project meeting in March 2019.	Project report. Policy brief available. Documentation for final project meeting.	Policy makers are interested in adopting new policies that facilitate research.

Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

1.1 Establish Steering Committee
1.2 Identify key stakeholder groups
1.3 Develop guidelines and process for stakeholder consultations
1.4 Carry out ABS baseline survey
1.5 Carry out stakeholder consultations
1.6 Analyse results of stakeholder consultations, identify capacity gaps and research and benefit sharing bottlenecks
1.7 Review examples of best practice including model agreements and make recommendations for their use in existing frameworks
1.8 Publish report on methodology used to carry out review
1.9. Disseminate results of stakeholder consultations

2.1 Use results of consultations with collection holders to identify capacity gaps (see Activity 1.5)
2.2 Prepare training strategy and training materials
2.3 Work with EBI to deliver ABS training at national level
2.4 Adapt training materials to self-learning modules and make available on-line.
2.5 Carry out survey of trained researchers to evaluate learning success

3.1 Compile examples and case studies of best practice,
3.2 Analyse, review and make recommendations for adopting these into existing Ethiopian framework (see Activity 1.6)
3.3 Make cases studies etc. available on-line and continue updating.

4.1 Draft policy brief based on field experience in Ethiopia and using examples of best practice (see Activity 3.1)
4.2 Carry out peer review of policy brief.
4.3 Develop strategy for communicating policy brief
4.4 Launch final version at final project meeting and disseminate according to strategy

Annex 3: Standard Measures

Table 1 Project Standard Output Measures

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
6A	Number of people receiving training in issues related to ABS and collection management	8 female 63 male	Ethiopian	71				150
6B	Number of training weeks to be provided			2				6
7	Number of types of training materials to be produced			2				8
14 A	Number of conferences/seminars/workshops to be organised within country			2				6
14B	Number of conferences/seminars/workshops organised to present the project work			1				4

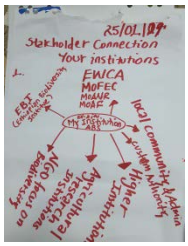
Table 2 Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)

Promoting the use of plant resources in research and development

Project reference: 3319

Annexes to Year 1 Annual Report



Annex 4.1

Notes of Steering Committee meetings

1. **National Steering Committee: 13 July 2016**

2. **International Steering Committee skype calls: 8, 9 and 12 September 2016**

3. **International Steering Committee meeting: 14 March, 2017**

Promoting the use of Plant Resources in Research and Development in Ethiopia – A Darwin Initiative Project

National Steering Committee meeting – 13 July, 2016

Present:

Dr Gemedo Dalle, Director General, Ethiopian Biodiversity Institute
Dr Feleke Woldeyes Gamo, Deputy Director General, EBI
Dr Birhanu Taye – ABS Directorate, EBI
Dr Tesfaye Awas, Project Coordinator, EBI
Dr Shambel, Addis Ababa University Herbarium
Mr Birhanu Belay Telake, Gullele Botanic Garden
Mr Dereje Taye, Director of Communications and Public Relations, EBI
Mr Motuma Didita, Director, Forest and Rangeland Plant Biodiversity Directorate, EBI
Ms Kate Davis, Consultant
Ms Suzanne Sharrock, Project Leader, BGCI
Ms Kirsty Shaw, Head of Ecological Restoration and Tree Conservation

Opening remarks – Dr Gemedo Dale

Dr Dale welcomed the participants to the meeting, highlighting the good working relationship Ethiopia has with other countries, especially the UK. Ethiopia was one of the first countries to develop ABS regulations and they are keen to continue to develop fair and meaningful working partnerships with other countries, based on verified and transparent procedures. EBI is proud of its record of providing free access to plant materials from genebanks and from the wild for research. EBI is hoping, through this project, to educate and build capacity to take forward ABS implementation in Ethiopia, especially in relation to promoting research. EBI has a long experience in implementing projects, and will respect the rules and regulations of this Darwin project.

EBI and ABS Agreements

Dr Taye from the ABS Directorate made a presentation on the present situation regarding ABS implementation and agreements in Ethiopia. The ABS Directorate includes 25 experts and they work to implement Proclamation No 482/2006 on Access to Genetic Resources and Traditional Knowledge and Community Rights.

A number of ABS agreements are in place in Ethiopia involving local companies and these operate under the Access Fund implementation.

A number of challenges have been identified by the ABS Directorate, including:

- Lack of harmony of domestic law with the Nagoya Protocol
- Lack of awareness amongst stakeholders
- Inadequate resources (human, financial)
- Loss of traditional knowledge
- Inadequate data management
- Lack of synchronisation of sectoral and cross-sectoral laws with domestic ABS laws
- Weak regulatory system, including check points.

Introduction to BGCI

Kirsty Shaw gave a presentation introducing BGCI to the Committee members. BGCI is a membership organisation, linking botanic gardens and other plant collection holders around the world. BGCI's main areas of operation are:

1. Advocacy – promoting international policy (Global Strategy for Plant Conservation / Nagoya Protocol), promoting plant conservation and promoting the importance of botanic gardens
2. Provision of information – threatened plants, best conservation practice, education…
3. Practical conservation projects – conservation and restoration
4. Fundraising to support projects

In Ethiopia, BGCI is involved in capacity building, with training course being held on botanic garden management and tree conservation.

The project background

Dr Tesfaye Awas made a presentation on the background to the project

The project plan

Suzanne Sharrock introduced the project plan, highlighting the activities to be completed each year:

Year 1:

- Establish steering committee – national and international (BGCI and EBI)
- Identify key stakeholder groups (BGCI and EBI)
- Develop guidelines and process for stakeholder consultations (BGCI and EBI)
- Initiate stakeholder consultations (EBI)
- Complete a base line survey of ABS agreements in Ethiopia (EBI and BGCI)
- Compile examples and case studies of best practice outside Ethiopia (BGCI)
- Project communications (EBI and BGCI)

Year 2:

- Continue stakeholder consultations (EBI and BGCI)

- Analyse results of consultations (BGCI)
- Identify gaps and bottlenecks (BGCI and EBI)
- Prepare training strategy and training materials (BGCI)
- Deliver training courses (BGCI and EBI)
- Compile and analyse examples of best practice (BGCI)
- Make recommendations for use of best practice in Ethiopia (BGCI)
- Mid-project review meeting (EBI)
- Project communications (EBI and BGCI)

Year 3:

- Continue training (EBI and BGCI)
- Review evolution of ABS processes in Ethiopia (BGCI and EBI)
- Publish report on project methodology (BGCI)
- Make case studies available on-line (BGCI)
- Prepare and launch a policy brief (BGCI)
- Project communications (BGCI and EBI)
- Final project meeting (EBI)

The key project deliverables are as follows:

- Baseline survey of existing ABS agreements (December 2016)
- At least 8 stakeholder consultations completed (September 2017)
- Training courses delivered – at least 4 courses and 20 staff trained (October 2018)
- Case studies available on-line (from September 2017)
- Policy brief available (December 2018)

Stakeholders capacity assessments / situation analysis

Kate Davis presented an overview of how to carry out a situation analysis and provided a case study of assessing the state of knowledge of botanic garden staff in Southeast Asia on ABS issues

Discussion

The discussion was led by Dr Feleke Woldeyes and initially focused on the issue of **stakeholder identification.** It was noted that a range of people are looking for plant materials and these are held by various institutions, including local communities and *ex situ* collections (managed by EBI, agriculture, universities, botanic gardens, forest and environmental research institutes). The need to follow the chain of movement from local communities, through *ex situ* collections to final users was emphasised. Users of plant resources include the business sector – such as the Fibre Factory.

Materials are distributed every year by EBI from *ex situ* collections to research institutions with MTAs. The team from the ABS Directorate could analyse these arrangements.

The question of traditional knowledge was raised – and how this is addressed through the ABS proclamation. It was suggested that the Patent Office and religious leaders (representing communities) should also be considered as ABS stakeholders by the project. It was noted that regional administration / councils presently represent traditional healers in ABS agreements.

It is important to ensure that collection holders know their responsibilities with regard to traditional knowledge as ethnobotanists will use collections (e.g. herbaria) to gather information.

The Committee were reminded that the project has a focus on collections and building capacity of collection holders, and some of the issues, such as harmonising the Ethiopian Proclamation with the Nagoya Protocol are probably beyond the scope of the project.

In relation to how plant resources are used in Ethiopia, it was agreed that there are two main uses – commercial (through adding value to the natural resource) and research. EBI is permitted to give permission for materials to be used – going through the necessary legal channels.

The system presently is based on plant resources being the property of States – and permission to use them is obtained from regional administration. If the resource covers more than one state, permission is provided at the national level. Prior Informed Consent (PIC) is always used – with different formulations of PIC for different uses of plants.

With respect to conducting the **stakeholder consultations** for the project the following points were noted:

- Additional stakeholders who might be considered are the regulatory agencies – customs, quarantine, post office
- At least 8 consultations should be conducted
- Should these be carried out in separate groups, or through brining separate groups together?
- Is it useful to carry out a questionnaire first?

It was agreed that BGCI and EBI would continue to work together on identifying the stakeholder groups and formulating the process for conducting the consultations. The International Steering Group would be consulted on this as well.

It was proposed that the upcoming training course to be organised by BGCI in Ethiopia in November, would provide an opportunity for a first consultation with collection holders.

In relation to **other ABS-related challenges**, the following issues were raised:

- Gaps in commercialisation of resources
- Capacity gaps (human and financial)
- Harmonisation of legal processes
- Lack of negotiating skills
- Lack of technology to track the movement of genetic resources (e.g. DNA fingerprinting)

- Lack of checkpoints

The project will look at which of these issues it can help to address.

In terms of **monitoring and evaluation,** it was noted that performance standards should be developed for each output and these should always take into account gender issues. It was agreed that BGCI would share monitoring and evaluation guidelines from the Darwin Initiative with the Committee.

Project communications also need to be addressed – it was agreed that BGCI and EBI websites could be used to highlight the project and a separate project website is not required. It was suggested that a brochure might be useful to promote the project and perhaps a project logo?

In closing the meeting, it was agreed that committee members would remain in touch via email and presentations would be shared with all members.

Darwin Initiative Project: Promoting the use of plant resources in research and development

International Steering Committee – Skype meetings

8, 9 and 12 September 2016

Participants

Suzanne Sharrock (SS), Project Leader – BGCI (all calls),
Kathryn Davis (KD), Consultant - (all calls)
Tesfaye Awas (TA), National Project Coordinator, EBI - (8 September call)
Michael Halewood (MH), Bioversity International - (8 September call)
Hartmut Meyer (HM), ABS Capacity Development Initiative - (12 September call)
Kathryn Garforth (KG), CBD Secretariat - (9 September call)

Notes on discussions

As it was not possible to schedule a time that was convenient for all participants, the first discussions of the International Steering Committee (ISC) consisted of three separate Skype calls. The notes below represent an overview of all issues discussed during the three calls.

1. **Introduction to the project and key deliverables**

SS provided an overview of the project at the start of each call and described the key project deliverables and the focus of the first year's activities. SS and KD described the interactions they have had so far with stakeholders in Ethiopia, emphasising that the project is very much focused on *ex situ* collection holders and the research community, and on utilisation as defined in the Nagoya Protocol.

2. **Stakeholder consultations**

SS and KD explained that the baseline survey and stakeholder consultations were a key element of the first year of the project and asked the members of the ISC for their advice on how these should be conducted. The following points were raised:

- MH asked how we define 'stakeholder consultation' and described the process adopted by the Bioversity Darwin project in Madagascar and Benin. Here the national partners have taken a lead in identifying the key stakeholders and these people have been brought together in a series of national meetings and interviews, at this stage essentially for a baseline survey of awareness rather than public

consultations (the latter will follow). While genebank managers are included as stakeholders, the *ex situ* community have not been isolated a separate group. The community level focus is high, with a view towards possible development of community protocols.

- TA noted that the project in Ethiopia can include stakeholders along the *ex situ* value chain, such as the public health institutes, pharmacy school and agricultural biodiversity collections. The project could also consult the communities who already have ABS agreements with EBI, to hear their perspectives regarding the effectiveness of benefit-sharing. However, discussions with the project's National Steering Committee made it clear that the baseline survey and consultation focus should be on researchers and not on local communities. As the project's focus is on research rather than supply, only a subset of such ABS agreements would be within our scope.
- HM suggested that it might also be interesting to look at the role of international agricultural research centres and how Ethiopia handles international research. He also emphasised the need to ask Ethiopian collection holders and researchers about their use of non-Ethiopian material.
- HM suggested referring to the CEPA guide produced by the ABS Capacity Development Initiative. This provides guidance on, and tools, for carrying out multi-stakeholder consultations.
- HM strongly recommended that the stakeholder consultations be facilitated by experienced external facilitators. The ABS Capacity Development Initiative might be able to assist with this. Because of the cost implications, this might point towards having a single large consultation event, within which parallel consultations with different groups could be conducted. HM will be meeting with Ashenafi at a workshop in 2 weeks' time and will discuss this matter with him.

Mutually supportive implementation of the Nagoya Protocol (NP) and the ITPGRFA (IT)

MH discussed the links between the NP and IT and the role of the Team of Technical and Legal Experts on Access and Benefit Sharing for Genetic Resources for Food and Agriculture (ABS Expert Team), especially regarding the development of best practices, model clauses and expedited measures for different types of biodiversity.

TA agreed to ask Gemedo Dalle (member of the ABS Expert Team) about the measures that will be discussed at next week's meeting. He suggested that BGCI contact Carlo Fadda (Bioversity International) who is based at ILRI in Ethiopia to discuss the PGR aspects of the project.

Case studies on ABS and the research sector

- KD explained that as part of the project she will be collecting case studies and examples of facilitated access to plant resources for research purposes. The members of the ISC were asked to help provide examples if they were able to.
- KG suggested that some relevant case studies might be presented at the upcoming Science Forum to be held as part of COP 13. She also suggested the surveys of Swiss and German researchers (conducted by the Swiss Academy of Sciences and the German Research Foundation, respectively).
- MH mentioned the Seeds for Needs project in Ethiopia, in the context of facilitated access – this involves the use by farmers of seeds from seedbanks.TA noted that no ABS agreements are required for farmers to access seeds from seed banks, as such exchanges are outside the scope of the current Ethiopian ABS law.

Role of the ISC

MH described the composition and activities of the Steering Committee for Bioversity's Darwin project. He explained that they had been able to organise several face-to-face meetings of the Committee, using co-funding from other projects to cover some travel costs.

The following were noted as being part of the role of the ISC:

- Provide advice and guidance on an ad-hoc basis on any aspects of the project
- Sharing information of relevance to the project
- Being informed about project progress
- Reviewing and inputting to project reports
- Participating in telephone / Skype and face-face meetings

It was suggested that SS draft a brief Terms of Reference for the ISC.

ISC meetings

The project agreement with Darwin states that ISC will have three face-to-face meetings during the period of the project

KG noted the importance of being opportunistic in organising meetings – taking advantage of other events where Committee members may be present.

All members of the ISC will be attending COP 13, and it was agreed that a face-to-face meeting should be organised there. The evening of Saturday 3 December was suggested as a potential date/time.

Other possible opportunities to meet might include on the sidelines of meetings such as the Informal Advisory Committee on ABS capacity building.

Side event at COP 13

MH noted that Bioversity is already planning to organise a side event that will focus on the interface between the NP and the IT. After some discussion, it was agreed that two separate side events would work well, with the BGCI/EBI event focussing on 'access' issues while Bioversity looks at mutually supportive implementation. The BGCI/EBI event could explore how different national definitions of 'access' affect ex situ collections holders and researchers operating at the earlier end of chains of custody and utilization. Such a theme might help to raise the awareness of policymakers about the implications for international cooperation. Although, as HM pointed out, side events may struggle to attract delegates involved in negotiations and coordination, it was agreed that a time-slot in the first two days would be more likely to draw them.

The Association of Mexican Botanic Gardens have provisionally agreed to participate – their code of conduct and compendium of best practice operates outside the current Mexican definition of 'access' although botanic gardens and associated researchers are users of genetic resources. KG suggested that Brazil, Switzerland, France and Australia might have interesting experiences to share on the issue of 'access' and facilitated measures for non-commercial research.

Darwin Initiative Project: Promoting the use of plant resources in research and development

International Steering Committee, Rome, Italy

14 March, 2017

Participants

Suzanne Sharrock (SS), Project Leader (BGCI),
Michael Halewood (MH), Bioversity International
Kathryn Garforth (KG), CBD Secretariat
Ashenafi Ayenew (AA). ABS Directorate, EBI
Kate Davis (KD), Project Consultant – by skype

Notes of meeting

3. Project update

Activities completed against project plan were discussed as follows:

- *Establish Steering Committees:*

A **National Steering Committee** has been established and met in June 2016 to review the initial project plan. A second meeting is planned for March 2017 to review activities completed during the year.

An I**nternational Steering Committee** has been established and discussions held by skype during August 2016. Discussions with members on the ISC were held in Mexico (Cancun) in December 2016 and the present meeting held in Rome in March 2017.

- *Identify key stakeholder groups*

Key stakeholder groups have been identified as *ex situ* collection holders and academic researchers within and outside Ethiopia, conducting basic and applied research. Researchers that will be surveyed and consulted include those working in taxonomy, ethnobotany, ecology, agriculture and pharmacy research groups/departments. Lists of institutions to involve have been compiled by EBI.

- *Develop guidelines for stakeholder consultation*

The methodology for the stakeholder consultation has been piloted as part of the first consultation exercise (see below); guidelines for all following consultations will be formalised and recorded as part of the annual report to Darwin.

- *ABS baseline survey*

A list of 328 ABS agreements signed since 2010 has been compiled by EBI and provided to the project. Around 215 of these agreements concern plant genetic resources. The list, together with information collected as part of the first consultation exercise, constitutes the baseline for the project. The list will additionally be used to identify foreign researchers for consultation regarding current Ethiopian ABS procedures.

The list of ABS agreements is also an extremely useful resource for Nagoya Protocol implementation in Ethiopia (see 4).

- *Carry out stakeholder consultations*

The first stakeholder consultations were planned for November 2016, but postponed until January 2017 due to the state of emergency in Ethiopia at the end of 2016. Consultations with *ex situ* collection holders were held in January and March. The results of the consultation exercises have been compiled but not yet fully analysed. These will be shared with the ISC once analysis has been completed. Particular issues already identified include the lack of awareness amongst some collection holders of the Ethiopian Guidelines and Code of Conduct on the Ethiopian ABS framework and the need to develop capacity to manage information on collections using databases. A follow-up workshop on databases has been held for a sub-set of collection holders and further training will be organised in the framework of the project.

A subset of foreign researchers who are party (via their institutions) to ABS agreements with Ethiopian institutions will be consulted regarding their experiences and impressions of the current ABS process.

- *Compile examples and case studies of best practices*

This is an on-going activity for the project consultant. The ISC were asked to assist with this. MH agreed to share examples of Codes of Conduct and Guidelines for ABS being used within the agriculture community and in the framework of the ITPGRFA; the Seeds for Needs project (in several countries, including Ethiopia) was put forward as a strong case study for inclusion.

AA noted that EBI is keen to learn from best practices elsewhere in order to develop advice for the Ethiopian Government as it works to harmonise its national legislation with the Nagoya Protocol. One issue to be discussed is the possibility to develop a Standard Agreement for access to genetic resources for non-commercial use, as an additional 'simplified measure' under Nagoya Protocol Art. 8(a).

4. Results of stakeholder consultation

The process followed for the *ex situ* collection holder stakeholder consultation held in Addis Abba in January was described by SS. This consisted of four main elements:

a. Participants completing an initial questionnaire to assess their level of understanding and awareness of the Nagoya Protocol, the ITPGRFA and the Ethiopian legal framework for ABS.
b. This was followed by presentations on these processes and a general discussion, helping to provide information on the international and national ABS frameworks and capture some of the current concerns and interests of the participants.
c. The participants were divided into working groups to discuss the details of how materials in *ex situ* collections are accessed, managed and used and how benefits are shared. Benefit-sharing examples and experiences were shared both from the perspective of collections as users (using resources provided by local communities) and providers/intermediaries (working with foreign researchers).
d. Participants completed a final questionnaire to gather the information and opinions generated in the working groups in a format suitable for further analysis.

AA noted that the information gathered is very useful to EBI as it is the first time such baseline information has been gathered and the first time that participatory workshops have been conducted with collections/researchers.

5. Upcoming activities

The activities planned for Year 2 were briefly discussed. These consist of completing the stakeholder consultations – with a focus on the research community, identifying capacity gaps and initiating the capacity building elements of the project.

6. Synergies / linkages with other projects / activities

A discussion was held on the opportunities for linkages with other projects and initiatives. The following points were noted:

a. There is need to ensure harmonisation between the Darwin project and the major GEF-funded ABS project due to be initiated in Ethiopia and 23 other countries in 2017. The GEF project has not yet confirmed details of the academic and research community stakeholders that will participate in the Ethiopian part of the project. The Darwin project can help them to do so, can provide information on current knowledge, attitudes and practices of plant genetic resource users, and will provide in-depth, practical capacity-building for these sectors that will be integral to the success of ABS implementation in Ethiopia.
b. Within the GEF project, Bioversity has offered to take a lead on developing a community of practice around the mutually supportive implementation of the NP and the IT. BGCI and the botanic gardens community, including Ethiopian collections involved in the Darwin project, are in a good position to contribute experiences, examples and information to the GEF community of practice.

c. It was suggested that the ABS agreements already signed by EBI should be included in the ABS Clearing House. The ISG discussed with AA, the ABS National Focal Point, how the information it captures could potentially be added to the ABS Clearing-House, and used to generate internationally-recognised certificates of compliance (IRCCs), which constitute core instruments for ABS implementation and compliance. The CBD Secretariat may be able to provide some support to help with this in the form of on-line webinars or tutorials for EBI staff. The list can also potentially be checked against databases of publications and patents to check for compliance with the terms of the agreements, using software developed by One World Analytics and the ABS Capacity Development Initiative.
d. In the case of agreements covering PGRFA which use the SMTA – Bioversity will be providing training on how to include such agreements in the MLS for project partners in Rome in early April. It was proposed that EBI staff could participate in such training by skype.

7. Monitoring and evaluation

Issues encountered during year were identified as follows:

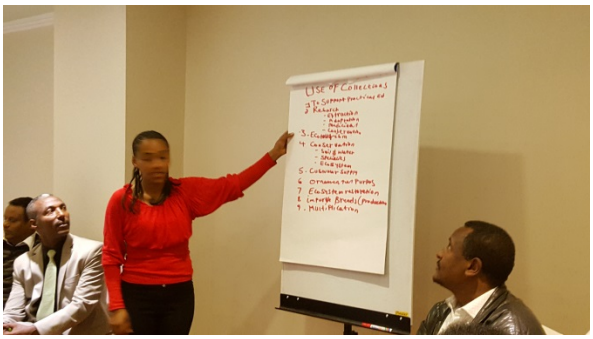
a. The need to identify a suitable facilitator for the upcoming researcher-focused consultations. MH suggested a facilitator from a previous workshop. SS to follow up.
b. The difficulty of organising meetings of the ISC considering everyone's busy timetables. MH suggested trying to meet more regularly by skype, not expecting everyone to participate in each meeting, using email to address particular issues, and having specific issues or reports to discuss.
c. The possibility of expanding the ISC was discussed – with suggestions being the leader of the Seeds for Needs project.
d. The concern that the relatively small Darwin project will be 'swamped' by the upcoming GEF project was noted. It was suggested that regional coordinator of that project (once identified) will be invited onto the ISC. AA agreed to ensure harmonisation between the two projects.

8. Next meeting

It was agreed that the next ISC meeting will take place once the annual report has been completed to discuss the details of this report.

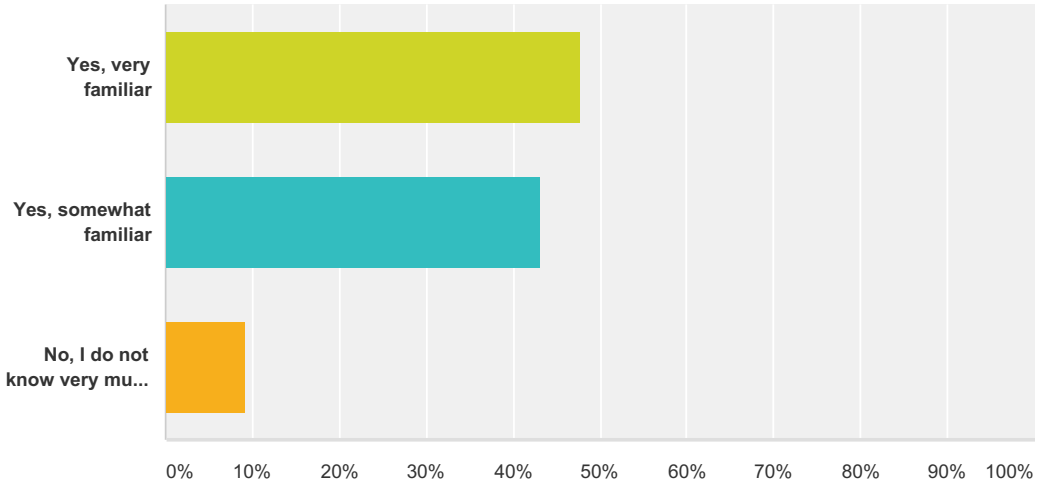
Annex 4.2

Extracts from results of consultation with ex situ collection holders



Q7 Are you familiar with the laws/regulations in Ethiopia that regulate access to and/or use of genetic resources from Ethiopia?

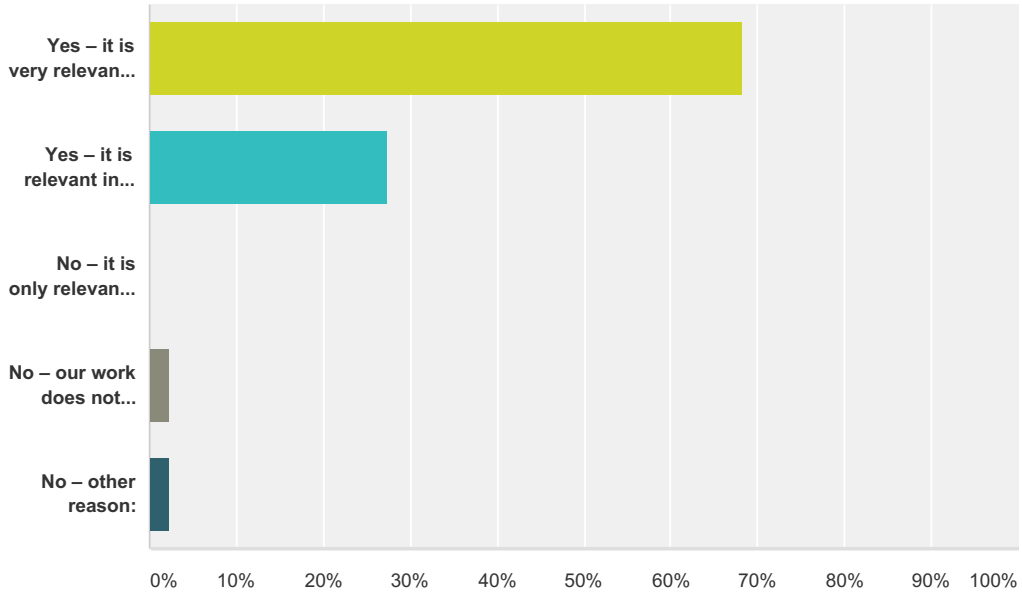
Answered: 44 Skipped: 0



Answer Choices	Responses	
Yes, very familiar	**47.73%**	21
Yes, somewhat familiar	**43.18%**	19
No, I do not know very much about them	**9.09%**	4
Total		**44**

Q8 Do you consider that Ethiopian access and benefit-sharing laws/regulations apply to your work/the work of your institution?

Answered: 44 Skipped: 0

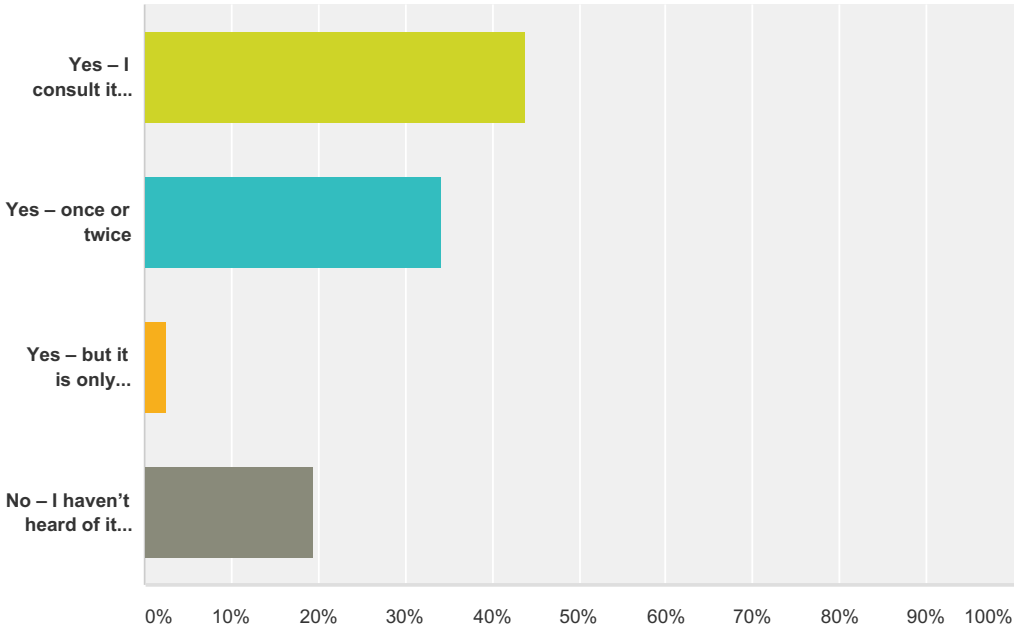


Answer Choices	Responses	
Yes – it is very relevant to our work	**68.18%**	30
Yes – it is relevant in some cases	**27.27%**	12
No – it is only relevant to non-Ethiopians	**0.00%**	0
No – our work does not involve access to genetic resources or community knowledge	**2.27%**	1
No – other reason:	**2.27%**	1
Total		**44**

#	Other (please specify)	Date
1	Only in theory it is not applied well	2/15/2017 5:46 PM

Q11 Are you aware of the 'Guide to Access to Genetic Resources and Community Knowledge and Benefit Sharing in Ethiopia'?

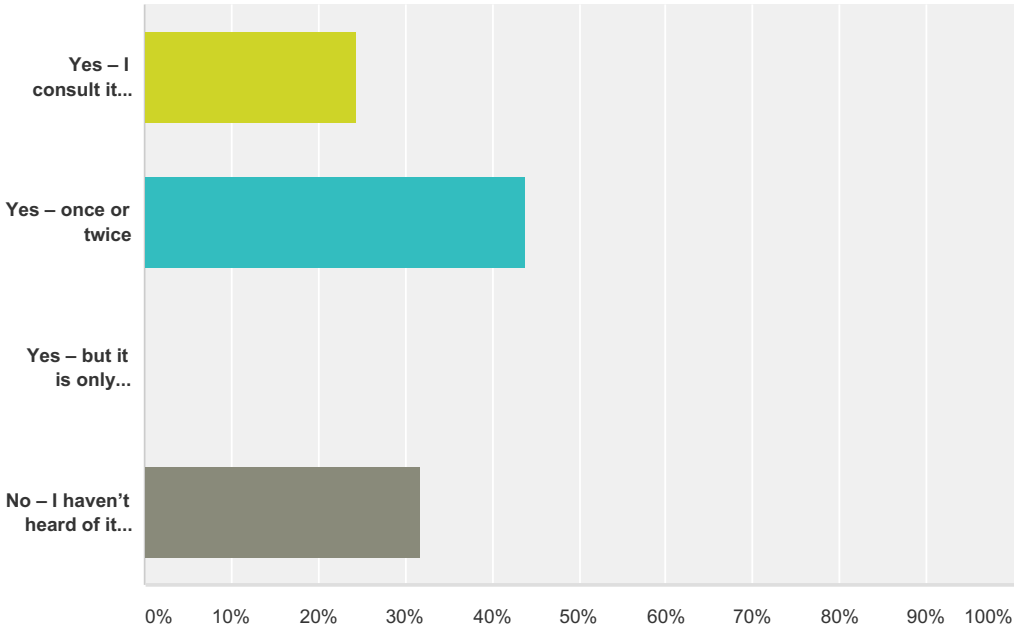
Answered: 41 Skipped: 3



Answer Choices	Responses	
Yes – I consult it frequently	**43.90%**	18
Yes – once or twice	**34.15%**	14
Yes – but it is only relevant to non-Ethiopians	**2.44%**	1
No – I haven't heard of it before	**19.51%**	8
Total		**41**

Q12 Are you aware of the 'Code of Conduct to Access Genetic Resources and Community Knowledge and Benefit Sharing in Ethiopia' in the course of your work?

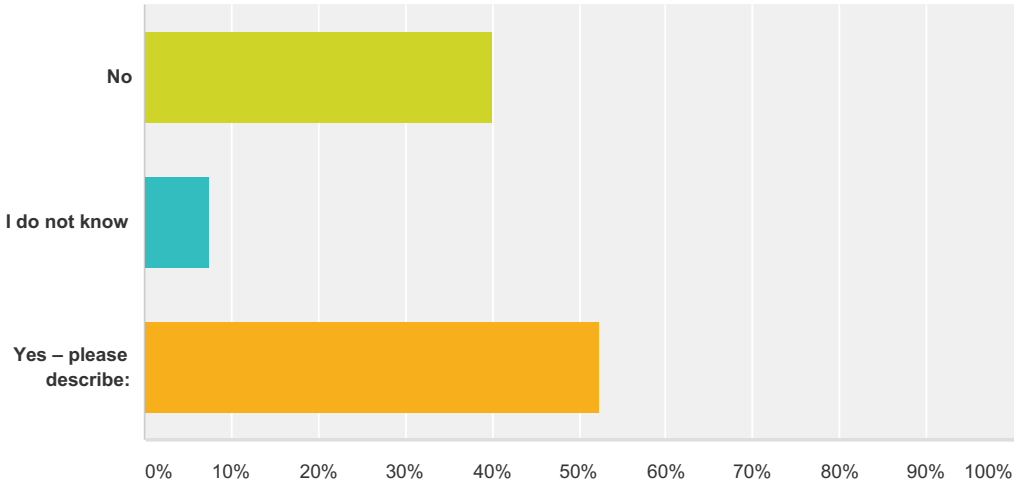
Answered: 41 Skipped: 3



Answer Choices	Responses	
Yes – I consult it frequently	**24.39%**	10
Yes – once or twice	**43.90%**	18
Yes – but it is only relevant to non-Ethiopians	**0.00%**	0
No – I haven't heard of it before	**31.71%**	13
Total		**41**

Q15 Does your institution have internal guidelines/policies that address Access to Genetic Resources and Community Knowledge?

Answered: 40 Skipped: 4

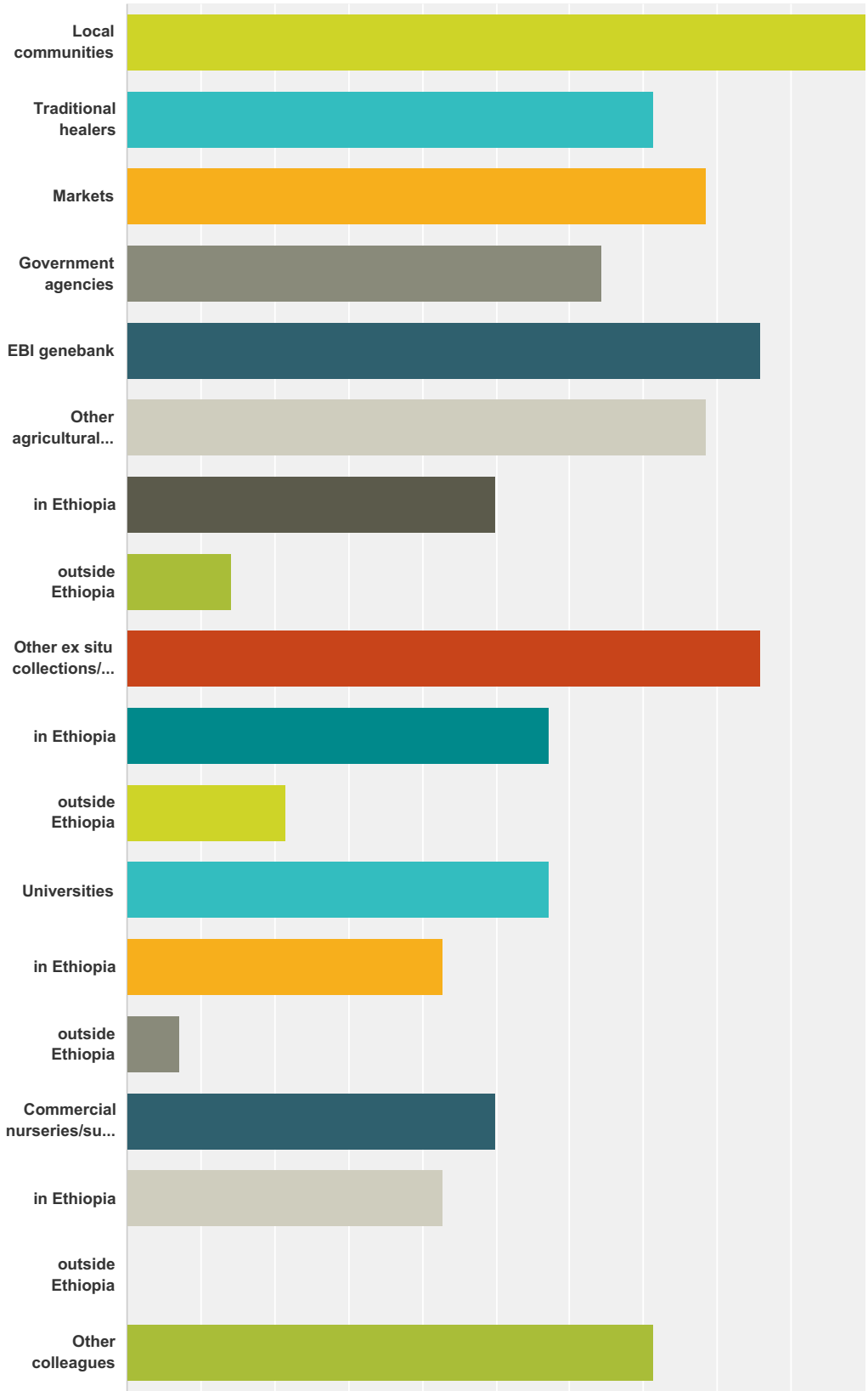


Answer Choices	Responses	
No	**40.00%**	16
I do not know	**7.50%**	3
Yes – please describe:	**52.50%**	21
Total		**40**

#	Other (please specify)	Date
1	Any instiution want to use our germplasm should bring official application which is authentic and we give them depending on what they want	2/15/2017 5:51 PM
2	Of course we (EBI) have stand-alone ABS legal framework. (Proclamation, next highest law of Ethiopian constiution) f Ethiopian constitution	2/15/2017 5:49 PM
3	I'm not much familiar with that but the genetic directorate has it.	2/15/2017 5:46 PM
4	The modified access law	2/14/2017 11:40 AM
5	Guide to access and benefit sharing of genetic resources and community knowledge	2/14/2017 11:33 AM
6	We have materials and information about addressing access to genetic resources from EBI	2/14/2017 11:00 AM
7	Proclamation 482/ 2006 Regulation of 169/209 regarding access of benefit sharing	2/14/2017 10:24 AM
8	It is under the process of preparation	2/14/2017 10:01 AM
9	There is guidelines/policies that address access to genetic resources and community knowledge, like access of community knowledge on the use of resource	2/14/2017 9:54 AM
10	Proclamation	2/14/2017 9:43 AM
11	Proclamation no. 482 "Access to genetic resources and community knowledge and community rights"	2/14/2017 9:27 AM
12	Via ABS directorate we have material transfer agreement	2/13/2017 4:58 PM
13	Nagoya protocol	2/13/2017 4:53 PM

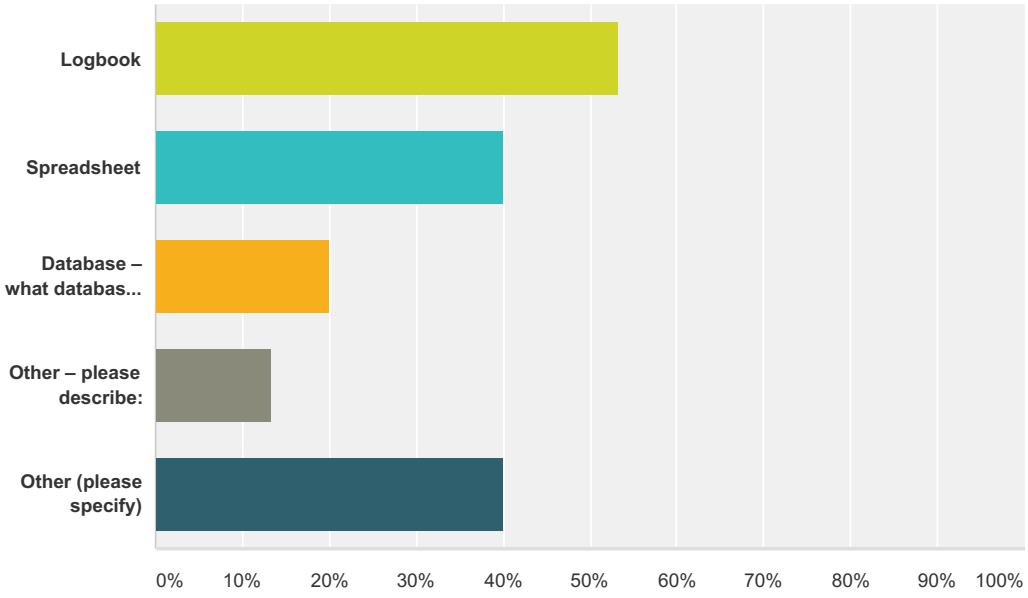
Q4 From what sources do you acquire plant material for your collections/research programmes? (please select all that apply)

Answered: 14 Skipped: 1



Q6 How does your collection document and keep track of material it acquires? (please select all that apply)

Answered: 15 Skipped: 0

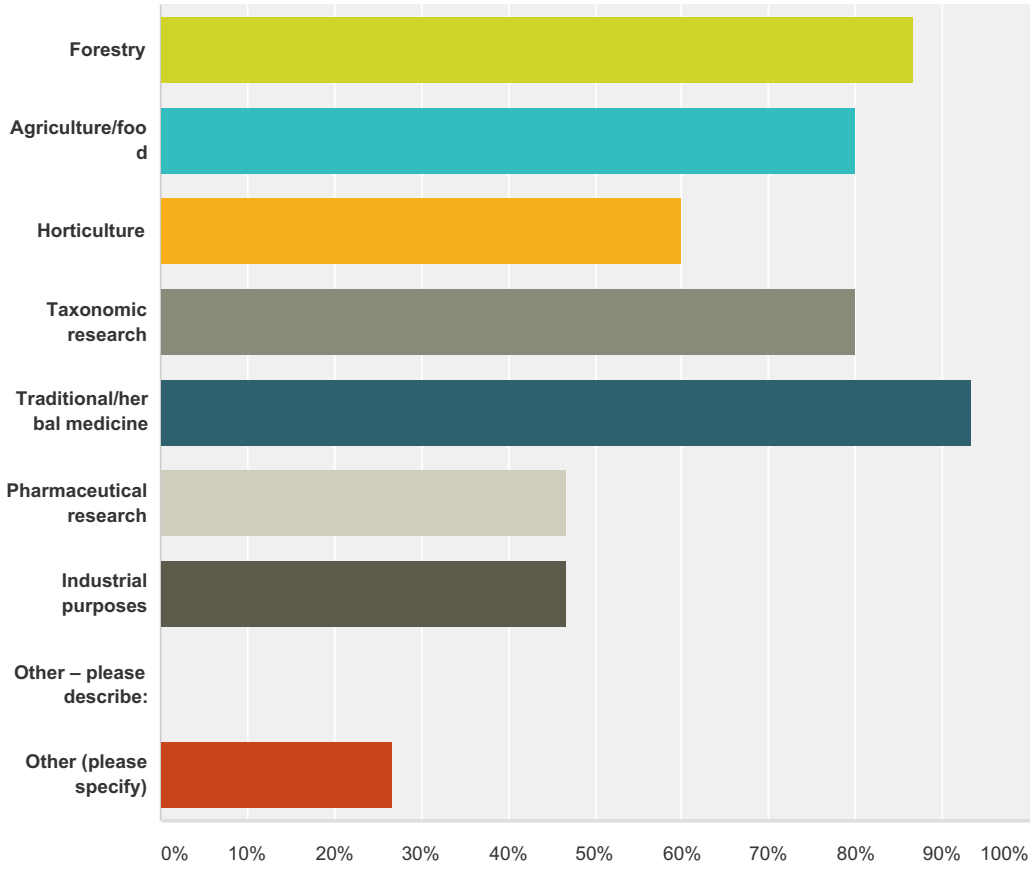


Answer Choices	Responses	
Logbook	**53.33%**	8
Spreadsheet	**40.00%**	6
Database – what database system?:	**20.00%**	3
Other – please describe:	**13.33%**	2
Other (please specify)	**40.00%**	6
Total Respondents: 15		

#	Other (please specify)	Date
1	Record of the researcher	2/17/2017 5:44 PM
2	We are trying to use a database but not fully functional	2/16/2017 1:09 PM
3	Catalogue	2/13/2017 5:35 PM
4	Brahms	2/13/2017 5:23 PM
5	paper record	2/13/2017 5:13 PM
6	labelling	2/13/2017 11:57 AM

Q9 For what purposes are the plants in your collection used? (please select all that apply)

Answered: 15 Skipped: 0

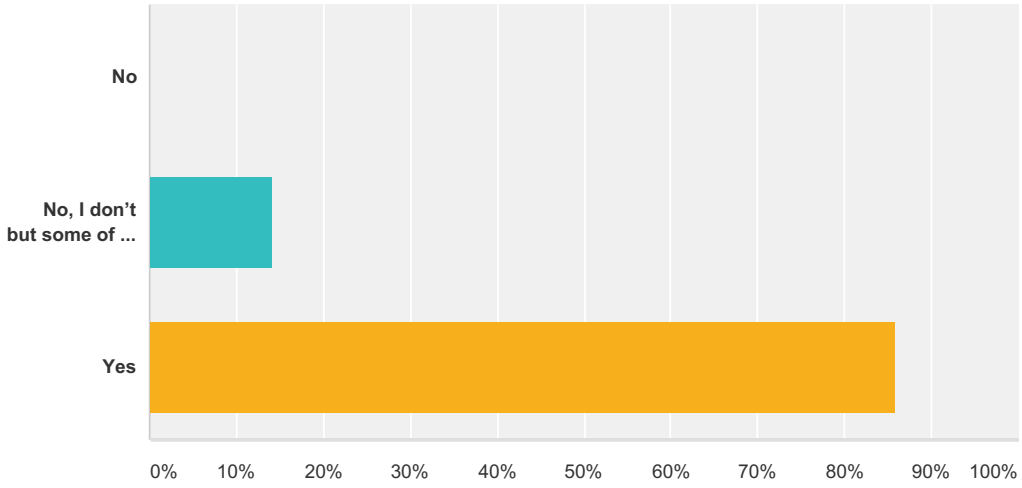


Answer Choices	Responses	
Forestry	86.67%	13
Agriculture/food	80.00%	12
Horticulture	60.00%	9
Taxonomic research	80.00%	12
Traditional/herbal medicine	93.33%	14
Pharmaceutical research	46.67%	7
Industrial purposes	46.67%	7
Other – please describe:	0.00%	0
Other (please specify)	26.67%	4
Total Respondents: 15		

#	Other (please specify)	Date

Q10 Do you, or your institutional colleagues, conduct research on plant material (and/or extracts)?

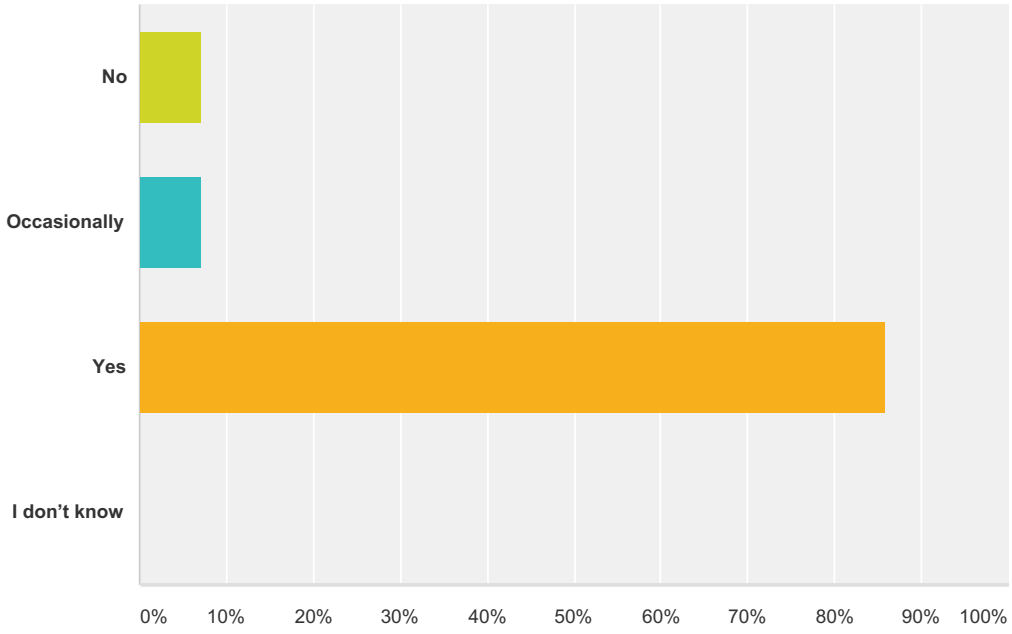
Answered: 14 Skipped: 1



Answer Choices	Responses	
No	**0.00%**	0
No, I don't but some of my colleagues do	**14.29%**	2
Yes	**85.71%**	12
Total		**14**

Q14 Does the research involve collecting or investigating traditional knowledge of useful plant characteristics, such as medicinal or agricultural uses of plants?

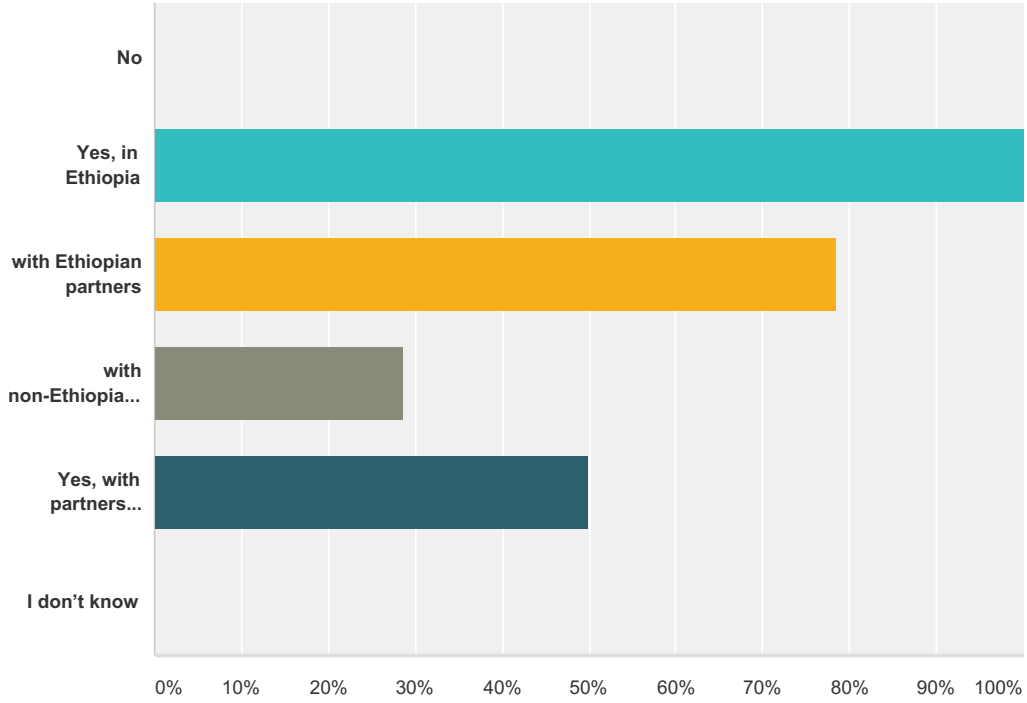
Answered: 14 Skipped: 1



Answer Choices	Responses	
No	7.14%	1
Occasionally	7.14%	1
Yes	85.71%	12
I don't know	0.00%	0
Total		14

Q19 Do you conduct research in collaboration with partners? (please provide examples in the space below)

Answered: 14 Skipped: 1

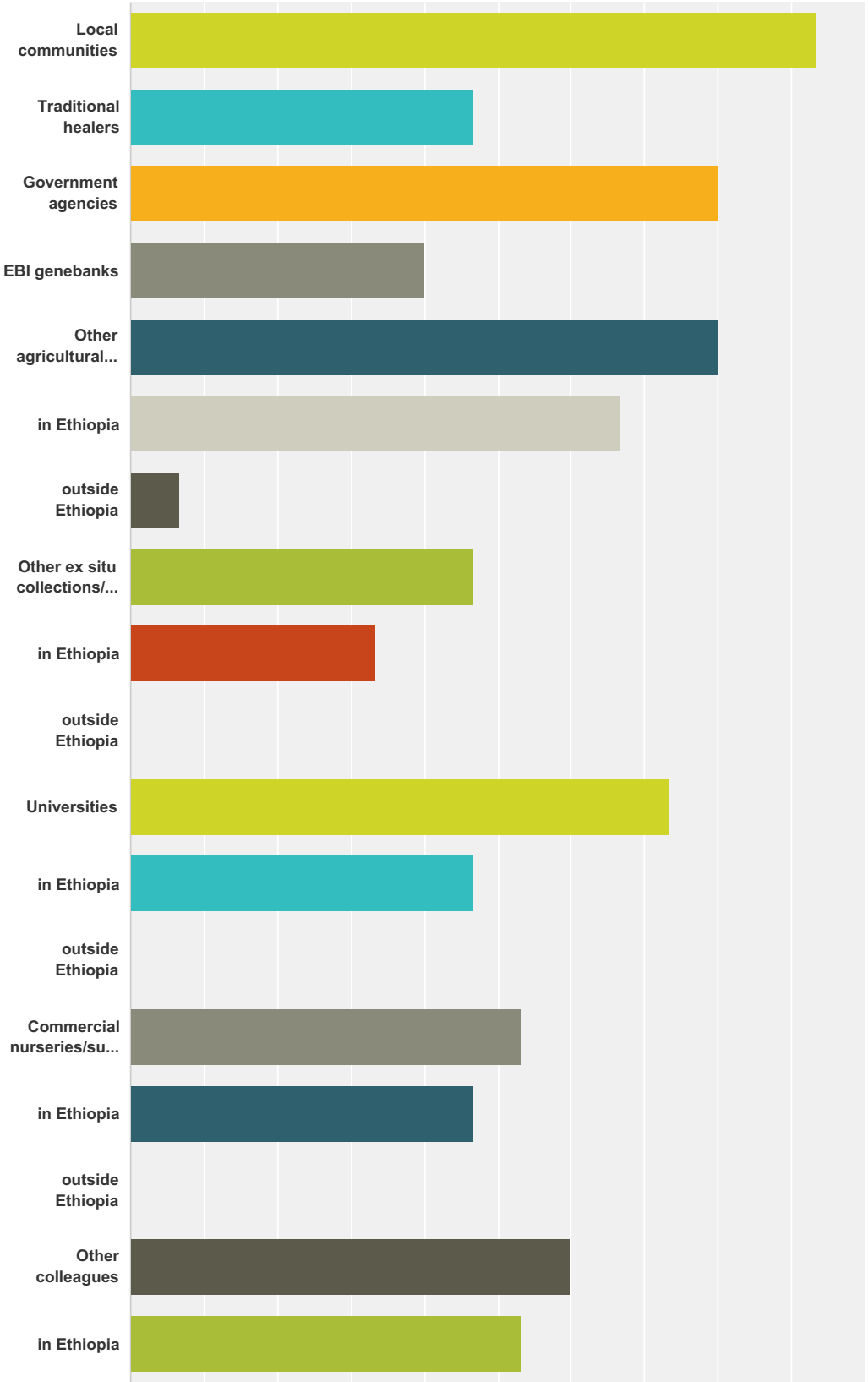


Answer Choices	Responses	
No	0.00%	0
Yes, in Ethiopia	100.00%	14
with Ethiopian partners	78.57%	11
with non-Ethiopian partners	28.57%	4
Yes, with partners outside Ethiopia	50.00%	7
I don't know	0.00%	0
Total Respondents: 14		

#	Other (please specify)	Date
	There are no responses.	

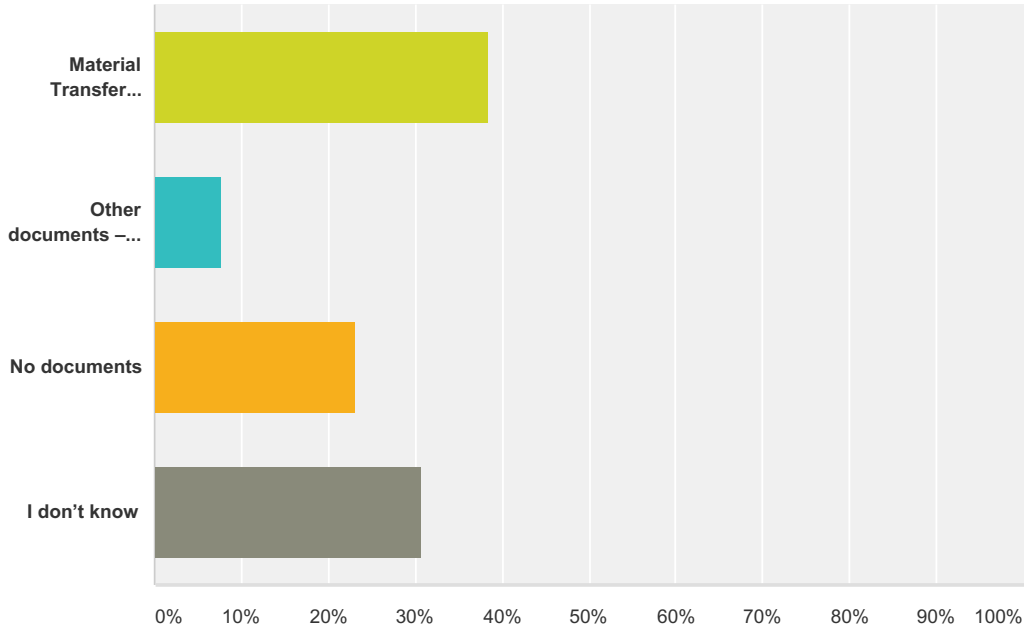
Q23 To whom do you supply plant material (including extracts)? (please select all that apply)

Answered: 15 Skipped: 0



Q26 When supplying material to others outside the collections, do you use: (please select all that apply)

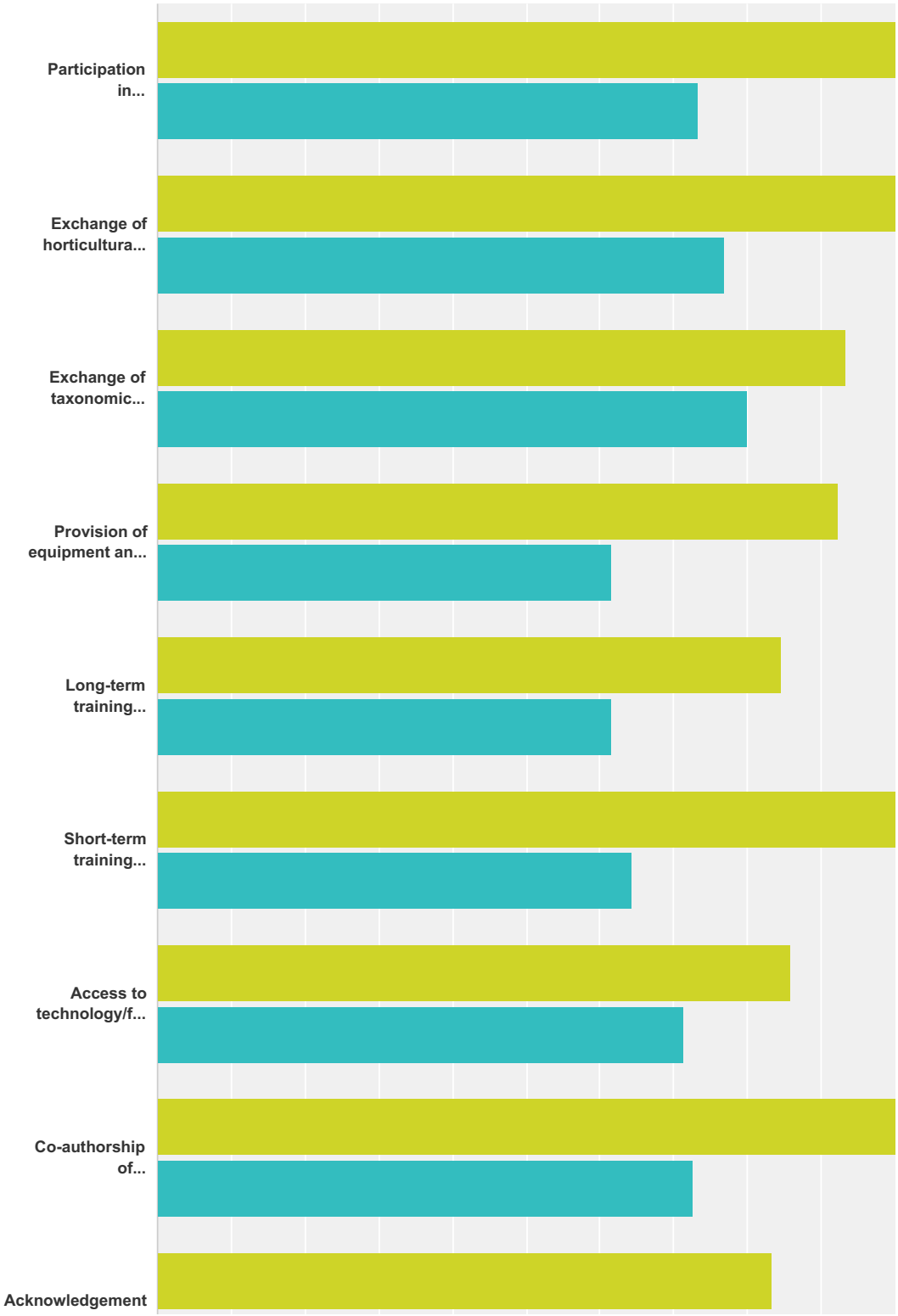
Answered: 13 Skipped: 2



Answer Choices	Responses	
Material Transfer Agreements	**38.46%**	5
Other documents – please describe:	**7.69%**	1
No documents	**23.08%**	3
I don't know	**30.77%**	4
Total		**13**

Q29 What types of benefits does your institution typically PROVIDE to providers (the local communities or other institutions) and/or RECEIVE from research partners/companies?

Answered: 15 Skipped: 0



Q30 What are the most important factors that limit your potential uses of plant genetic resources in your collections/research programmes?

Answered: 14 Skipped: 1

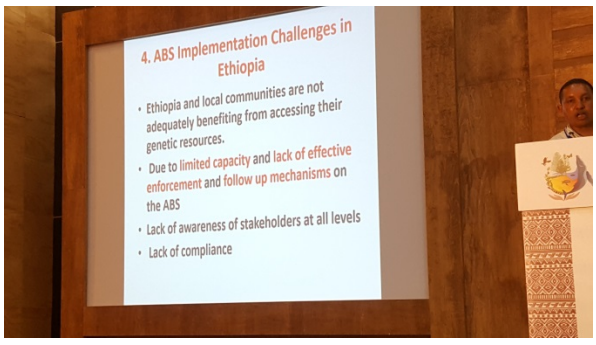
#	Responses	Date
1	-Technical capacity -Facility -The level of awareness about the importance More awareness creation is needed at all levels on ABS issues Strong links are needed between line ministries, management and communities	2/17/2017 5:44 PM
2	-Awareness -Lack of fund -Materials & laboratories -Logistic services	2/16/2017 1:35 PM
3	Lack of materials	2/16/2017 1:26 PM
4	lack of knowledge	2/16/2017 1:19 PM
5	-limited knowledge & lack of experience sharing from other countries -Weak database system of national level -Storage facilities and laboratories Lack of skilled human power	2/16/2017 1:09 PM
6	My institution is not involved in such activities	2/15/2017 6:40 PM
7	We are collection of many indigenous aromatic plants from different parts of the country and conserve in botanical garden. We have a huge botanical garden but to use our potential we face facility limits such as modern irrigation facilities, disease problem and finally we have not enough money or budget to undertake necessary maintenance activities.	2/15/2017 6:31 PM
8	Access to commercial exotic varieties such as parsley, apple, grape, forage grasses and legumes Funds to establish botanic garden and greenhouses	2/15/2017 6:21 PM
9	Unable to get more access to read and know the articles and legislation	2/13/2017 5:42 PM
10	Appropriate technologies and facilities Knowledge and skill finance	2/13/2017 5:35 PM
11	Trained personnel, capacity such as equipped laboratories, herbarium.	2/13/2017 5:23 PM
12	Technology Equipment Human resources Threats to plant species	2/13/2017 5:13 PM
13	technical and material limitation infrastructure problems such as access roads lack of organised system to transfer knowledge from local communities to researchers lack of incentives for local community to provide knowledge and germplasm	2/13/2017 5:05 PM
14	Ethiopia has no collections policy Budget limitation Resource limitation lack of capacity building	2/13/2017 11:57 AM

Annex 4.3

Project side event at the

13th Conference of the Parties to the CBD, Mexico

5 December, 2016



Promoting the use of plant resources in research and development through building ABS capacity

Monday 5 December @ 13.15

Multi-purpose room, Universal Building, 2nd Floor

Lunch provided!

This side event will explore how different national definitions of 'access' affect ex situ collection holders and researchers operating at the earlier end of chains of custody and utilization of plant resources.

Using practical examples, including from a project in Ethiopia funded by the UK's Darwin Initiative, we will look at capacity needs for the different stakeholders involved in 'access' and efforts underway to address these needs.

We hope to encourage discussion and the sharing of experiences on how building capacity and understanding of ABS issues amongst a wide range of stakeholders can help to promote the use of plant (and other) resources in research and development.

Speakers:

- **Kate Davis and Suzanne Sharrock,** Botanic Gardens Conservation International (BGCI), UK
- **Tesfaye Awas and Ashenafi Ayenew,** Ethiopian Biodiversity Institute, Ethiopia
- **Beatriz Maruri,** Jardín Botánico de Cadereyta, Mexico and Asociación Mexicana de Jardines Botánicos
- **Manuela da Silva**, Fundação Oswaldo Cruz (FIOCRUZ) , Brazil and World Federation for Culture Collections (WFCC)
- **China Williams,** Royal Botanic Gardens, Kew, UK and Consortium of European Taxonomic Facilities (CETAF)




Annex 4.4

Capacity building for *ex situ* collection holders

1. **Database training course for collection holders**

2. **Ex situ collection management training course**

Summary report on workshop held in Addis Ababa, Ethiopia

March 2017

Denis Filer, Plant Sciences, University of Oxford

Some of the course participants and support staff: Shwnagizew Lemma, Dr Tigist Wondemu, Fiseha Getachew, Solomon, Tariku, Ergo, Habtamu Chekol, Seid, Eshetu, Halemicael, Roman

This BRAHMS training course was supported by the Darwin Initiative and formed part of the implementation of the project entitled 'Promoting the use of plant resources in research and development'.

Contents

Summary

A one week BRAHMS course was held at the Ethiopian Biodiversity Institute (EBI) for staff from EBI, the University of Addis Herbarium and the National Botanic Garden. The course covered the full round of activities from data and image capture to building databases, reporting, mapping and publishing online.

The course, organised by Kirsty Shaw, Head of Ecological Restoration and Tree Conservation at BGCI, was given by Denis Filer, Oxford Plant Sciences with support from Botanic Garden Conservation International (BGCI) and the Darwin Initiative.

The course covered most aspects of the use of BRAHMS for managing species information, botanic garden accessions and herbarium specimens with a smaller amount of time of seed management.

In particular, the use of standard fields was reviewed so that a) data from multiple institutions could be shared and/or merged if required; b) data could more easily be shared with the international community; c) the data could be uploaded into BRAHMS or another management system; and d) if wanted, data could be published online.

The course is listed on http://herbaria.plants.ox.ac.uk/bol/brahms/News.

Species data

A complete list of species for the entire horn of Africa region has been provided by William Hawthorne and Cicely Marshall based on their recent publication: Bioquality Hotspots in the Tropical African Flora (http://www.sciencedirect.com/science/article/pii/S0960982216311290). The list includes conservation stars, synonyms and other useful facts. This list is an excellent starting point for all subsequent database development work, report creation/output and to help catalyse research activity ahead.

Herbarium data

The University and EBI both have herbaria with data scattered in various file formats. Samples of each were transferred from Excel to BRAHMS via RDE transfer files. In the case of EBI, the 8000 records they have were fully transferred to BRAHMS and, as a test, uploaded to a draft website during the course.

The EU funded IGAD Biodiversity Management Programme (BMP) project has included provision to completely database and image specimens at the Ethiopian herbaria using BRAHMS. This work is due to start end of April and will take full advantage of the BGCI /Darwin training.

Gardens accession data

The BRAHMS living collection module was reviewed in detail using The Morton Arboretum and Oxford BG databases as samples. This included a review of data standards; how accessions, garden plants and plant events/requests are managed; how a garden species list can be enriched with further useful species details; how garden databases can be used for research projects; and how to publish online.

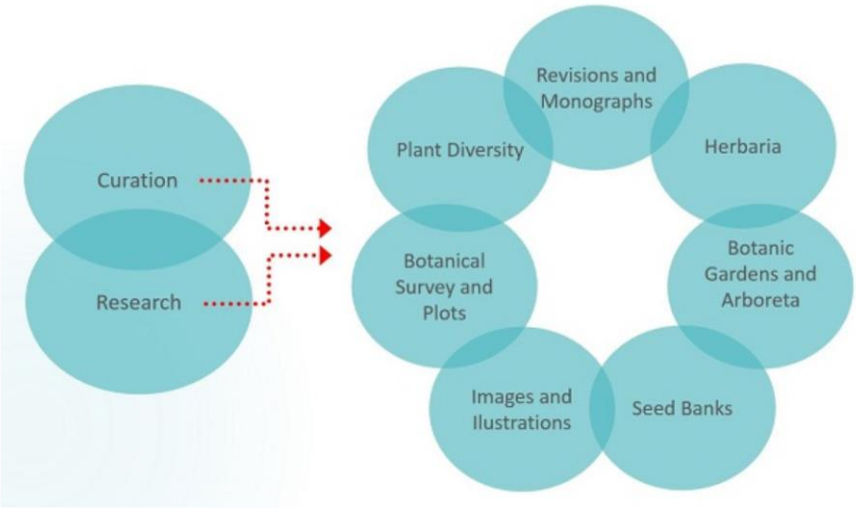
The collecting of garden accession data is currently being initiated and this will gather pace over the next year.

Seed bank data

The BRAHMS seed bank module was reviewed in detail using The Kew Millennium Seed Bank database as a sample. This included a review of data standards; how accessions are managed; and how to publish online. EBI are especially keen to integrate their gene bank and herbarium voucher data.

Data integration in general

One of the issues stressed during the course was the advantage of integrating data from different sources within an institution, opening up options to extend research activity. For this reason, data standards were stressed so that down the road, this will be possible. There is also the distinct possibility that multiple institutions could publish their data (or the data they select) online and that the various published databases could be linked to a common Ethiopian portal.



BRAHMS encourages data integration within and between institutions

Course agenda

6- 10 March 2017

Monday	Introduction to BRAHMS with demonstrations on how the system is used across different types of project for curation and research; installation for all participants with demo databases including the complete Ethiopian species list; Review of existing data held in institutions; Hands on practical sessions with conifer database focus on the system fundamentals.
Tuesday	Data capture and data standards; querying and reporting. Closer look at garden plant accessions, herbarium specimen data, species information and geographic data; Lots of hands on practical sessions.
Wednesday	Multiple practical sessions; Mid-course test; Mapping and learning to use DIVA GIS; More on reporting; Data transfers from Excel and elsewhere; Review of all. Group discussions.
Thursday	Further review and discussion; example data transfers; Developing a sample website with all EBI data successfully uploaded; Introduction to BRAHMS v8; Discussing data integration. Test sessions. Networking BRAHMS at EBI using their server.
Friday	Visit to Gullele Botanic Garden.

Participants

Name	Institution	Phone Number	E-mail
Habtamu Chekol	Addis Ababa University	0911955604	habtamu_chekol@gmail.com
Anteneh Legesse	EBI	0913414667	antenenat@gmail.com
Ashenafi Ambire	EBI	0910160480	ashenafambire@gmail.com
Baheran Mekonnen	Gulele Botanic Garden	0911873505	barehnet@gmail.com
Biruk Mulugeta	Gulele Botanic Garden	0912481606	biruk- yahoo.com
D Tigist Wondimu	Addis Ababa University	0913299052	twtigistw@gmail.com
Daniel Bizuwork	EBI	0913669095	daniel.bizuwork@gmail.com
Dr Ermias Luleral	Addis Ababa University	0911571806	zealelog@gmail.com
Ergua Atenafe	Gulele Botanic Garden	0911702378	erguatesfaye@yahoo.com
Eshete Asnakew	EBI	0920235189	men23306@gmail.com
Eshetu Zemanuel	EBI	0911172944	eash@gimal.com
Fiseha Getachew	Addis Ababa University	0911433548	fiseha.getachew@aau.edu.et
Gemechu Urgi	EBI	911832001	gemechu2004@gmail.com
Hailegebreal Tamirat	EBI	0922333823	zegebreal1979@gmail.com
Mequanint Fentahun	EBI	918618530	mekufen2008@gmail.com
Nigussie Seboka	EBI	0912097621	nigussie88@gmail.com
Seid Melesse	EBI	0912743096	seidmelese@gmail.com
Shewangziwe Lemma	Addis Ababa University	0911893337	shewa8@gmail.com
Solomon Getahun	Gulele Botanic Garden	0911900277	solgetahun@yahoo.com
Tariku Geda	EBI	0920523949	tarikugeda@gmail.com
Temesgen Tigab	EBI	0935007815	temesgentigab@gmail.com
Wubshet Mamo	EBI	921140480	wubma53@gmail.com

Conclusions and looking ahead

This BGCI/Darwin course was very timely. The course participants were very enthusiastic and above average in competency with the activities covered. Several very bright sparks with ideas. They are keen to press on, organise and integrate their data from the herbaria, gene banks and gardens. All in all, a great opportunity to develop a national biodiversity database.

Looking ahead, with support from the Biodiversity Management Programme (BMP) for the Horn of Africa region project, there is an opportunity to step up digitization and imaging at the EBI and ETH herbaria and to build a more integrated botanical data infrastructure. Following this course, there is now an opportunity to work further with garden accession data as these become available. Aside from providing tools to gather, streamline all data for curation, these data can be used to catalyse research initiatives within and ideally between institutions and where appropriate, gradually present these data online. Hopefully, an IGAD project supported follow up visit will take place late April or May.

BRAHMS will soon be upgraded to an entirely new system, v8 as described on http://herbaria.plants.ox.ac.uk/bol/brahms/software/v8 . The Ethiopian herbaria are covered by the IGAD BRAHMS license and thus can be upgraded to v8 when this phases in later this year.

Managing *ex-situ* collections and promoting the use of plant resources in research and development in Ethiopia

Workshop for the Ethiopian National Network of Botanic Gardens and *ex-situ* Collection Holders

6th – 9th March 2017

1. INTRODUCTION

Since 2014 the Ethiopian Biodiversity Institute (EBI) has worked with Botanic Gardens Conservation International (BGCI) to deliver a series of training workshops for the National Network of Botanic Gardens in Ethiopia. In July 2016, BGCI in collaboration with EBI has launched a project entitled: "**Promoting the use of plant resources in research and development in Ethiopia**" funded by the UK government's Darwin Initiative. The project aims to carry out stakeholder consultations to determine current issues related to Access and Benefit Sharing (ABS) in Ethiopia and address gaps in capacity related to ABS.

In March 2017, BGCI, EBI and the University of Oxford, UK, will deliver training on collection management and records keeping, and undertake stakeholder consultations to identify ABS issues. Funding for the training comes from three sources: EBI, the Darwin Initiative and the Global Trees Campaign (a BGCI project funded by Foundation Franklinia). As the workshop is partly funded by the Global Trees Campaign, case studies during the training will focus on trees.

2. AGENDA

1. Handling ex-situ collections -Theoretical aspects
2. Management/Handling ex-situ collections-Practical visit to Jima Agricultural Research Centre
3. ABS- International and National Issues in "Promoting the use of plant resources in research and development in Ethiopia"
4. Botanic Garden Management -Practical visit to Jima Botanical Garden

List of participants

S. No.	Name of Participant	Sex	Institution
1	Abera Serbesa	Male	Metu Biodiversity Center (EBI)
2	Abiyu Enyew	Male	Gonder University
3	Alemayehu Tizazu	Male	Alage Agricultural College
4	Aliye Abadura	Male	Jima Botanic garden (EBI)
5	Amare Seyfu	Male	ABS Directorate (BI)
6	Ambachew Binor	Male	Debretabor University
7	Asaye Asfaw	Male	Debrebirhan University
8	Baryau Kiros	Male	Gulele Botanical Garden
10	Dejene Bekele	Male	Areka Agricultural Research Center
11	Demeke Asmamaw	Male	Gonder University
12	Dereje Mosisa	Male	Asosa Biodiversity Center (EBI)
13	Deressa Abetu	Male	Jima Botanic garden (EBI)
14	Dr Ali Seid	Male	Bahirdar University
15	Dr Amarae Ayalew	Male	Debrebirhan University
16	Dr Amare Tesfaye	Male	Wondo Genet College of Forestry and Natuarl Resource management
17	Dr Berhanu Abreha	Male	Bahirdar University
18	Dr Dikaso Unbushe	Male	Arbaminch University
19	Dr Getaneh Belachew	Male	Debremarkos University
20	Dr Tamene Yohannes	Male	Crop and Horticulture Biodiversity Directorate (EBI)
21	Dr Tesfaye Awas	Male	EBI
22	Dr Tizazu Gebre	Male	Arbaminch University
23	Edget Merawi	Male	ABS Directorate (BI)
24	Fikadu Tefera	Male	Jima Agricultural Research Center

25	Fiker Fagero	Female	Crop and Horticulture Biodiversity Directorate (EBI)
26	Fitsum Birhan	Male	Mekele Biodiversity Center (EBI)
27	Gizaw Bejigo	Male	Hawassa Biodiversity Center (EBI)
28	Hailu Wondu	Male	Fitche biodiversity Gene bank (EBI)
29	Jemal Ajaro	Male	Jima Botanic garden (EBI)
30	Jwhar Zemede	Male	Shashemene Botanic Garden (EBI)
31	Lema Ayele	Male	Melkassa Agricultural Research Center
32	Mesfin Boja	Male	Goba Biodiversity Center (EBI)
33	Mezemir Girma	Male	Shashemene Botanic Garden (EBI)
34	Netsanet Gonfa	Female	Jima Botanic garden (EBI)
35	Nitsueh Aschalew	Female	Melkassa Agricultural Research Center
36	Sadik Muzemil	Male	Areka Agricultural Research Center
37	Shambel Alemu	Male	Addis Ababa University
38	Tadesse Leta	Male	Shashemene Botanic Garden (EBI)
39	Tarike Tesema	Female	Jima Agricultural Research Center
40	Tegenu Mekuria	Male	Shashemene Botanic Garden (EBI)
41	Terfa Olani	Male	Jima Botanic garden (EBI)
42	Tesfaye Bekele	Male	ABS Directorate (BI)
43	Tesfaye Bogale	Male	Metu Biodiversity Center (EBI)
44	Tinsae Ayalew	Female	Bahirdar Biodiversity center
46	Wege Abebe	Male	Addis Ababa University
47	Wende Mebratu	Male	Debre Tabor University
48	Yared Tarekegn	Male	Gulele Botanical Garden
49	Yeneayehu Fentahun	Male	Harar Biodiversity Center (EBI)
50	Yonas Deribe	Male	Alage Agricultural College
51	Zelalem Getnet	Male	Debretabor University

Workshop programme

Collection and management of quality data and material for ex situ conservation and use			
Date	**Time**	**Topic**	**Organisation**
Monday 6th	**Pre Fieldwork Activities**		
	0900h	Welcome	EBI / Jima Botanic Garden
	0915h	Introduction to the workshop programme	BGCI
	0930h	How can a botanic garden contribute to plant conservation & sustainable utilisation of plant resources	BGCI
	1000h	Introduction of all participants - Status of botanic garden. What have you put in place since the last workshop? What do you think has worked? Where have you encountered problems? What are the bottlenecks? E.g. financial, political.	All Ethiopian botanic gardens
	1100h	Coffee	
	1130h	Pre-fieldwork Theory: Collecting good quality material & data	OBGHA
	1150h	Fieldwork Theory: Collecting good quality material	OBGHA
	1220h	Fieldwork Theory: Collecting good quality data	BGCI
	1240h	Case study: Plant collecting Japan	OBGHA
	1300h	Lunch	
	1400h	Fieldwork Practical: Collecting good quality material and data	BGCI & OBGHA
Tuesday 7th	**Post Fieldwork Activities**		
	0900h	Post- fieldwork Theory: Processing material and data in the nursery	JBG & OBGHA
	1000h	Post - fieldwork Theory: Processing data	OBGHA
	1100h	Coffee	
	1130h	Maintaining a good quality plant collection: Horticulture	OBGHA
	1230h	Lunch	

	1330h	Visit to Jima Agricultural Research Center	
Wednesday 8th	**Botanic garden management**		
	0900h	Maximising opportunities for conservation, use and visitor engagement	BGCI / OBGHA
	1000h	Resources to support BG development, Q&A	BGCI
	1100h	Coffee	
	1130h	Travel to Jima Botanic Garden	All
	1200h	Tour of Jima Botanic Garden	EBI
	1300h	Lunch	
	1400h	Group discussion: Ideas for Jima Botanic Garden and other Ethiopian botanic gardens	All
	1530h	Practical: Propagation and nursery management	JBG
	1630h	Practical: Tree planting and care	OBGHA (All)
Thursday 9th	**Visit to Choche Coffee Field Gene Bank**		
		Carry out RBS in field	

EBI	Ethiopian Biodiversity Institute
BGCI	Botanic Gardens Conservation International
OBGHA	University of Oxford's Botanic Garden and Harcourt Arboretum
JBG	Jima Botanic Garden

Bottlenecks identified by *ex situ* collection holders

Bottleneck	Specific to one organisation / whole network?	Operational issue	Funding issue	Training issue	Communication / awareness issue	Suggested solutions
Lack of linkage (tourism, education)	All		Yes		Yes - Accessing information from other sectors / ministries	
Landscape design	All		Yes	Yes		
lack of water source	Lowland gardens	Yes	Yes			
Lack of experience for staff	All		Yes	Yes		
Lack of collection policy / strategy	EBI has strategy - endemic, economically important and endangered - policy at national level. Strategy at institutional level.			Yes		
Lack of awareness (role of park vs BG)	All		Yes	Yes	Yes	Talk to students (cannot reach high level), media (reach out to public as they are visitors), policy makers (fast staff turnover)
Traditional healers don't transfer their knowledge	All		Yes - rapid surveys only	Yes - ABS project		

Lack of network and institutionalization	All	Yes	Yes			Community needs to communicate in between workshops, problems not shared. Another gap - institution doesn't want to own BG. EBI - establish herbarium in each Uni., but hasn't happened. Need to communicate with Uni Presidents through EBI. Ownership of gardens by EBI. Communication methods - after meeting, develop proceedings with participants, email address and major findings of workshop. Online forum e.g. facebook. Database - everything accessible. Facebook popular suggestion and linked with email address. Ethiopian Collections Working Group? Distribute under permit to other collection holders. Agreed field data standard. National database. Focus group to develop TORs. Target setting from EBI's mission. Simplify objectives because of limited funding.
Shortage of land in living collection for re-establishment of previously collected species.	Most				Yes	Common problem - land allocated for certain activities. 30% for green areas in each municipality but not implemented. Often on periphery of town where land is becoming in demand. High costs.
Loss of some collections within botanic garden because of disease and adaptation problem				Yes - how to select material for collection and aftercare in collection & mimicking habitat	Yes	Communication between botanic gardens can help. (can be due to location of planting / some plants don't like cultivation). Record information - what conditions will the plant survive in? Share information between organisations. Need to engage existing pathologists, e.g. from EBI and universities. Duplicate collections to avoid loss, maintenance strategy, e.g. using biotechnology. Network can help - share ideas. Next training - involve pathologists
Shortage of appropriate sampling strategy for collection	All	Yes		Yes		EBI has sampling methods developed over 40 years - can be shared with network.

Sometimes collections are only for specific research purpose (wasted resource, cannot be exchanged, do not always have associated data)						Some collection is collected by some body and research has finished but no continuity When research finishes, information should be transferred to botanic garden with collection
Some collections do not have data or are missing some data.	Some	Yes				Generation of information. Old collections might have map coordinates - GIS experts. Discard plants - last option. Whenever bringing new plants into collection make sure it has data.
Lack of well-organized laboratory for duplication of materials (recalcitrant species) conserved *ex situ* (maintain live collections but don't duplicate) e.g. coffee is not backed up	All	Yes	Yes	Yes		Allocation of budget
Sometimes priority is only given for medicinal/important plants (economic, endemic, endangered). All plants deserve conservation.			Yes		Yes	Fundraising each year, try to conserve more plants each year. Research to know our biodiversity. Collections Working Group - share material across institutions, but at reduced cost.
Lack of field equipment for collection	Some	Yes	Yes			Fundraising
Lack of duplicates for collections	Some					Fundraising. Developing standard for duplication of materials. (Duplication abroad is not allowed according to Ethiopian legislation).

Lack of baseline information for agroecology in case of collection for some species						national standard for establishment of *ex situ* collection sites
Human wildlife conflict	All	Yes	Yes (lack of fencing)	Yes - how to deal with wild animals	Yes	Fencing and guards. Prepare management plan.

Plant records for *ex situ* collections

Institution name	Do you have a plant list?	what format?	Just names or associated data?	Problems encountered / questions?
Bahirdar Uni	Yes > 100 species	Excel	4 columns - name, family, habit, local name (Amharic)	Can BRAHMS record animals and modelling? Compatible with software for Amharic?
Hawassa Biodiversity Inst.	Not yet - new centre			
Addis Ababa Uni (herb)	Yes	BRAHMS	>100000 herb specimens	
Areka	Crops, passport data	Excel	Name, local name, GPS coords	
Spice research centre	Coffee, passport data	Excel		
Shashemene BG	>170 species list	Excel	Local name, habit, family, etc.	
Debrebirhan Uni	Yes	Excel	Family, local name, habit,	
Melkasa Research centre	Yes - Fruits, native and exotic, 300 accessions	Excel		
Abra Minch	Yes - large data set	Excel	Socio economic data	
Gullele BG	Yes - 800 species	Excel	Location in garden	
Jimma BG	Not complete - c.100 species	Excel		
EBI	>80,000 accessions of about 500 species (plants), also microbes and animals but not incl. in database yet	Access	Passport data, ethnobotanical data,	Database does not accommodate all data collected or photos
Uni of Gonder	Yes c.150, mostly medicinal	Excel	Family, species, local name	Conflict of interest between botanists and plant sciences department. BG owned by plant sciences.