



Biodiversity Challenge Funds Projects
Darwin Initiative, Illegal Wildlife Trade Challenge Fund, and Darwin Plus

Half Year Report

It is expected that this report will be a **maximum of 2-3 pages** in length.

If there is any confidential information within the report that you do not wish to be shared on our website, please ensure you clearly highlight this.

Submission Deadline: 31st October 2024

Please note all projects that were active before 1 October 2024 are required to complete a Half Year Report.

Submit to: BCF-Reports@niras.com including your project ref in the subject line.

Project reference	IWT114
Project title	Harnessing technology to end the illegal trade in succulent plants
Country(ies)/territory(ies)	South Africa and Namibia
Lead Organisation	Royal Botanic Gardens, Kew
Partner(s)	TRAFFIC
Project leader	David Whitehead, Project Leader, Royal Botanic Gardens, Kew.
Report date and number (e.g. HYR1)	31.10.2024 – HYR3
Project website/blog/social media	RGB Kew: Website TRAFFIC: Website ; Facebook ; Instagram ; LinkedIn

1. Outline progress over the last 6 months (April – September) against the agreed project implementation timetable (if your project started less than 6 months ago, please report on the period since start up to end of September).

Reporting Period: 1st April 2024 – 30th September 2024 (6 months) **please note some of the reporting covers activities succeeding the end of the official reporting period, which we felt were relevant to include.*

Summary:

The last 6 months have seen the completion of a number of key Outputs, and progress in other challenging areas of the project. Some delays have also been encountered, although there are no anticipated impacts on the schedule or budget that cannot be addressed with our current allocation of resources, and within the available time remaining on the project. Please see below a summary of significant updates since our Y2 AR was submitted in April. Please note Logframe indicators and activities that have previously been completed and reported in previous reports, are not included within the updates below.

Indicator in Logframe	Progress Updates April – September* 2024	Assumptions
Output 1 - Greater understanding of trade dynamics informs law enforcement strategy and action.		

1.1. By end Year 1, use of an AI led methodology for web crawling (FloraGuard), aids the identification and trade profiling of South African and Namibian priority species, traded on ≥ 30 e-commerce marketplace platforms and ≥ 20 online forums relating to relevant horticulture and trade.	Deployment of the web crawler has been further delayed due to focus on activities under Output 4, where the development of novel workflows to process samples has been more time consuming than anticipated. However, further preparatory work towards 1.1 has been completed through a systematic review of online marketplaces to update our observations and identify new eCommerce outlets for succulent plants. The research questions and methodology for the analysis of data to assess online plant advertisements have been refined (Annex 1). The analysis of online marketplaces will now extend into Y3 Q3 and Q4, with the write up and reporting planned for Q4 and into Y4 Q1 if required.	<i>Websites and marketplaces allow searching by automated AI software.</i> – The web crawler is only applied to open-source websites and content, and while this does not cover the full range of online settings in which plant trade occurs, we believe this approach will still provide sufficient and valuable insights into the dynamics of these online markets, for the purposes of our study.
1.6. By end Year 3, reports with findings of investigatory work under 1.1. - 1.5. provides quantitative and qualitative understanding of the drivers behind legal and illegal trade in key South African and Namibian succulent flora (to the extent data are available for Namibia), with recommendations on how to address IWT in succulent plants, including recommendations on changes to legislative frameworks.	Two reports have been completed under the project so far: (1) TRAFFIC completed a full draft of a report on the illegal trade dynamics involving succulent plants from South Africa (comprising data from indicators 1.3 and 1.4). It was reviewed by several external stakeholders and is now being designed for publication next quarter (Annex 2). TRAFFIC will endeavour to obtain feedback through surveys from target stakeholders. (2) A short report was developed under Indicator 1.5 and was shared with the Namibia's Protected Plants Task Team (Annex 3). This report complemented research already completed in Namibia by the PPTT and addressed a crucial information gap, which was the lack of baseline data for many succulent plant species and their populations that may be vulnerable to poaching in Namibia. Two field surveys yielded quantitative data on more than 20 highly vulnerable succulent species ranging from dwarf succulents to dwarf shrubs and pachycauls. The data will be useful in monitoring the species in the areas surveyed as well as to contribute to Red List assessments.	
Output 2 - Technical skills of law enforcement officers in identifying and intercepting illegally traded succulent plants are improved, supported by innovative technology.		
2.1. By end Year 2, fourteen junior Environmental Management Inspectors have improved knowledge and skills to detect and effectively investigate the illegal trade in succulent plants.	TRAFFIC obtained feedback from some EMIs that attended TRAFFIC's trainings in September 2023. Most respondents indicated that they found the training valuable because they learnt so much and many felt confident in applying the skills/knowledge acquired when working on criminal cases involving plants. Most felt that the guidance on succulent plant identification was the most helpful to enhance their ability to manage criminal cases involving plants. Feedback from some respondents included that the CITES Appendix III guide for South African succulent plants is a great resource but that a similar resource like this is needed for all threatened plants and not only listed on CITES Appendix III. TRAFFIC hosted a meeting for South African and Namibian law enforcement and other stakeholders involved in combating the illegal trade in succulent plants in August 2024 (Annex 4). The Namibian delegation comprised representatives from the Ministry of Environment, Forestry and Tourism's Intelligence and Investigation Unit (MEFT-IIU) who are also members of the Protected Plants Task Team. The delegation is concerned about the number of seizures of indigenous Namibian plants and that their investigations into the syndicates involved suggests that they are trading illegally in both South African and Namibian succulents. They requested to collaborate with South African law enforcement going forward and used this trip	<i>Enforcement agencies in Namibia and South Africa are concerned about the illegal trade threatening endemic succulents.</i> <i>Enforcement agencies in Namibia and South Africa are able and willing to work with the project.</i> Both the above assumptions hold true as evidenced by TRAFFIC's engagement with authorities from both countries.

	<p>to build connections and meet relevant stakeholders. The Namibian delegation was very grateful for TRAFFIC's assistance with their trip and for all the information TRAFFIC has gathered on the illegal succulent trade in Namibia and South Africa. The next steps agreed to by the Namibian and South African law enforcement agencies are to work together on investigating the cross-border succulent poaching syndicates through information sharing and joint operations.</p> <p>TRAFFIC designed a poster for creating awareness for xray screeners and law enforcement about the illegal trade in indigenous plants that are exported by air and transported through international borders (Annex 5). TRAFFIC printed over 30 posters for distribution to two international airports in South Africa as well as the border post between South African and Mozambique. While not officially part of our Logframe objectives, this opportunity was presented through work on another project which embraced the expansion of their activities to include succulent plants.</p>	
2.2 By end Year 2, as a pilot, five law enforcement analysts are trained on how to use FloraGuard technology as a tool to detect and investigate the illegal trade in succulent plants online.	<p>As indicated in our Y2 Annual Report, we have received a good level of interest from external organisations interested in trying the FloraGuard software in their own environments. The timeline for delivering this Output is partly contingent on commencing Output 1.1 as outlined above.</p> <p>We are exploring options to recruit additional technical support for the deployment of the crawler to support both of Output 1.1 and 2.2, as provisioned for in our Dec 2023 Change Request.</p>	<p><i>Enforcement agencies in Namibia and South Africa are able and willing to work with the project.</i></p> <p>A wide range of interest in receiving training in FloraGuard has been received from enforcement agencies in both countries, as well as further afield.</p>
Output 3 - Internet companies are aware of their responsibility to police and deter illegal trade in succulent flora and adopt and implement effective monitoring frameworks.		
3.2. By end Year 3, a pilot study with a major e-commerce platform demonstrates successful interventions to identify and take appropriate actions against trade in illegally harvested succulent plants.	<p>Over the last year, TRAFFIC and RBG Kew have been engaging with eBay's Prohibited and Restricted Items team, specifically their Global Regulatory Specialist and Global Regulatory Counsel. This engagement was publicised in early September 2024 on both TRAFFIC's and Kew's websites, and was picked up by several news stations such as BBC World radio, BBC World Service, and Classic FM.</p> <p>The project team have compiled a short report on the progress made during the engagement with eBay to combat Plant IWT on their platform (Annex 6). This draft report will be updated as the project team continues the engagement with eBay.</p> <p>The project team hosted a training session for around 50 staff members from eBay's monitoring team to create awareness on the illegal trade in plants on ecommerce platforms and provide guidance on how monitors should enforce eBay's Plants and Seeds policy (Annex 6).</p> <p>Feedback obtained via a survey of attendees (n=8) was overall positive with 60% of respondents reporting an increase in their understanding of the illegal plant trade after the training.</p>	<p><i>Internet companies are willing to engage with the project and have adequate resources to do so / A major eCommerce platform is willing to enter into a pilot study, and trial interventions to counter illegal plant trade with their platform users. –</i></p> <p>Both the above assumptions hold partly true as evidenced by TRAFFIC and RBG Kew's work with eBay.</p> <p><i>Legislation relating to online trading conditions does not restrict the scope of the interventions that can be trialled by individual eCommerce platforms.</i></p>
3.3. By end Year 3, based on the results of the pilot study, at least three internet marketplaces identified as being used to actively trade in suspected illegally	TRAFFIC has attempted to engage with two other multi-national online platforms, however these platforms have not been responsive at this stage. TRAFFIC's China office has translated a short concept note on our offer to engage with platforms to help them combat plant IWT, and intends to share this with relevant stakeholders in the next quarter. Our	<p>- Work with eBay would suggest this assumption remains true.</p>

harvested succulent flora have received succulent plant awareness material and draft succulent plant policies.	Logframe objective of engaging 3 other internet marketplaces might be optimistic at this stage, given the long lead times that may be required to secure engagements, which take time to develop discussions around. TRAFFIC has applied for the IWTCF Round 11 Challenge Fund and has included this output in their proposal so if successful, TRAFFIC can continue to approach other marketplaces and engage further. In the meantime, TRAFFIC and Kew have agreed to continue jointly working on our ongoing engagement with the eBay team, beyond TRAFFIC's official end date on the project.	
Output 4 - Development and testing of innovative tools and technology to improve and facilitate identification and intervention of illegally traded succulent flora.		
4.1 By mid-Year 3, identification of the species-specific chemical signatures, and most accurate testing loci based on a minimum of 50 samples across six <i>Conophytum</i> spp. processed.	Using plant material donated to RBG Kew in Y2, 120 samples from 8 different plant species have been prepared for laboratory analysis, comprising leaf, stem and root material (with some samples leaf and stem combined), in order to investigate the chemical signatures present within each different part of the plant. During Y3 Q1 and Q2, using methodology developed in house at Kew, we have dried and ground this sample material, in preparation for an analysis of their stable isotope and trace element content which we are in the process of commissioning and will be scheduled for the coming project Quarter. Please see Annex 7 for details of our sample preparation for this laboratory analysis.	<i>Plant material is available and agreements for material transfer from South Africa to UK are in place to enable analysis of the full range of specimens as planned. –</i> This has held true throughout the project with plant material obtained from South Africa in both Years 2 and 3 of the project.
4.2 By mid-Year 3, geographic maps and statistical plots based on the isotope/elemental profiles of 50 – 100 <i>Conophytum</i> samples from wild locations created and used to authenticate provenance of marketplace specimens.	RBG Kew staff undertook field work in South Africa in June 2024 supported by teams from the South African National Biodiversity Institute (SANBI). A sufficient number of plant samples to meet our objectives under 4.2 were collected from sites across 12 broad geographic locations (details of which are withheld to protect species populations). Please see Annex 8 with further details of RBG Kew staff's time in the field.	<i>Work in 4.1 and 4.2 can inform further work and mapping, noting prior work has demonstrated isotope discrimination in succulent plants and in timber species –</i>
4.3 – By end of Year 3, use of geographic maps produced in 4.2 to aid the reintroduction of confiscated material back to point of origin in the wild.	This activity, which is based on the results of laboratory analysis under Indicators 4.1 and 4.2, has not yet been completed. In the project's remaining timeframe, we will aim to create these maps based on our results and share these with stakeholders in South Africa, to assess their use in informing future re-introduction and restoration programmes.	This assumption whilst still believed to hold true will be addressed in Q3/Q4 of Yr 3, once laboratory analysis has been completed.
4.4 – By mid-Year 3, isotope watering is demonstrated to be a viable technique of marking cultivated plants for traceability purposes. Based on trials with a minimum of 2 <i>Conophytum</i> spp.	During Y3, we have continued to take samples from our 15 experimental plants that are being used for this Activity. In total, 60 samples have been taken from succulent plants watered with an isotope marker (and their control counterparts), over 4 sampling periods (the latter two intervals in July and October 2024). All sampled material has been processed and stored for delivery to the laboratory (Annex 7).	<i>Other challenges to reintroduction, such as plant health considerations, do not prevent implementation of 4.3 –</i> Further assessment of this activity will take place before the end of Year 3, although we still anticipate the data will have potential use in future reintroduction and restoration programmes.
4.5 – Delivery of outreach program to the enforcement sector and other relevant stakeholders, to communicate the technologies and their	This activity has not yet been completed. We aim to schedule this in Year 3 Q4, when preliminary results from Activities 4.1 to 4.4 are ready to share. We are liaising with Project Consultant Dr Carly Cowell to help design a suitable webinar/outreach strategy and have commenced early work on journal papers to disseminate the results of the study in 2025.	

application to protect at risk species.		
<p>Media Coverage Overview: For a summary of media coverage relating to the project, including televised interviews and written articles, please refer to Annex 9.</p> <p>Progress Against Standard Indicators: Please see Annex 10 for an updated table of progress against the Project's Standard Indicators.</p>		
<p>3. Have any of these issues been discussed with NIRAS and if so, have changes been made to the original agreement?</p>		
Discussed with NIRAS:	Yes/ No	
Formal Change Request submitted:	Yes/ No	
Received confirmation of change acceptance:	Yes/ No	
<p>Change Request reference if known: <i>If you submitted a financial Change Request, you can find the reference in the email from NIRAS confirming the outcome</i></p>		
<p>4a. Please confirm your actual spend in this financial year to date (i.e. from 1 April 2024 – 30 September 2024)</p> <p>Actual spend:</p>		
<p>4b. Do you currently expect to have any significant (e.g. more than £5,000) underspend in your budget for this financial year (ending 31 March 2025)?</p> <p>No <input type="checkbox"/> Estimated underspend:</p>		
<p>4c. If you expect and underspend, then you should consider your project budget needs carefully. Please remember that any funds agreed for this financial year are only available to the project in this financial year.</p> <p>If you anticipate a significant underspend because of justifiable changes within the project, please submit a re-budget Change Request as soon as possible. There is no guarantee that Defra will agree a re-budget so please ensure you have enough time to make appropriate changes to your project if necessary. Please DO NOT send these in the same email as your report.</p> <p>NB: if you expect an underspend, do not claim anything more than you expect to spend this financial year.</p>		
<p>5. Are there any other issues you wish to raise relating to the project or to BCF management, monitoring, or financial procedures?</p>		
None.		
<p>6. Please use this section to respond to any feedback provided when your project was confirmed, or from your most recent annual report. If your project was subject to an Overseas Security and Justice Assistance assessment please use this space to comment on any changes to international human rights risks, and to address any additional mitigations outlined in your offer letters. Please provide the comment and then your response. If you have already provided a response, please confirm when.</p>		

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Checklist for submission

For New Projects (i.e. starting after 1 st April 2024)	
Have you responded to any additional feedback (other than caveats) received in the letter you received to say your application was successful which requested response at HYR (including safeguarding points)? You should respond in section 6, annexes other requested materials as appropriate.	
If not already submitted, have you attached your risk register ?	
For Existing Projects (i.e. started before 1 st April 2024)	
Have you responded to feedback from your latest Annual Report Review ? You should respond in section 6, annexes other requested materials as appropriate.	X
For All Projects	
Include your project reference in the subject line of submission email.	X
Submit to BCFs-Report@niras.com .	X
Have you clearly highlighted any confidential information within the report that you do not wish to be shared on our website?	X
Have you reported against the most up to date information for your project ?	X
Please ensure claim forms and other communications for your project are not included with this report.	X