Darwin Initiative Main Annual Report

To be completed with reference to the "Writing a Darwin/IWT Report" Information Note: (https://www.darwininitiative.org.uk/resources-for-projects/reporting-forms-change-request-forms-and-terms-and-conditions/).

It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

Submission Deadline: 30th April 2021

Darwin Project Information

Project reference	25-003
Project title	Conservation social networking, ecotourism and land-use planning in Maputaland
Country/ies	Eswatini (Swaziland) and Mozambique
Lead organisation	DICE, University of Kent
Partner institution(s)	All Out Africa, ANAC, Izele, KUWUKA JDA, ENTC, UEM, UNESWA
Darwin grant value	£294,449
Start/end dates of project	July 2018 – March 2022
Reporting period (e.g. Apr 2020 – Mar 2021) and number (e.g. Annual Report 1, 2, 3)	April 2020 – Mar 2021 Annual Report 3
Project Leader name	Bob Smith
Project website/blog/social media	https://izele.org/projects/278
Report author(s) and date	Bob Smith, 30/4/2021

1. Project summary

Maputaland is a global biodiversity hotspot, prime ecotourism destination and home to some of southern Africa's poorest people (Figure 1). Lack of alternative livelihoods has led to habitat loss through unplanned subsistence agriculture, so in response the Eswatini, Mozambique and South Africa governments launched the Lubombo Transfrontier Conservation Area (TFCA) initiative in 2000. This aims to turn subsistence farmers into ecotourism professionals, tackling poverty and biodiversity loss by improving infrastructure, training local people, and expanding the conservation area network. Our previous Darwin-funded project (Ref 12006) developed the Maputaland conservation planning system to inform this work, helping establish 30,000 ha of state conservation areas and guide a [redacted] conservation investment strategy.

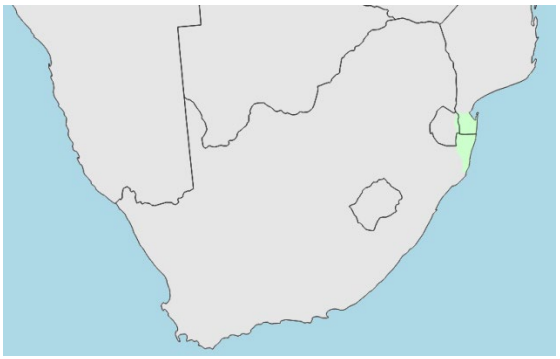
The TFCA has achieved many of its ecotourism goals in South Africa, creating thousands of jobs and new community conservation areas, especially through increases in independent, self-guided tourism. Success in Eswatini and Mozambique depends on extending these benefits but: (a) self-guided ecotourists are largely unaware of options outside South Africa; (b) most of their state and community conservation areas lack capacity to promote themselves, and; (c) the current Maputaland conservation planning system does not include new community proposals for ecotourism on their land. Without tackling this, the recently completed tarred roads and

Maputo–Katembe Bridge will increase the spread of agriculture and habitat loss, rather than boost visitor numbers and encourage communities to set aside important areas for biodiversity and ecotourism. In response, this project aims to:

1. Expand the Izele online conservation social network (www.izele.org), which was launched in South Africa in August 2017 as the first online social network for conservation, so that it includes Eswatini and Mozambique, building capacity so their conservation areas and ecotourism enterprises can share information and expertise.

2. Empower practitioners to promote their conservation area- and community-based ecotourism enterprises through Izele, creating growth in wages and job opportunities.

3. Identify priority areas for biodiversity and community-based ecotourism to inform ongoing transfrontier conservation initiatives, updating the Maputaland conservation planning system and building capacity so it becomes an important component of decision making.



The project is based in the Maputaland Centre of Endemism in Southern Africa. Most of the work focuses on the Eswatini and Mozambican sections, although the Maputaland conservation planning system and zoning plan will also include the South African section.

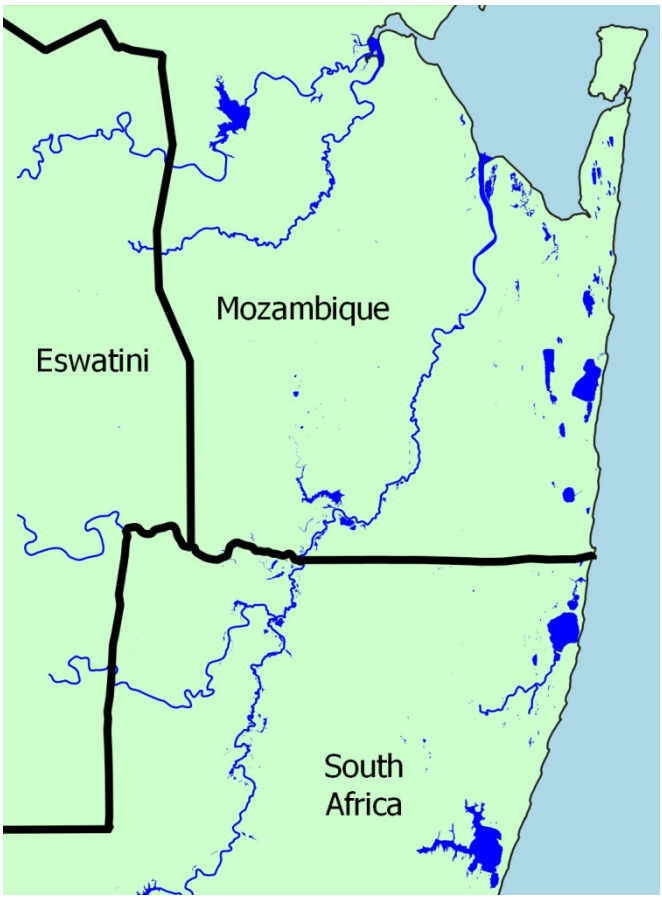


Figure 1: Maps showing the project location in Eswatini, Mozambique and South Africa.

2. Project partnerships

Background

The project is a partnership between eight main organisations. The Durrell Institute of Conservation and Ecology (DICE) at the University of Kent is the lead partner, and responsible for leading on project management and capacity building. Izele CIC is the other UK-based organisation and is responsible for maintaining the Izele online social network and building its functionality. The remaining six organisations have distinct responsibilities, three in both of the project countries. Our NGO partners are All Out Africa (Eswatini) and KUWUKA JDA (Mozambique) and their role is to sustain the development of the Izele networks in Maputaland, encouraging and providing training and technical support so the different conservation areas, groups and businesses can create pages. This also includes collecting data on where local

communities are interested in conserving land to support ecotourism and collecting monitoring data to measure the impact of adding ecotourism ventures to Izele. Our academic partners are the University of Eswatini (UNESWA) and Universidade Eduardo Mondlane (UEM) in Mozambique, and their role is to lead the spatial analysis component of the project to update the Maputaland conservation planning system and produce the land-use zoning plans. Our government partners are the Eswatini National Trust Commission (ENTC) and Administração Nacional das Áreas de Conservação (ANAC) in Mozambique. They are responsible for helping create Izele pages for the state protected areas and providing input and advice into developing the Maputaland conservation planning system and producing the land-use zoning plans.

The partnership developed from one that formed as part of a previous Darwin Initiative project that involved the two government and three academic partners. They recognised the need to update the Maputaland planning system to include relevant data on community-based conservation areas and ecotourism. The Eswatini and Mozambique partners suggested that the two NGO partners would be best suited to work on a joint project and supported the inclusion of Izele CIC as recommended by DICE. All the partners developed the project proposal and are involved in planning, monitoring and evaluation and decision making.

Achievements and challenges in Year 3

The project partnerships in Year 3 have been generally successful, despite the far-reaching impacts of the COVID-19 pandemic. DICE, Izele CIC, All Out Africa and KUWUKA JDA continued to work together to expand the Izele online social network in Maputaland and support stakeholders to create pages. UEM, UNESWA and DICE led on developing the Maputaland conservation planning system and training people to use the CLUZ and Marxan conservation planning software. All Out Africa and KUWUKA JDA also contributed to the work on mapping ecotourism suitability that will feed into the conservation planning analyses. All of these activities were despite some of the partners having to reduce their staffing levels because of a fall in income, and everyone having to work more from home and/or reduce their time in the field to comply with national covid lockdown policies. There were also changes in personnel within ANAC, which created challenges because we have had to work with new people and re-create links without being able to meet in person because of the pandemic restrictions.

In addition to our core partnerships, we continued to work with Ezemvelo KwaZulu-Natal Wildlife in South Africa to produce the data we need for the conservation planning system. In particular, they have played a key role in identifying the priority species, providing distribution data and informing the process of producing species distribution models. In parallel, Hermenegildo Matimele, as part of our project and his PhD that is based at DICE and funded through Royal Botanic Gardens, Kew, has played a major role in a project to identify Key Biodiversity Areas in Mozambique. This work is a collaboration with the Mozambican Government and the Wildlife Conservation Society and the priority areas identified in Maputaland and the rest of the country will be recognised in national law.

3. Project progress

3.1 Progress in carrying out project Activities

Output 1 activities: increased promotion of conservation areas using Izele

Activity 1.4. Publicise Izele; support & monitor page creation.

Our ongoing promotion of Izele, which included a small grant scheme funded by Izele CIC that we ran in October and November 2020, expanded the network by 47 pages, consisting of 18 in Eswatini, 9 in Mozambique and 18 in South Africa. We now have a good coverage of organisations and ecotourism ventures throughout Maputaland (Figure 1).

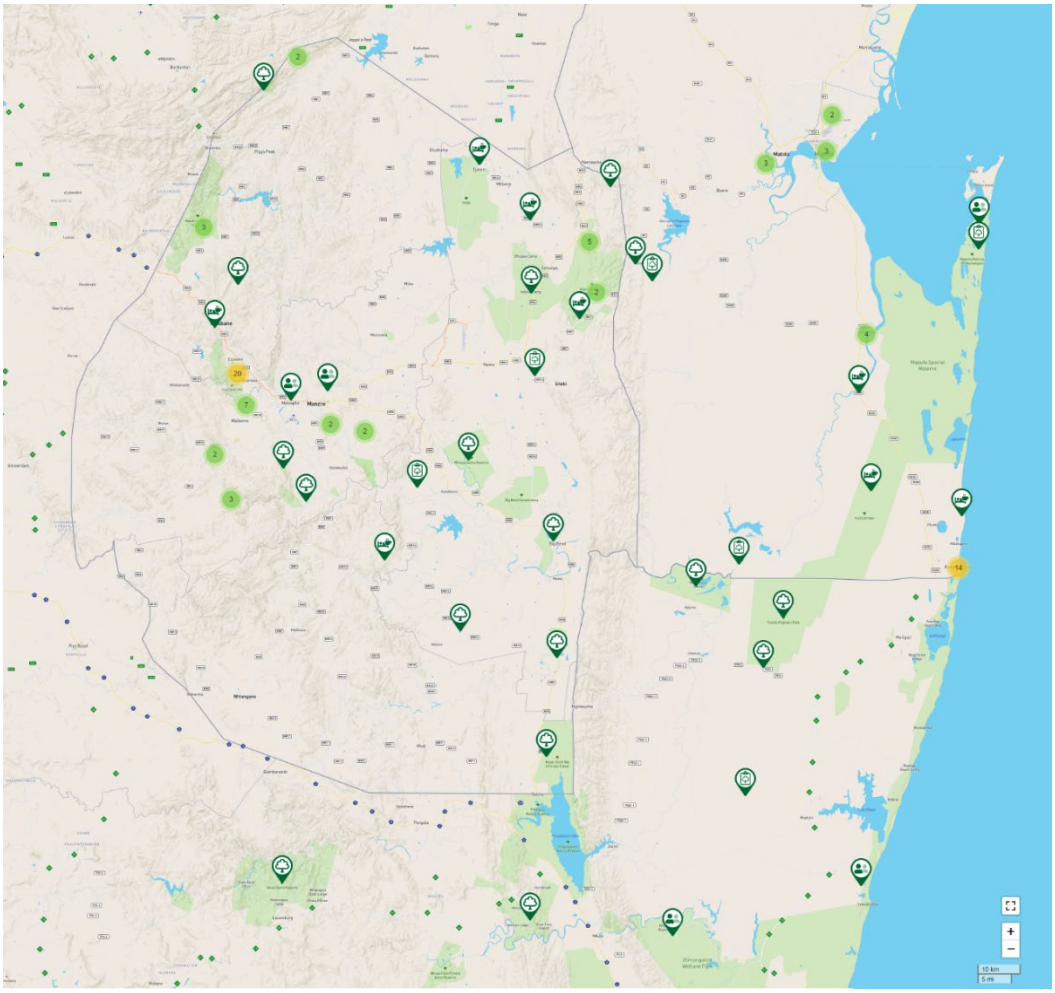


Figure 1: Izele screenshot showing the coverage of organisations included in the network (individual pages are shown as single icons, collections of pages as green or yellow circles with the number of pages found within them).

We also had to update Izele so that people could continue to link their Facebook and Instagram social media accounts to the news feeds on their pages (Facebook changed their system unexpectedly which meant that we had to update our functionality). As part of this, Izele CIC added, removed or changed 13,100 lines of code.

Output 2 activities: increased promotion of ecotourism using Izele

Activity 2.5. Publicise Izele ecotourism functions; support & monitor page creation

All Out Africa and KUWUKA JDA continued to provide support to the ecotourism ventures with Izele pages.

Activity 2.6. Community mapping of preferred areas for ecotourism activities

We collected data on suitable areas for ecotourism activities on communal and other types of land, supplementing data from complementary projects that have designed the Lubombo Biosphere Reserve in Eswatini and the Transfrontier Conservation Area initiatives in Eswatini and Mozambique. This new data were collected through the work of two DICE MSc students. Nkosikhona Hlatshwayo interviewed community leaders as part his project that looked at the effectiveness of state, private and communal land in the Eswatini section of Maputaland for conserving the region's threatened species (Hlatshwayo, 2020). Nuwanthika Dharmaratne modelled and mapped ecotourism suitability in the whole of Maputaland using spatial data and expert elicitation to identify and weight the different factors (Dharmaratne, 2020).

Activity 2.7. Add and refine COVID-19 reporting functionality

In response to the COVID-19 pandemic, we added functionality to the Amenities Tab on Izele pages so ecotourism businesses can provide details on their safety procedures and which of their activities and amenities are on hold because of the coronavirus. As part of this, Izele CIC added 800 lines of code to produce the new functionality.

Output 3 activities: producing the Maputaland conservation land-use zoning system

3.1. Update GIS data in conservation planning system

We produced the final version of the Maputaland landcover map (Appendix 4B), which will be used as part of the species distribution modelling process. We continued to collect the available species distribution data to inform the conservation planning system, working with Ezemvelo KwaZulu-Natal Wildlife in South Africa to collate records for 184 species (an increase in 119 since Year 2) from a range of taxonomic groups: 4 amphibians, 35 birds, 8 freshwater fish, 24 insects, 16 mammals, 87 plants and 10 reptiles (Appendix 4C). We are now using these additional data to produce species distribution models for species where there is sufficient data; for the other species we will use the point data directly.

3.4. Conservation land-use zoning prioritisation

As an additional process, Hermenegildo Matimele used the species data he collected through our project and his PhD research to identify Key Biodiversity Areas in Maputaland, based on the IUCN Standard launched in 2016. The KBAs he helped identify in Mozambique were part of a much larger project led by the Mozambican Government and the Wildlife Conservation Society, based on a large amount of expert input, and will be recognised in national law and demarcated as conservation areas in the government's territorial plan (Appendix 4D).

Output 4 activities: building capacity in conservation social networking and planning

4.1. Produce Izele page training materials

We produced YouTube videos describing different aspects of creating an Izele page. We also added and edited subtitles, which can then be automatically translated into Portuguese (Appendix 4E).

4.2. Postgraduate training with project on conservation land-use planning

Nkosikhona Hlatshwayo successfully completed his MSc in Conservation Biology in September 2020. For the taught component he completed modules on Conservation and Community Development, Integrated Species Conservation and Management, Managing Protected Areas, Multidisciplinary Perspectives on Conservation, Population and Evolutionary Biology, Principles of Geographic Information Systems (GIS) and Remote Sensing, Research Methods for Social Science and Research Skills for Natural Sciences. His project was on "Systematic conservation planning in the Lubombo Biosphere Reserve in the Kingdom of Eswatini (Swaziland)" and measured threat levels for threatened amphibian, bird, mammal and plant species in the Eswatini section of Maputaland, as well as the management effectiveness of the different types of conservation area found within his study region.

4.3. Train practitioners to use planning system & updated training materials

We produced a second YouTube video on using the CLUZ and Marxan systematic conservation planning software packages. This 20-minute video covers setting up the files and importing the data. We also added and edited subtitles, which can then be automatically translated into Portuguese (Appendix 4E).

3.2 Progress towards project Outputs

Output 1: increased promotion of conservation areas using Izele

We met Target 1.1 in Year 1 by running workshops on creating Izele pages and Target 1.2 in Year 2 by supporting the creation of 16 Maputaland conservation area pages (in Year 3 two more conservation areas in Maputaland created pages). We have yet to meet Target 1.3, as 28 Izele users have commented on these conservation area pages (the target is 100) and so we will work on this further in Year 4.

Output 2: increased promotion of ecotourism using Izele

We met Target 2.1 in Year 1 by running a workshop to identify which ecotourism functionality should be added to Izele and then met Target 2.2 in Year 2 by developing that functionality. As an addition to Target 2.2, this year in response to the COVID-19 pandemic, Izele CIC added functionality to the Amenities Tab on Izele pages so ecotourism businesses can provide details on their safety procedures and which of their activities and amenities are on hold because of the coronavirus (Figure 3). The information about their available activities and amenities is then reflected on the maps that visitors can use to plan their holidays.

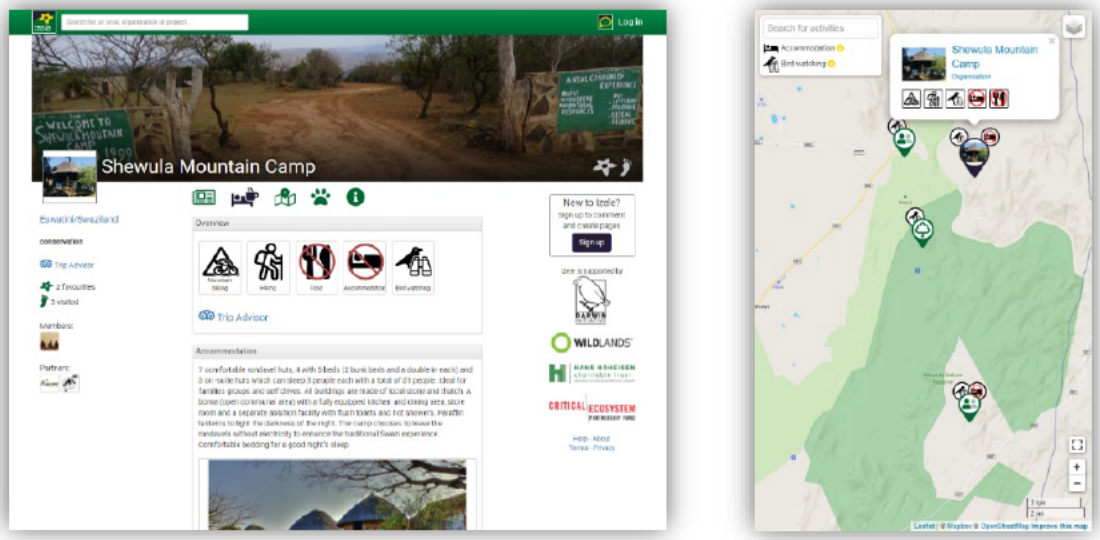


Figure 3: Screenshots showing how (Left) ecotourism businesses can provide information in Izele on which of their amenities and activities have been impacted by COVID-19, so (Right) tourists can see what is open when planning visits.

We met Target 2.3 in Year 2 by training people to use the Izele functionality. We also met Target 2.4 in that year by supporting 80 page managers to add ecotourism functionality to their Izele pages, and in this year built on this by supporting the creation of new pages for 9 ecotourism ventures in Eswatini and 5 ecotourism ventures in Mozambique (Appendix 4A). This means the current total on the Izele website is 113 ecotourism enterprises, including 6 community-managed lodges (Khelekhele, Mhlumeni, Mvembili, Ngwempisi and Shewula; Mhlumeni and Shewula are in Maputaland) and four other community-based projects in Maputaland (Associação 7 Dreams In The World-Machangulo, Lubombo Man and Biosphere Reserve, Estufa Comunitária and Xigubo de Bela-Vista).

We decided to assess user satisfaction with the ecotourism functionality in Year 4 because some of the page managers are furloughed because of the pandemic, so plan to meet Target 2.5 by early 2022. We have yet to meet Target 2.6, as 59 Izele users have commented on these ecotourism pages (the target is 100) and so we will work on this further in Year 4.

Output 3: producing the Maputaland conservation land-use zoning system

We continued to update the conservation planning system and so have only partly met Target 3.1, submitting a successful change request to complete the process in 2022. The delay is due to three reasons. First, we realised that there were errors with the initial version of our landcover map, which failed to accurately represent some of the montane and anthropogenic landcover types and so needed to be improved. Given this, we decided to update the landcover map to produce a more accurate product (Figure 4; fine-scale version in Appendix 4B). Second, we now need to update the species distribution models for each of the important species, and the delay gives us the opportunity to add data on 119 new species (to give a total of 184 species) that we were able to obtain in Year 3 through working with our partners in Ezemvelo KwaZulu-Natal Wildlife, and through the Key Biodiversity Area project that has been led by Hermenegildo Matimele. Third, because of the pandemic we had to collect the data on which areas are most suitable for ecotourism remotely. The first version of the GIS data was produced by Nkosikhona Hlatshwayo and Nuwanthika Dharmaratne as part of their Masters projects (Hlatshwayo 2020 and Dharmaratne 2020, provided with this report) but our initial stakeholder feedback was that these need to be modified, which we will be doing in Year 4 through 1-to1 online meetings, or where possible, in person but socially distanced.

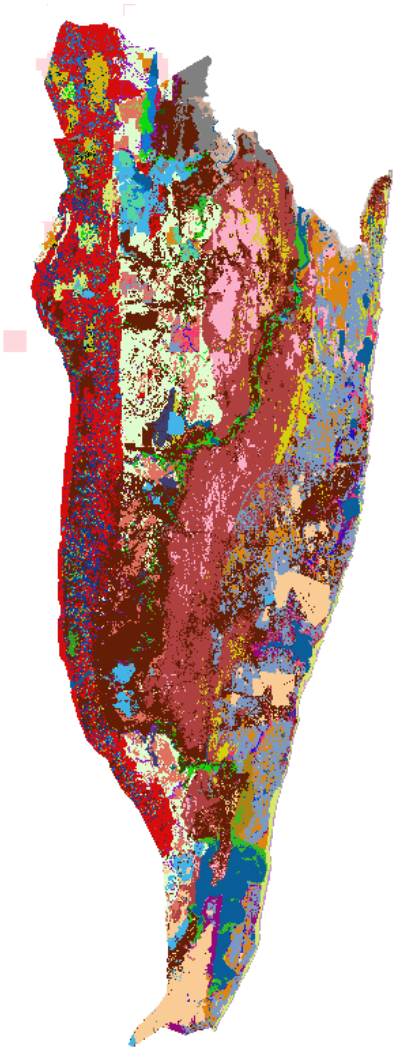


Figure 4: Illustration of the updated Maputaland landcover map, which shows the distribution of the 37 natural and anthropogenic landcover types with a spatial resolution of 25 m and based on remote sensing products from 2020.

We completed Target 3.2 in Year 2 by running a gap analysis workshop and completed Target 3.3 in Year 2 by producing a gap analysis report. The other components of this output have been delayed and we received a change request to complete them in Year 4. These delays

partly came through the issues described above when discussing progress towards meeting Target 3.1, but also through more general delays that resulted from the pandemic. These was because key members of staff had to work at home and so deal with additional work and childcare responsibilities, and had limited access to high-power computers. However, we are confident that we will complete the required datasets in June and then have sufficient time to produce the zoning and priority area maps (Target 3.4) by September 2021, disseminate the results to stakeholders in person or online (Target 3.5) and submit the analysis for publication (Target 3.6) early in 2022.

Output 4: building capacity in conservation social networking and planning

We met Target 4.1 in Year 1 by producing training pages for creating Izele pages, but updated them this year to account for changes in the website functionality to produce 10 YouTube videos that include subtitles for automatic translation into Portuguese.

To complete meeting Target 4.2, this year we produced a second YouTube video about using the CLUZ and Marxan systematic conservation planning software. Due to the pandemic, we were unable to build on our activities in Year 2 to meet Target 4.3 by carrying out at least one more conservation planning training workshop (one in Eswatini and possibly an additional one in Mozambique). In our successful change request, we have updated our logframe and plan to meet this target in Year 4, ideally by running the workshops in person, or online if the pandemic restrictions continue.

For Target 4.4., Nkosikhona Hlatshwayo successfully completed the MSc in Conservation Biology at DICE and received a Merit. He coped extremely well with having to do his research project during the pandemic and produced an interesting and informative dissertation (Hlatshwayo 2020). He also made it clear how much he had learnt through doing this Masters and joining a group of classmates from around the world, even though teaching went online in March 2020.

We met Targets 4.5 and 4.6 because the videos we produced on Izele and CLUZ and Marxan have been watched by 327 people and 1,461 people respectively, meeting their respective targets of 200 people and 150 people.

3.3 Progress towards the project Outcome

Our project outcome is to reduce poverty and increase conservation capacity in Maputaland through building online social networks to strengthen and promote conservation areas and ecotourism, and stakeholder-led planning to identify biodiversity-rich community-based ecotourism zones. We have four indicators to measure progress towards this outcome, based on: (1) the number of conservation areas in Maputaland with Izele pages; (2) increases in ecotourism ventures with an online presence, especially community-based ecotourism ventures; (3) identifying priority areas for conservation and ecotourism, and; (4) training people to use Izele and the Maputaland planning system and software. Three of these indicators are unchanged from the original logframe and one was amended through a change request last year to account for the impacts of the pandemic. Progress toward each indicator is as follows:

Indicator 1. We met the first indicator in Year 2, as 17 Maputaland conservation areas have pages in Izele (compared to a target of 16), together with 13 other conservation areas for the rest of Eswatini and Mozambique.

Indicator 2. We amended this indicator because the original version was based on meeting targets for increasing wages and job opportunities through ecotourism, which became impossible because of the pandemic and the subsequent lockdowns. Our new measurable

indicator is based on ecotourism enterprises creating pages on Izele to promote their amenities and facilities, and this target has already been met because 111 ecotourism organisations have created pages on Izele (63 in Eswatini, 44 in Mozambique, 4 transnational) of which 61 are in Maputaland. This includes 6 community-managed lodges.

Indicator 3. We are highly confident that we will meet the target for the third indicator based on progress in Year 3, although progress was delayed because of the pandemic. We now have almost all of the data needed for the conservation planning exercise, although we need to finalise the ecotourism suitability dataset based on stakeholder feedback. Thus, meeting our target of producing priority maps to identify 100,000 ha of priority areas for conservation and community-based ecotourism in Year 4 should be straightforward.

Indicator 4. We have already met the target of training 100 people to use Izele and 10 people to use the conservation planning software, and will further surpass the conservation planning target by running two more workshops in Year 4, ensuring that we meet the target of training 50 women to use Izele and 5 women to use the conservation planning system.

3.4 Monitoring of assumptions

We have listed below all our Outcomes assumptions, together with the Output assumptions that are not repeated from the Outcomes assumptions.

- *Outcomes Assumption 1: Relevant governments remain stable and continue to view transfrontier biodiversity conservation as a priority and provide the necessary permissions to undertake project activities.* Comments: This still holds true.

- *Outcomes Assumption 2: Continued support from conservation areas, conservation groups and ecotourism enterprises.* Comments: This still holds true, although many activities have been on hiatus because of the pandemic.

- *Outcomes Assumption 3: Project partners continue to have good Internet access on their computers and smart phones (as confirmed by the project partners).* Comments: This still holds true.

- *Outcomes Assumption 4: Smart phone coverage and access continues to be excellent along tourist routes and in towns, and good along minor roads and in villages (as confirmed by the project partners).* Comments: This still holds true, although some of our stakeholders have very old smartphones and this makes updating their Izele web pages more difficult than anticipated.

- *Outcomes Assumption 5: Self-guided tourism continues to be important and these tourists continue to have good Internet access at home when making plans, and while visiting Maputaland's tourist routes and towns.* Comments: This was not true during Year 3 because of the pandemic, which impacted all forms of ecotourism. This is why we updated our project outcome's Indicator 2 so that it was not reliant on measuring increases in income from tourism.

- *Output Assumption: Trained staff members continue to work for the relevant conservation organisations.* Comments: This still mostly holds true, although the person from ANAC assigned to support the Izele component of the project moved posts and their replacement has had other commitments during the pandemic.

- *Output Assumption: Project partners continue to support the conservation planning process in Maputaland.* Comments: This still holds true.

- *Output Assumption: Project partners continue to support their staff receiving training.* Comments: This still holds true.

In Year 3, with the issues relating to Outcomes Assumption 2 we just had to accept that some organisations would be less engaged, whereas with Outcomes Assumption 5 we updated our indicator to account for the changing situation. In response to the issues with the first Output Assumption, we have contacted the relevant person from ANAC and will work with them soon.

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

Our project's planned impact is based on reducing Maputaland's poverty levels and increasing the sustainable management of biodiversity through effective transnational conservation, supported by global online conservation social networks, increased ecotourism and targeted expansion of community-based conservation areas.

Our project will have poverty alleviation impacts by increasing the number of people earning income through ecotourism, especially linked to community-managed conservation areas. This is because Maputaland has high levels of poverty and ecotourism is one of the few industries that can create jobs that do not have significant negative impacts on local ecosystem services, in particular water provision, medicinal plants and cultural services. We will achieve this by updating and expanding the Izele online social network to include ecotourism enterprises, especially community-based activities, thus helping increase visitor numbers by giving these groups a higher online presence and improving their marketing effectiveness. In Year 3 we encouraged new ecotourism ventures to create Izele pages and added new functionality so that page managers can give details on the availability of their amenities and services during the pandemic. Through this we now have 60 ecotourism businesses from Maputaland with Izele pages, and six community-managed lodges (Appendix 4A).

Our project will have biodiversity conservation impact by helping to conserve important ecosystems and species in Maputaland, which is part of the Maputaland-Pondoland-Albany biodiversity hotspot and a Centre of Endemism. We will achieve this in two ways. First, we will help Maputaland's conservation areas create pages on the Izele online social network, so that they can better communicate and share information with their neighbours, stakeholders and visitors. This was achieved in Year 2 with 16 Maputaland conservation areas creating Izele pages and we added two more in Year 3 (Lubombo Conservancy and Shewula Nature Reserve). Second, we will update the Maputaland conservation planning system and work with stakeholders to identify new conservation areas that can be used for ecotourism whilst also meeting targets for important biodiversity. The conservation area plans we produced as part of our previous Darwin project were used to inform protected area projects and conservation investment funds in Maputaland, and we are confident that our new project outputs will be similarly influential. In Year 3 we made very good progress towards producing the revised planning system, producing distribution maps of the different important ecosystems and species, mapping suitability for ecotourism and identifying Key Biodiversity Areas within Maputaland (Appendix 4D).

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

Our project is creating an online social network to increase community-based ecotourism that will help eradicate extreme poverty (SDG1) and create jobs and encourage the formalisation and growth of micro-, small- and medium-sized enterprises (SDG 8). It is also producing land-use zoning plans that will help protect and restore water-related ecosystem (SDG 6), conserve terrestrial and inland freshwater ecosystems and their services (SDG 15). Both the online social network and zoning plans will support participatory and representative decision-making at all levels and public access to information (SDG 16) and promote targeted capacity-building and the diffusion of environmentally sound technologies (SDG 17).

In Year 3 of the project, we strengthened the Izele social network in Maputaland so that 86 organisations in Eswatini, 60 organisations in Mozambique and 10 transfrontier/international organisations have created a page. These new pages included 112 for ecotourism-based

organisations (64 in Eswatini, 44 in Mozambique, 4 transnational – Appendix 4A). We continued to produce the land-use zoning plans by collecting the available landcover (Appendix 4B), land-use and biodiversity data, and developing a model to identify the most suitable locations for ecotourism (Hlatshwayo, 2020; Dharmaratne, 2020).

5. Project support to the Conventions, Treaties or Agreements

Our project is designed to help the governments of Eswatini, Mozambique and South Africa meet their obligations under the Convention on Biological Diversity. The Izele conservation social network will make people more aware of the values of biodiversity and the steps they can take to conserve it (Aichi Target 1). The Maputaland conservation planning system will ensure biodiversity values have been integrated into local development and poverty reduction strategies and processes (Aichi Target 1), help identify the best places for establishing new conservation areas (Aichi Target 11), help conserve threatened species (Aichi Target 12), and safeguard important ecosystem services (Aichi Target 14).

In Year 3 of this project, we strengthened the Izele network by encouraging more conservation area managers to add pages. There are now 27 conservation areas in Eswatini and 6 conservation areas in Mozambique with pages in Izele (including those outside Maputaland).

We also continued to produce and update accurate distribution data for the 184 species we will use in the conservation planning system and Hermenegildo Matimele led on the process to identify Key Biodiversity Areas in Mozambique, based on the IUCN Standard, including four within Maputaland (Appendix 4C).

Project partners include the SBSTTA National Focal Point and the Programme of Work on Protected Areas National Focal Point for Eswatini. We have yet to hear from the Primary National Focal Points to the Convention on Biological Diversity in the three countries.

6. Project support to poverty alleviation

Our project aims to have direct impacts on poverty alleviation by increasing the number of customers for ecotourism enterprises in Maputaland, especially community-based ecotourism, and thus boost wages and increase employment. We are doing this by adding ecotourism functionality to the Izele online social network and so letting these businesses show their locations on the map, share their contact information and give details of their amenities and biodiversity. There will also be indirect benefits by identifying priority areas for meeting conservation targets that are also suitable for ecotourism, thus helping people conserve areas that will maintain a wealth of ecosystem services that many people on Maputaland rely on.

Our work in Year 3 was severely impacted by the COVID-19 pandemic but we were able to support ecotourism businesses to create pages on Izele publicising their services and activities, adding 20 pages to the 92 pages we supported in Year 2. Of these, the following are community-based organisations or include community-based components: Associação para o Desenvolvimento Comunitário e Meio Ambiente, Banda Melodica, Khelekhele Community Lodge, Kopho Community Lodge, Mhlumeni Community Reserve, Mvembili Community Lodge, Mvembili Community Reserve, Ngwempisi Community Reserve, Nine2Lifestyle and Shewula Nature Reserve.

7. Consideration of gender equality issues

We worked to ensure that participants of our training workshops included 50% women, but fell short of our target and only achieved 45% for the Izele workshops and 14% for the conservation planning workshop. The conservation planning workshop was only one of several though, and we plan to address this imbalance in Year 4 when we run a second, larger workshop in Mozambique and the first workshop in Eswatini. The gap analysis workshop was attended by 14 men and 5 women and this poor ratio was partly due to some of the invitees not being available.

Our project seeks to address gender equality more broadly by building the capacity of community-based ecotourism enterprises, by supporting the women who work in this sector and increasing opportunities to support their livelihoods.

8. Monitoring and evaluation

- We have been running meetings between the project partners every two to three months during the pandemic, normally on Zoom. This was a largely successful approach, although it was not usually possible to find a time when all project partners were available, especially during the pandemic. During these meetings we discussed progress, set action points and talked about the different issues that arose during the previous month.

- Much of the monitoring and evaluation of the project is relatively straightforward, as Izele provides a wealth of quantitative data on the number of pages and visitors, the Maputaland conservation planning system makes it easy to quantify the data collected to inform the conservation zoning exercise, and downloads and views of the online training materials are easily quantified.

- We collected data on how useful people found Izele, finding high levels of support (e.g. 100% of workshop participants in Mozambique who completed the questionnaire in Year 2 said that Izele was highly relevant for their work, and 72%/28% said it will be very useful/useful for their work). However, in Year 4 we need to follow up and measure whether they are still able to update their pages and still find their pages useful. Evaluation data from the conservation planning workshop showed that people were more confident and aware after taking the training but only 36% felt confident enough to run the software without expert help, so we plan to rerun the workshop in Year 4.

- The M&E work is shared by the partners, with Izele CIC providing the data on Izele pages, comments and users, the partners running each workshop providing data on participants and effectiveness, and DICE providing information on the use of online training materials. The data are fed back to the Project Leader and shared at the monthly meetings.

9. Lessons learnt

The pandemic curtailed many of our activities during Year 3, although we were able to meet online with our partners using Zoom and Teams, and in some cases collect the data we need to complete the conservation planning component of the project. All of this caused delays though, which is why we submitted a change request to extend our project into Year 4. The one aspect of the project that needs improving is modelling ecotourism suitability in Maputaland, as while we were able to produce draft results by consulting with people online, we were not able to work with the ecotourism experts to refine the initial outputs.

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

The review of last year's annual report was positive and did not make any recommendations to which we needed to respond. All of the project partners were happy with the review and found the feedback very helpful and supportive.

11. Other comments on progress not covered elsewhere

We have updated our project design and logframe in response to the pandemic, which is described in more detail in Section 14. These changes should reduce any risks that the project might face, especially with regards to the ecotourism component.

12. Sustainability and legacy

The project has a high profile in the conservation sector in Eswatini, partly because it builds on an existing Darwin-funded project and partly because this sector is relatively small and well-connected. Raising the profile in Mozambique has been more challenging because the conservation sector is more dispersed and more dependent on a few key government players. Having said that, all of the major conservation organisations in Mozambique are very supportive of the project. Izele CIC ran a small grant competition in October and November 2020, which really helped raise the profile of Izele and the project. We have also continued to promote the Izele network in Eswatini and Mozambique through social media posts and meetings with stakeholders. All of this was in the face of the COVID-19 pandemic though, which meant that all of our partners found things more difficult.

In terms of our open access plan, anyone in Eswatini, Mozambique and South Africa can create their own content on the Izele online social network. Similarly, the CLUZ spatial conservation prioritisation plugin for QGIS is open source, with the code available on GitHub, and the publication describing CLUZ is open access and available free of charge to all.

Our planned exit strategy is still valid, although the COVID-19 pandemic means that it will take longer to achieve our goal of increasing ecotourism in Maputaland. Our legacy is based on building capacity and producing products that are valued by stakeholders. Thus, we expect that conservation areas and ecotourism enterprises will maintain their Izele pages and that Maputaland's decision makers and conservation scientists will continue to use and update the conservation planning system to produce priority areas maps for biodiversity and ecotourism. In addition, this project will ensure that Izele continues to grow and becomes a global conservation online social network, in the medium-term earning revenue through advertising to ensure it remains a free resource for conservationists and the public.

13. Darwin identity

The Darwin Initiative funding is recognised as a distinct project and is well recognised by our project partners and main collaborators. During this year, we have publicised the Darwin Initiative in the following ways, each time using the logo:

1) The Darwin Initiative logo is featured prominently as a supporter on the Izele website, both on the homepage and on every page created by a conservation area, organisation or project. This logo links to the Darwin Initiative page on Izele, which shares Darwin Initiative tweets and also links back to the main Darwin Initiative website. Google Analytics shows that 4,609 different users visited pages 26,235 times on the website during the last year of the project and so would have seen these logos.

2) The Darwin Initiative logo is featured prominently on dialog boxes in the CLUZ plugin for QGIS, and the latest version that was uploaded in March 2020 has been downloaded 1,810 times.

3) The Darwin Initiative has been mentioned in tweets sent by Bob Smith (2,496 followers) and DICE (3,750 followers).

4) The Darwin Initiative has been mentioned as the funder supporting Izele in the newsletter that is sent to all Izele page managers and posted on Izele's Facebook account (3,747 followers) and Twitter account (254 followers).

5) The YouTube videos on using Izele and CLUZ have been watched 1,815 times and prominently displays the Darwin Initiative logo.

14. Impact of COVID-19 on project delivery

COVID-19 has had a very large impact on our project, affecting all components of our project but particularly those relating to ecotourism. We responded in two main ways. First, we

submitted two change requests that were subsequently approved to modify our workplan and logframe. The workplan is now based on the project continuing into 2021/22 to give us time to complete the remaining activities related to producing the conservation planning system, build capacity to use the planning system and promote the project outputs so that they will be used by decision makers. Second, we modified the logframe so that our project now includes several Eswatini community-based ecotourism projects that are found just outside of Maputaland, as the impacts of the pandemic on ecotourism meant that some of the fledgling projects that we planned to support with Izele pages are unlikely to continue. We also modified one of the Outcome measurable indicators so that it is no longer based on increasing household income for people involved in these community-based ecotourism projects, as the pandemic has had a very large impact on tourist numbers and tourism revenue.

Despite all these changes, we are confident that we will be able to complete the project successfully within our new timeframe, which involves completing the final activities in early 2022. Our planned final events may still be impacted by the pandemic, so we will decide later in the year whether to have in-person activities, online events or a mixture of the two.

15. Safeguarding

Please tick this box if any safeguarding or human rights violations have occurred during this financial year. ☐

Our safeguarding policies are based on those of the different partners which are designed to ensure vulnerable people are protected at all times. The project activities are covered by the University of Kent's safeguarding procedures and through the ethics approval and risk assessment process that were successfully completed by the Darwin Initiative project and the research carried out as part of the project by Hermenegildo Matimele, Nkosikhona Hlatshwayo, Nuwanthika Dharmaratne. As part of this we ensured that no student worked alone when collecting data, none of the information we collected involved children or other vulnerable groups, that no sensitive data is collected and all other relevant data are stored securely.

16. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2020 – 31 March 2021)

Project spend (indicative) since last annual report	2020/21 Grant (£)	2020/21 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)	[redacted]			
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Monitoring & Evaluation (M&E				
Others (see below)				
TOTAL				

Please note:

- Our budget was revised, as outlined in two successful change requests to transfer some funds from Travel + subsistence and Operating Costs to consultancy costs (to add additional functionality to Izele) and some funds into Year 4.

- We originally requested moving £[redacted] from Travel + subsistence and Operating Costs to Consultancy but the additional costs of paying during the pandemic for Nkosikhona Hlatshwayo to return to Eswatini after completing his Masters course meant that we reduced this to £[redacted]

- The changes also involve moving from Year 3 to Year 4: £[redacted] from University of Kent travel budget; £[redacted] from KUWUKA JDA Operating costs and other costs budget; £[redacted] from All Out Africa Operating costs and other costs budget.

- The application that we submitted to the Darwin Initiative proposal did not ask for the M&E budget to be listed as a separate budget line. Instead, we stated that the total budget over the three years would be £[redacted] over the three years.

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2020-2021

Project summary	Measurable Indicators	Progress and Achievements April 2020 - March 2021	Actions required/planned for next period
Impact Maputaland's poverty levels are reduced and biodiversity sustainably managed through effective transnational conservation, supported by global online conservation social networks, increased ecotourism and targeted expansion of community-based conservation areas (Cas).		In Year 2 we strengthened the Izele social network in Eswatini and Mozambique, increasing the number of conservation area and ecotourism pages, and produced the data needed to identify where best to expand the community-based conservation areas.	[redacted]
Outcome Reduced poverty and increased conservation capacity in Maputaland through building online social networks to strengthen and promote conservation areas and ecotourism, and stakeholder-led planning to identify biodiversity-rich community-based ecotourism zones.	0.1 >80% of the 20 state, private and community conservation areas in the Mozambique and Eswatini sections of Maputaland create pages in the Izele online social network by yr1, using them to share news and information. 0.2 >80 ecotourism enterprises, including 3 community-based ventures, create pages in the Izele online social network and add ecotourism functionality to promote their amenities and activities. 0.3 Stakeholder-led process uses updated planning system to identify >100,000 ha of priority areas for conservation and community-based ecotourism by yr3, thus guiding ongoing regional conservation action, zoning and investment. 0.4 100 local conservationists (including 50 women) trained to use Izele (yr1); 10 local conservationists (including 5 women) proficient in using Maputaland planning system and software (yr2).	0.1 **Target met**: 85% (17) of the 20 conservation areas in Maputaland with Izele pages. **Additional**: 15 protected areas outside of Maputaland (12 in Eswatini, 5 in Mozambique). 0.2 **Target met**: 111 ecotourism organisations have created pages on Izele (63 in Eswatini, 44 in Mozambique, 4 transnational) of which 61 are in Maputaland. This includes 6 community-managed lodges. 0.3 **Target partly met**. Produced distribution maps of important ecosystems and species, set targets, updated conservation area maps and carried out gap analysis based on expert-set targets. 0.4 **Target partly met**. We trained 170 people in Eswatini (88 from Eswatini and 82 from Mozambique, of which 98 were men and 72 are women) at four workshops to create Izele pages. We trained 14 people, including 2 women, through one systematic conservation planning workshop.	0.1 Continue to expand Maputaland network whenever possible. 0.2 Continue to expand Maputaland network whenever possible. 0.3 Finalise conservation targets; model and map agricultural and ecotourism suitability; hold workshop with conservation planning experts and stakeholders; produce land-use zoning plan identifying priorities areas for conservation and community-based ecotourism; disseminate and promote plan and planning system. 0.4 We will run two more workshops on systematic conservation planning, one in Eswatini and one in Mozambique (although possibly online if pandemic restrictions continue).

Output 1. Increased promotion of state, private and community conservation areas, and increased capacity to share news, information and expertise with practitioners, stakeholders and visitors, by expanding the Izele online social network to include the Mozambique and Eswatini sections of Maputaland (yr1, yr2)	1.1 Two workshops (one in Mozambique, one in Swaziland) and site visits with >100 Maputaland conservation practitioners (including 50 women) to train them how to create and use their own Izele page. We will ensure members of the seven communities involved in ecotourism are invited and represented (yr1). 1.2 At least 16 state, private and community CA produce pages on Izele, showing the CA boundary, important species and describing the site (yr1). 1.3 Comments and shared information from at least 100 Izele users on the CA pages and forums (yr2).	1.1 **Target met in Year 1**. As part of the workshops carried out under Output 2, we included training so that people could create their own Izele pages. Members of all seven communities were invited and five participated. This means that 170 people have been trained in using Izele, 88 from Eswatini and 82 from Mozambique, of which 98 are men and 72 are women. 1.2 **Target met in Year 2**. 17 of the 20 conservation areas in Maputaland with Izele pages (1 more than original target of 16 – Annex 4A). 1.3 28 users posted comments on the conservation area pages by Year 3.	
Activity 1.1. Produce and update a database of conservation areas and groups within Maputaland, which will be used to contact each organisation to encourage them to create pages on Izele and to link to the pages produced by their partners and donors. The data will also be used for monitoring Izele page uptake.		**Completed in Year 1**	
Activity 1.2. Train the KUWUKA JDA and All Out staff so they can support conservation areas and groups to produce their own Izele pages.		**Completed in Year 1**, although we provided additional guidance on using the new functionality.	We will continue to provide advice on any new functionality added to Izele in Year 4.
Activity 1.3. Workshop for representatives from all conservation organisations in Maputaland to celebrate the launch of the Izele network in their region, demonstrate how the social network functions, encourage them to create pages and collect their feedback.		**Completed in Year 1**, although we continued to encourage groups to create pages in Izele.	We will continue to encourage groups to create pages in Izele in Year 4.
Activity 1.4. Publicise Izele, encourage the creation of new pages and support page development by contacting groups and social media.		We have publicised Izele through our contact networks and on social media.	We will continue with this action in Year 4.
Output 2. Increased visitor numbers and tourist revenue for conservation area- and community-based ecotourism in Maputaland, as well as building future revenue through increased awareness, by adding ecotourism enterprises to the Maputaland online social network in Izele (yr1, yr2, yr3).	2.1 **One** workshop with 20 Maputaland ecotourism practitioners to develop new Izele functionality, using a participatory approach to guarantee the website is tailored to the needs of enterprise owners (yr1). We will ensure members of the seven Maputaland community-based ecotourism enterprises (listed below) are invited and represented.	2.1 **Target met in Year 1** 2.2 **Target met in Year 2**. In Year 3 we added new functionality so that people could provide information on the availability of their services and activities during the pandemic (Section 3.1 and 3.2). 2.3 **Target met in Year 2**. We trained 92 people how to use the ecotourism functionality in Izele at one workshop in Eswatini and one in Mozambique, including 41 women. Participants included representatives of the seven	

	2.2 Ecotourism enterprise page functionality added to Izele (yr1). 2.3 **Two** training workshops (one in Mozambique, one in Eswatini) with 40 people (50% women) with Maputaland ecotourism practitioners to learn how to create and use Izele ecotourism functionality (yr1). We will ensure members of the Maputaland community-based ecotourism enterprises (listed below) are invited and represented. 2.4 At least **80** ecotourism pages added by enterprises (yr2), including **at least 3** enterprises run by the Catuane, Goba, Ponta de Ouro and Tsakane communities in Mozambique and the Mambane, Manzinyama, Mhlumeni, Mvembili and Shewula communities in Eswatini. 2.5 At least **80%** user satisfaction with the new Izele ecotourism functionality (yr2). 2.6 Comments from **100** Izele users on ecotourism pages (yr2).	community-based ecotourism enterprises, including staff working in 18 community-based ecotourism enterprises. 2.4 **Target met in Year 2**. There are now 113 ecotourism enterprises with pages in Izele, 60 of which are in Maputaland (Annex 4C). This includes 6 community-managed lodges (Khelekhele, Mhlumeni, Mvembili, Ngwempisi and Shewula; Mhlumeni and Shewula are in Maputaland) and four others for community-based projects in Maputaland (Associação 7 Dreams In The World-Machangulo, Lubombo Man and Biosphere Reserve, Estufa Comunitária and Xigubo de Bela-Vista). 2.5 We decided to assess this in Year 4 because of delays in rolling out the new ecotourism functionality 2.6 59 people have posted comments on Izele ecotourism pages.	
Activity 2.1. Produce and update database of ecotourism enterprises and collect data on the type of ecotourism activities supported and the number of staff employed.		**Completed in Year 1**, although we continue to look for new ecotourism ventures that could join Izele.	We will continue to collect these data in Year 4 and identify new enterprises that can provide us with the data.
Activity 2.2. Workshop and site visits with ecotourism enterprises to collect feedback and advice on what type of functionality should be added to the Izele online social network.		**Completed in Year 2**. The 4 workshops carried out as part of Outputs 1 and 2 collected this feedback and advice, resulting in the added Izele functionality.	We will continue to solicit feedback from users on the ecotourism functionality.
Activity 2.3. Produce additional code to create and then refine ecotourism functionality to the Izele online social network.		**Completed in Year 2**. We added the Amenities tab and improved the map search functionality	

Activity 2.4. Workshop to celebrate the launch of the Izele ecotourism functionality and encourage ecotourism enterprises to sign up.		**Completed in Year 2**. As part of the workshops described in Activity 2.2, we celebrated and launched the Izele ecotourism functionality.	We will continue to encourage ecotourism ventures to sign up to Izele.
Activity 2.5. Publicise Izele ecotourism functions and support page development through ad hoc site visits, email and telephone support.		Support was provided by Izele CIC, All Out Africa and KUWUKA JDA.	Izele CIC, All Out Africa and KUWUKA JDA will continue to provide support.
Activity 2.6. Work with communities in Mozambique and Eswatini to map their preferred areas for ecotourism activities, as part of creating their Izele ecotourism pages and to inform land-use planning.		**Completed in Year 3**. We worked with the relevant stakeholder groups and compiled existing information.	
Activity 2.7. Collect monitoring data on ecotourism business staff numbers and wages, as well as data on customer profiles and how they heard about the business.		We collected these data and have information from 10 ecotourism ventures.	We will continue to collect this data, especially in the Mozambique section of Maputaland.
Activity 2.8. Add functionality to Izele so that conservation areas and ecotourism enterprises can provide information about when they are open and what activities are available during the COVID-19 pandemic.		**Completed in Year 3**. We added this functionality so that conservation areas and ecotourism enterprises can provide information during the pandemic.	
Output 3. 3. Updated Maputaland conservation planning system and new regional zoning plans that identify priority areas for conservation and community-based ecotourism, and are designed to inform land-use planning, national and international conservation investment strategies and the ongoing expansion of Maputaland's state-, private- and community-managed conservation area network (yr1, yr2, yr3).	3.1 Updated conservation planning system with updated biodiversity, natural capital and conservation area GIS data, plus new ecotourism GIS data (yr2). 3.2. **Two** workshops to bring together regional experts to improve datasets, set targets, and oversee analysis results (yr2). 3.3 Gap analysis to identify important species and ecosystem types that are under-represented in Maputaland's state, privately-owned and community CAs (yr2). 3.4 Zoning and priority area maps produced using the CLUZ and Marxan with Zones software (yr3). 3.5 **Two** dissemination workshops/online meetings + webinars to explain and publicise the priority	3.1 **Target partly met**. We produced distribution maps of 46 ecosystem types (Appendix 4B shows ecosystem types before natural landcover types are split into biogeographic regions) and 184 threatened and Maputaland-endemic species (Appendix 4C) and but these need to updated based on the latest version of the landcover map. A draft version of the ecotourism data was produced and will be produced in Year 4 (Hlatshwayo, 2020; Dharmaratne, 2020). 3.2 **Target met in Year 2**. We brought all the experts together for one workshop in November 2019. 3.3 **Target met in Year 2**. We undertook the analysis using initial targets and produced a report in Year 2. 3.4 This will be assessed in Year 4. 3.5 This will be assessed in Year 4. 3.6 This will be assessed in Year 4.	

	area maps and zonation plan to stakeholders (yr3). 3.6 **One** publication in peer-reviewed literature describing the production of the zoning plan (yr3).		
Activity 3.1. Update the GIS data in conservation planning system to reflect changes in landcover, species distributions and conservation area coverage.		**Partly completed**. We updated the landcover, species distributions and conservation area coverage data.	This will be completed in Year 4
Activity 3.2. Produce conservation area gap analysis report by revisiting the previous conservation targets in the Maputaland conservation planning system and then measuring the extent to which the network of conservation areas meets these targets for the different ecosystem types and species.		**Completed**. We produced the gap analysis report which was circulated to experts for comment.	
Activity 3.3. Workshop to set land-use zoning targets based on different land-use planning scenarios for conservation, agriculture, afforestation, ecotourism and urbanisation.		**Completed**. This was held in November 2019	
Activity 3.4. Conservation land-use zoning prioritisation to identify priority areas for conservation and community-based ecotourism, producing different land-use zoning maps and writing up reports and then submitting for publication in a peer-reviewed open-access journal.		Ongoing. This process was delayed by the pandemic.	This will be completed in Year 4
Activity 3.5. Presentation of the gap analysis and land-use zoning results at two events, one in Mozambique and one in Eswatini, where project partners, decision makers, donors and high-level government representatives will be invited to learn about the results of the project and celebrate our achievements.		This process was delayed by the pandemic.	This will be completed in Year 4
Output 4. 3. Building capacity so that conservation practitioners in Maputaland can use the Izele online social network and transfrontier conservation planning system, through in-person training and by developing online materials that can also be used by the global conservation community (yr1, yr2, yr 3).	4.1 **One** new set of training materials on creating conservation area and ecotourism pages in Izele (yr1). 4.2 **One** new set of training materials on gap analysis and conservation planning, plus 2 online tutorial videos on using CLUZ and Marxan (yr2). 4.3 **10** Maputaland conservationists (including 5 women) trained in gap analysis and systematic conservation planning, with at least 80% of people gaining skills and awareness (yr2).	4.1 **Target met in Year 1** but updated to account for new functionality in Year 2 and Year 3. 4.2. **Target met.** Two sets of training material produced and two YouTube videos produced. 4.3. **Target partly met.** One workshop trained 14 people, including 2 women. 4.4. **Target met.** Nkosikhona Hlatshwayo successfully completed his MSc in Conservation Biology and was awarded a Merit. 4.5. **Target met.** The Izele materials downloaded by 280 people and the online video tutorial has been watched by 327 (including 200 people who watched previous versions). 4.6. **Target met.** Online conservation planning materials downloaded by 292 people and the online video tutorials watched by 1,439 people.	

	4.4 **One** Swazi national given in-depth training in conservation planning as part of undertaking the DICE MSc in Conservation Biology (yr2, yr3). 4.5 Online Izele materials downloaded by **200** people and online video tutorials watched by **200** people (yr3). 4.6 Online conservation planning materials downloaded by **150** people and online video tutorials watched by **150** people (yr3).		
Activity 4.1. Train state, private and community conservation areas, groups and ecotourism enterprises to create and manage their own Izele pages by developing online tutorials, including YouTube videos, all of which will be translated into Portuguese.		**Completed**.	
Activity 4.2. Postgraduate training of a Eswatini national from the government, NGO or academic sector on DICE's MSc in Conservation Biology with their 6 month research project using the Maputaland conservation planning system.		**Completed**	
Activity 4.3. Train conservation practitioners to use the Maputaland planning system and the CLUZ, Marxan and Marxan with Zones systematic conservation planning software using updated training materials. In addition, produce YouTube videos (with Portuguese subtitles) showing how to use CLUZ, Marxan and Marxan with Zones.		Partly completed, as we ran one conservation planning training workshops, produced two sets of training material and produced one video.	

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: Maputaland's poverty levels are reduced and biodiversity sustainably managed through effective transnational conservation, supported by global online conservation social networks, increased ecotourism and targeted expansion of community-based conservation areas (CAs).			
Outcome: Reduced poverty and increased conservation capacity in Maputaland through building online social networks to strengthen and promote conservation areas and ecotourism, and stakeholder-led planning to identify biodiversity-rich community-based ecotourism zones.	0.1 **>80%** of the 20 state, private and community conservation areas in the Mozambique and Eswatini sections of Maputaland create pages in the Izele online social network by yr1, using them to share news and information. 0.2 >80 ecotourism enterprises, including 3 community-based ventures, create pages in the Izele online social network and add ecotourism functionality to promote their amenities and activities. 0.3 Stakeholder-led process uses updated planning system to identify **>100,000 ha** of priority areas for conservation and community-based ecotourism by yr3, thus guiding ongoing regional conservation action, zoning and investment. 0.4 **100** local conservationists (including 50 women) trained to use Izele (yr1); **10** local conservationists (including 5 women) proficient in using Maputaland planning system and software (yr2).	0.1 Izele monitoring data on number of CA and group pages, users and posts (yr1). 0.2 Izele monitoring data on ecotourism pages, users and posts (yr1, yr2, yr3) 0.3 Planning system available online with updated maps for 53 ecosystem types and 55 species; priority area coverage obtained from GIS maps; semi-structured interviews with relevant decision makers to measure use of planning system and outputs (yr3, yr4 Q2). 0.4 Pre- and post-training questionnaires to measure skills uptake (yr1, yr2).	Relevant governments remain stable and continue to view transfrontier biodiversity conservation as a priority and provide the necessary permissions to undertake project activities. Continued support from conservation areas, conservation groups and ecotourism enterprises. Project partners continue to have good Internet access on their computers and smart phones (as confirmed by the project partners). Smart phone coverage and access continues to be excellent along tourist routes and in towns, and good along minor roads and in villages (as confirmed by the project partners). Self-guided tourism continues to be important and these tourists continue to have good Internet access at home when making plans, and while visiting Maputaland's tourist routes and towns.
Outputs: 1. Increased promotion of state, private and community conservation areas, and increased capacity to share news, information and expertise with practitioners, stakeholders and visitors,	1.1 **Two** workshops (one in Mozambique, one in Eswatini) and site visits with >100 Maputaland conservation practitioners (including 50 women) to train them how to create and use their own Izele page. We will ensure members of the seven	1.1 Attendance sheets, workshop and meeting reports (yr1).	Project partners, local people and visitors continue to have good Internet access on their computers and smart phones (as confirmed by the project partners).

by expanding the Izele online social network to include the Mozambique and Eswatini sections of Maputaland (yr1, yr2)	communities involved in ecotourism are invited and represented (yr1). 1.2 At least **16** state, private and community CA produce pages on Izele, showing the CA boundary, important species and describing the site (yr1). 1.3 Comments and shared information from at least **100** Izele users on the CA pages (yr2).	 1.2 Izele monitoring data on number of CA pages (yr1, yr2). 1.3 Izele monitoring data on number of comments (yr2).	Mobile phone access continues to be excellent along tourist routes and in towns, and good along minor roads and in villages (as confirmed by the project partners).
2. Increased visitor numbers and tourist revenue for conservation area- and community-based ecotourism in Maputaland, as well as building future revenue through increased awareness, by adding ecotourism enterprises to the Maputaland online social network in Izele (yr1, yr2, yr3).	2.1 **One** workshop with 20 Maputaland ecotourism practitioners to develop new Izele functionality, using a participatory approach to guarantee the website is tailored to the needs of enterprise owners (yr1). We will ensure members of the seven Maputaland community-based ecotourism enterprises (listed below) are invited and represented. 2.2 Ecotourism enterprise page functionality added to Izele (yr1). 2.3 **Two** training workshops (one in Mozambique, one in Eswatini) with 40 people (50% women) with Maputaland ecotourism practitioners to learn how to create and use Izele ecotourism functionality (yr1). We will ensure members of the Maputaland community-based ecotourism enterprises (listed below) are invited and represented. 2.4 At least **80** ecotourism pages added by enterprises (yr2), including **at least 3** enterprises run by the Catuane, Goba, Ponta de Ouro and Tsakane communities in Mozambique and the Mambane, Manzinyama, Mhlumeni,	2.1 Attendance sheets and workshop reports (yr1). 2.2. Functionality added to Izele and documented on Izele website (yr1). 2.3 Attendance sheets and workshop reports (yr1). 2.4 Izele monitoring data on number of ecotourism pages (yr2).	Continued support from ecotourism enterprises and communities involved with ecotourism enterprises. Mobile phone access continues to be excellent along tourist routes and in towns, and good along minor roads and in villages (as confirmed by the project partners). Tourists continue to plan their holidays before travelling to the most remote parts of Maputaland, so have good Internet access either at home, or while visiting Maputaland's tourist routes and towns.

	Mvembili and Shewula communities in Eswatini. 2.5 At least **80%** user satisfaction with the new Izele ecotourism functionality (yr2). 2.6 Comments from **100** Izele users on ecotourism pages (yr2).	2.5 User questionnaires from people working for ecotourism enterprises in Maputaland (yr2). 2.6 Izele monitoring data on number of ecotourism pages (yr2).	
3. Updated Maputaland conservation planning system and new regional zoning plans that identify priority areas for conservation and community-based ecotourism, and are designed to inform land-use planning, national and international conservation investment strategies and the ongoing expansion of Maputaland's state-, private- and community-managed conservation area network (yr1, yr2, yr3).	3.1 Updated conservation planning system with updated biodiversity, natural capital and conservation area GIS data, plus new ecotourism GIS data (yr2). 3.2. **Two** workshops to bring together regional experts to improve datasets, set targets, and oversee analysis results (yr2). 3.3 Gap analysis to identify important species and ecosystem types that are under-represented in Maputaland's state, privately-owned and community CAs (yr2). 3.4 Zoning and priority area maps produced using the CLUZ and Marxan with Zones software (yr3). 3.5 **Two** dissemination workshops/online meetings + webinars to explain and publicise the priority area maps and zonation plan to stakeholders (yr3). 3.6 **One** publication in peer-reviewed literature describing the production of the zoning plan (yr3).	3.1 Planning system uploaded to project website, together with metadata (yr2). 3.2 Attendance sheets and workshop reports (yr2). 3.3. Gap analysis results and report uploaded to project website (yr2). 3.4 Zoning maps and report uploaded to project website (yr3, yr4 Q2). 3.5 Attendance sheets and workshop reports (yr4). 3.6 Publication uploaded to project website (yr4).	Trained staff members continue to work for the relevant conservation organisations. Project partners continue to support the conservation planning process in Maputaland.
4. Building capacity so that conservation practitioners in Maputaland can use the Izele online	4.1 **One** new set of training materials on creating conservation area and ecotourism pages in Izele (yr1).	4.1 Training materials uploaded to project website; training videos uploaded to YouTube (yr1).	Project partners continue to support their staff receiving training.

social network and transfrontier conservation planning system, through in-person training and by developing online materials that can also be used by the global conservation community (yr1, yr2, yr 3).	4.2 **One** new set of training materials on gap analysis and conservation planning, plus 2 online tutorial videos on using CLUZ and Marxan (yr2). 4.3 **10** Maputaland conservationists (including 5 women) trained in gap analysis and systematic conservation planning, with at least 80% of people gaining skills and awareness (yr2). 4.4 **One** Swazi national given in-depth training in conservation planning as part of undertaking the DICE MSc in Conservation Biology (yr2, yr3). 4.5 Online Izele materials downloaded by **200** people and online video tutorials watched by **200** people (yr3). 4.6 Online conservation planning materials downloaded by **150** people and online video tutorials watched by **150** people (yr3).	4.2 Training materials uploaded to project website; training videos uploaded to YouTube (yr2). 4.3 Attendance sheets; pre- and post-training questionnaires to measure skills uptake (yr2, yr4). 4.4 MSc graduation certificate (yr2, yr3). 4.5 Download and view details from the respective websites (yr3). 4.6 Download and view details from the respective websites (yr3).	

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)

Output 1. Expand Izele to include Maputaland conservation areas and groups

1.1. Produce and update a database of conservation areas and groups within Maputaland, which will be used to contact each organisation to encourage them to create pages on Izele and to link to the pages produced by their partners and donors. The data will also be used for monitoring Izele page uptake.

1.2. Train the KUWUKA JDA and All Out staff so they can support conservation areas and groups to produce their own Izele pages.

1.3. Workshop for representatives from all conservation organisations in Maputaland to celebrate the launch of the Izele network in their region, demonstrate how the social network functions, encourage them to create pages and collect their feedback.

1.4. Publicise Izele, encourage the creation of new pages and support page development by contacting groups and social media.

Output 2. Add state, private and state ecotourism enterprises to Izele

2.1. Produce and update database of ecotourism enterprises and collect data on the type of ecotourism activities supported and the number of staff employed.

2.2. Workshop and site visits with ecotourism enterprises to collect feedback and advice on what type of functionality should be added to the Izele online social network.

2.3. Produce additional code to create and then refine ecotourism functionality to the Izele online social network.

2.4. Workshop to celebrate the launch of the Izele ecotourism functionality and encourage ecotourism enterprises to sign up.

2.5. Publicise Izele ecotourism functions and support page development through *ad hoc* site visits, email and telephone support.

2.6. Work with communities in Mozambique and Eswatini to map their preferred areas for ecotourism activities, as part of creating their Izele ecotourism pages and to inform land-use planning.

2.7. Collect monitoring data on ecotourism business staff numbers and wages, as well as data on customer profiles and how they heard about the business.

2.8 Add functionality to Izele so that conservation areas and ecotourism enterprises can provide information about when they are open and what activities are available during the COVID-19 pandemic.

Output 3. Produce Maputaland conservation land-use zoning system

3.1. Update the GIS data in conservation planning system to reflect changes in landcover, species distributions and conservation area coverage.

3.2. Produce conservation area gap analysis report by revisiting the previous conservation targets in the Maputaland conservation planning system and then measuring the extent to which the network of conservation areas meets these targets for the different ecosystem types and species.

3.3. Workshop to set land-use zoning targets based on land-use planning scenarios for conservation, agriculture, afforestation, ecotourism and urbanisation.

3.4. Conservation land-use zoning prioritisation to identify priority areas for conservation and community-based ecotourism, producing different land-use zoning maps and writing up reports and then submitting for publication in a peer-reviewed open-access journal.

3.5. Presentation of the gap analysis and land-use zoning results at two events, one in Mozambique and one in Eswatini, where project partners, decision makers, donors and high-level government representatives will be invited to learn about the results of the project and celebrate our achievements.

Output 4. Build capacity in conservation social networking and planning

4.1. Train state, private and community conservation areas, groups and ecotourism enterprises to create and manage their own Izele pages by developing online tutorials, including YouTube videos, all of which will be translated into Portuguese.

4.2. Postgraduate training of a Eswatini national from the government, NGO or academic sector on DICE's MSc in Conservation Biology with their 6-month research project using the Maputaland conservation planning system.

4.3. Train conservation practitioners to use the Maputaland planning system and the CLUZ, Marxan and Marxan with Zones systematic conservation planning software using updated training materials. In addition, produce YouTube videos (with Portuguese subtitles) showing how to use CLUZ, Marxan and Marxan with Zones.

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
2	MSc in Conservation Biology		Eswatini	0	0.5	1	1	1
7	Izele online help	N/A	N/A	1			1	1
7	Izele YouTube videos	N/A	N/A	0	1	10	10	2
7	CLUZ tutorials	N/A	N/A	0	1		1	1
7	CLUZ YouTube videos	N/A	N/A	0	1	1	2	1
9	Conservation area gap analysis report	N/A	N/A	0	1	0	1	1
9	Conservation and ecotourism zoning plan report	N/A	N/A	0	0	0	0	1
11A	CLUZ description article	N/A	N/A	1			1	1
11B	CLUZ description article	N/A	N/A	1			1	1
11A	Maputaland spatial analysis	N/A	N/A	0			0	1
11B	Maputaland spatial analysis	N/A	N/A	0			0	1
12B	Izele online social network	N/A	N/A	1			1	1
12B	Maputaland conservation planning system	N/A	N/A	0			1	1
12B	CLUZ plugin for QGIS	N/A	N/A	1			1	1
14A	Training in using the Izele social network	140 people (at least	Eswatini & Mozambican	2	2		4	4

		70 women)						
14A	Conservation area gap analysis workshop		Eswatini & Mozambican	0	1		1	1
14A	Conservation and ecotourism zoning workshop		Eswatini & Mozambican	0			0	1
14A	Training in using CLUZ and Marxan	10 people (at least 5 women)	Eswatini & Mozambican	0	1		1	1
14A	Project results workshop		Eswatini & Mozambican	0			0	1
14A	Training in using CLUZ and Marxan	DICE MSc students			1	1	2	0
14B	Student Conference on Conservation Science (Poster presentation by PhD student)	Male	British & Mozambican	1			1	1
14B	Biodiversity Planning Forum in South Africa (Presentation by PI and PhD student)	Male	British & Mozambican	0	1			1
14B	ICCB workshop in Malaysia (Presentation by PI)	Male	British	0	1			1
23	Matching funding	N/A	N/A	£[redacted]				[redacted]
23	University of Kent GCRF funding	N/A	N/A		£[redacted]			[redacted]

In Table 2, provide full details of all publications and material produced over the last year that can be publicly accessed, e.g. title, name of publisher, contact details, cost. Mark (*) all publications and other material that you have included with this report.

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)
Modelling ecotourism in Maputaland using a GIS based multiple criteria decision analysis method	Dissertation *	Dharmaratne, N	Female	Sri Lankan	Unpublished	Direct link: https://izele.org/api/1/docs/?org_id=278&id=cd329bcd-06f6-4afb-9480-05292c3a6377
Systematic conservation planning in the Lubombo Biosphere Reserve in the Kingdom of Eswatini (Swaziland)	Dissertation *	Hlatshwayo, N	Male	Eswatini	Unpublished	Direct link: https://izele.org/api/1/docs/?org_id=278&id=819bcf8a-22d4-4698-9381-1779ee11cb55

Annex 4 Onwards – supplementary material (optional but encouraged as evidence of project achievement)

The following information have been included as additional files together with this report:

4A Details of Izele pages spreadsheet

4B Details of Maputaland landcover map

4C Details of Maputaland priority species to be used in the conservation zoning analysis

4D Map of Key Biodiversity Areas in the Mozambican section of Maputaland

4E Details of the online tutorial videos

Dharmaratne 2020 MSc dissertation - Ecotourism potential.pdf

Hlatshwayo 2020 MSc thesis - SCP in the Lubombo Biosphere Reserve.pdf

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	✓
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	✓
Do you have hard copies of material you need to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	
Have you involved your partners in preparation of the report and named the main contributors	✓
Have you completed the Project Expenditure table fully?	✓
Do not include claim forms or other communications with this report.	