

Annex 22

1. CALCULATION OF DIRECT AND INDIRECT BENEFICIARIES AND OF AREAS OF ECOSYSTEMS UNDER IMPROVED MANAGEMENT

INTRODUCTION

The impacts of climate change have been felt across South Africa with the frequency and severity of droughts, floods and wildfires increasing. Climate projections show that this trend, including changes in intensity and unpredictability, will continue. These hazards are leading to escalating risks of significant impacts on South Africa's wider economy and both the urban and rural livelihoods and its most vulnerable populations. In response, South Africa's National Biodiversity Institute (SANBI) is preparing a full application, with the associated supporting documents, to the Green Climate Fund (GCF) to contribute around USD 40 million of funding to a USD 50 million programme to scale up ecosystem-based approaches to managing climate intensified disaster risks in vulnerable regions of South Africa (the Eco-DRR project).

The project will be implemented through three interconnected Outcomes, in four District Municipalities (DMs) and across four Provinces in South Africa. The DMs were selected through a thorough desktop analysis supported by a number of stakeholder engagement processes, an initial climate risk and vulnerability study and an assessment of the receiving institutional and enabling environment. The selected sites for Outcome 1 and 2 interventions are based within Local Municipalities (LMs) within these DMs (Figure 1).

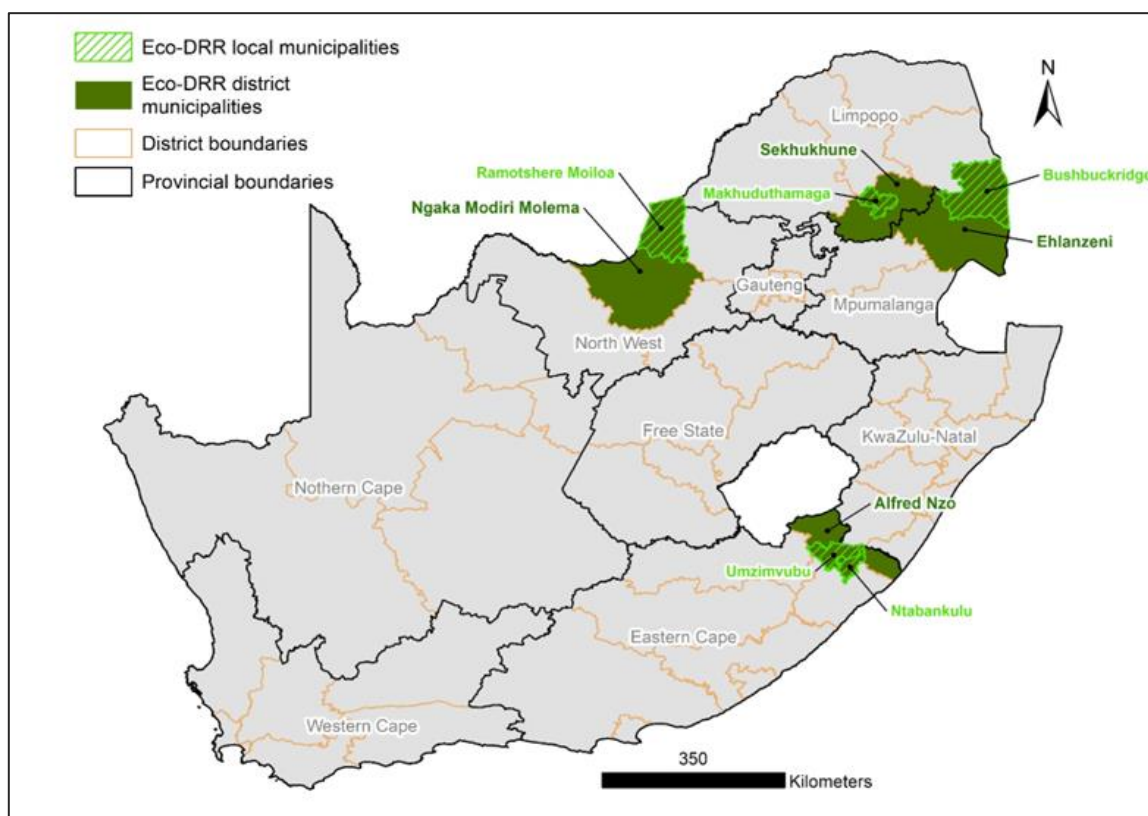


Figure 1: DMs that form the focus of the Eco-DRR project

This document shows the approach and assumptions used for estimating the direct and indirect beneficiaries under the project. Table 4 and 2 presents direct and indirect beneficiaries for Outcome 1 while Table 3 presents direct beneficiaries for Outcome 2. Table 4 presents a summary of direct and indirect beneficiaries linked to project outputs (ARA1) and Table 5 presents the summary of direct and indirect beneficiaries linked to project outputs (ARA1) considering double counting.

2. ESTIMATION OF BENEFICIARIES FOR ECOSYSTEM-BASED ADAPTATION INTERVENTIONS

2.1. Outcome 1

For activities under Outcome 1 communities will benefit from rehabilitated, maintained and/or sustainably managed eco-systems through activities such as invasive alien plant (IAP) removal and associated biocontrol, control of bush encroachment, changes in grazing management, revegetation with indigenous species and a combination of hard and soft erosion control measures. These activities will have direct impact on these beneficiaries by reducing their exposure to the climate change induced hazards of droughts, floods and wildfires.

Direct beneficiaries

This only considers the communities in the targeted project implementation sites in the 4 DMs of Alfred Nzo, Ehlanzeni, Ngaka Modiri Molema and Sekhukhune (see maps below).

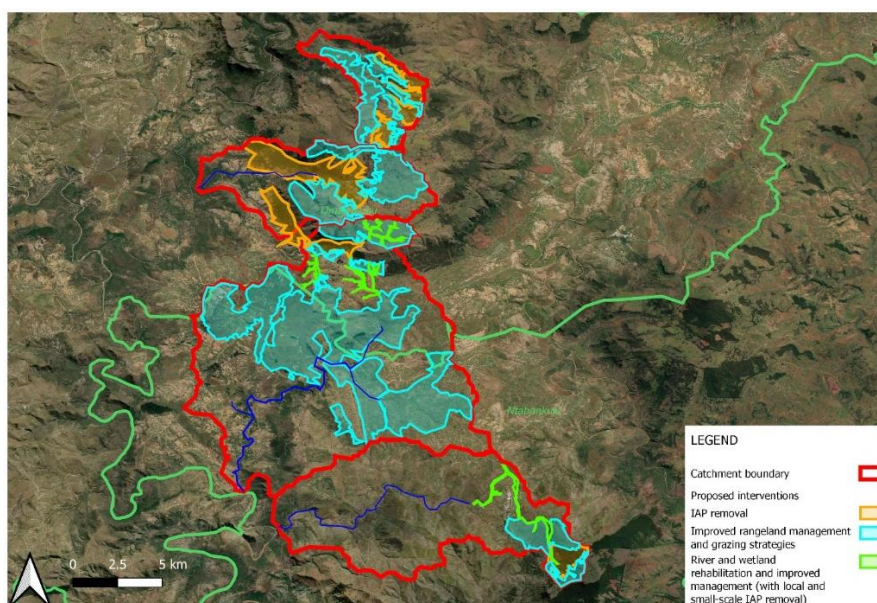


Figure 2: Alfred Nzo DM project implementation sites

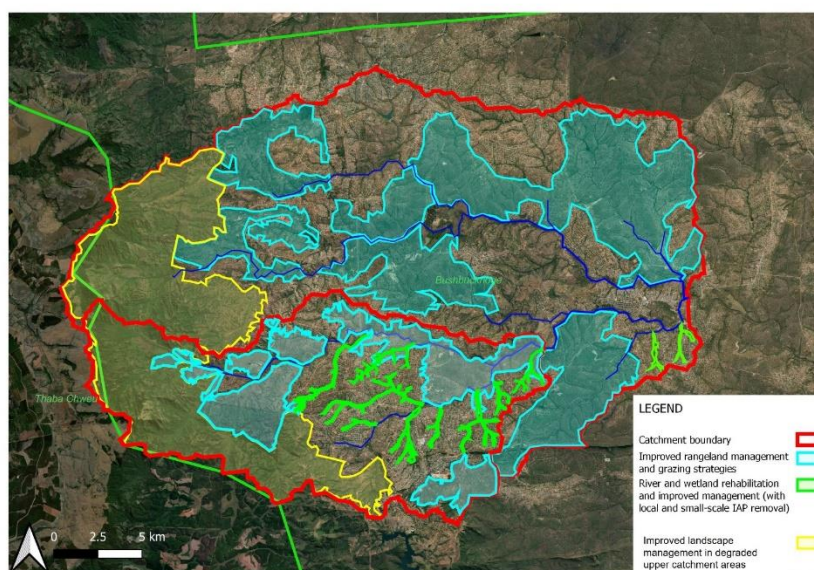


Figure 3: Ehlanzeni DM project implementation sites

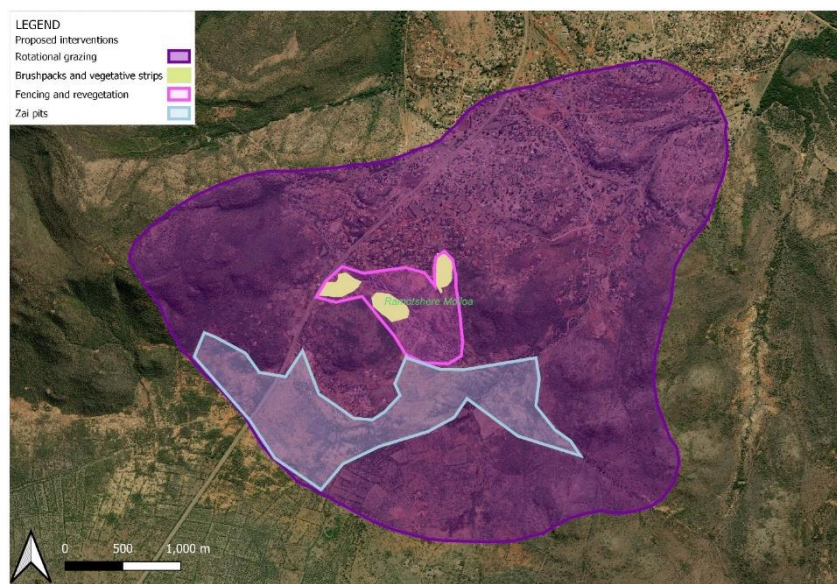


Figure 4: Ngaka Modiri Molema DM project implementation sites

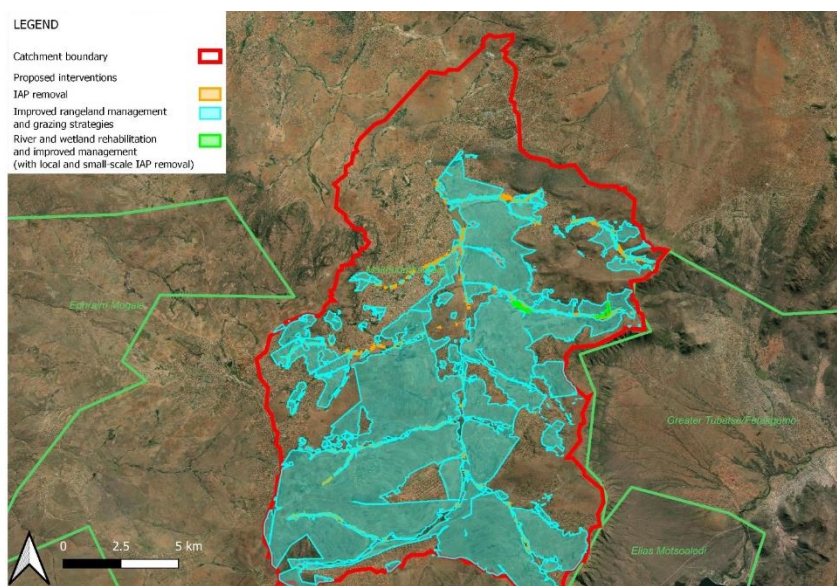


Figure 5: Sekhukhune DM project implementation sites

To calculate the number of direct beneficiaries, the number of households in the sites were identified with this data being sourced from Eskom (2015). It is assumed that each household within these sites comprises of 4 people. It has been assumed that each household comprises of 4 people which is based on household averages per province. Mpumalanga's average household size is 3.82 (National Treasury, 2021), Eastern Cape's is 3.97 (National Treasury, 2021), Limpopo's is 3.91 (National Treasury, 2021), and North West's is 3.37 (National Treasury, 2021). Female and male numbers were determined by applying the percentage of male and female populations per LM (as per Statistics South Africa's 2022 Census¹) to the number of people per household.

Table 1: Direct Beneficiaries for Outcome 1

	Direct Beneficiaries	
	Number of Households	Total Number of People
Ehlanzeni (Bushbuckridge LM)	62,281	249,124
<i>Female (54.3%)</i>		<i>135,274</i>
<i>Male (45.7%)</i>		<i>113,850</i>

¹ https://census.statssa.gov.za/assets/documents/2022/Provinces_at_a_Glance.pdf

	Direct Beneficiaries	
	Number of Households	Total Number of People
Alfred Nzo (Umzimvubu & Ntabankulu LMs)	10,907	43,628
<i>Female (53%)</i>		23,123
<i>Male (47%)</i>		20,505
Sekhukhune (Makhuduthamaga LM)	17,517	70,068
<i>Female (54.2%)</i>		37,977
<i>Male (45.8%)</i>		32,091
Ngaka Modiri Molema (Ramotshere Moiloa LM)	817	3,268
<i>Female (51.4%)</i>		1,680
<i>Male (48.6%)</i>		1,588
Total	91,522	366,088

Direct beneficiaries are community members who are better able to cope with the impacts of climate change intensified droughts, floods, and wildfire at the close of the GCF-supported project. This also includes community members in the targeted project implementation sites within the four DMs who:

1. Are employed on environmental public works programmes in the focal landscapes with new climate impact measures (e.g. slope management, IAP removal, erosion reduction, river bank stabilisation, wetland rehabilitation, rangeland management, environmental monitors etc.), co-financed by the South African government (e.g. Working for Water, Working for Wetlands etc);
2. Are participants in GCF-supported climate-adaptive livelihood opportunities through small, medium and micro-enterprises (SMMEs) or cooperative opportunities including such aspects as initial processing of cleared biomass for bio-refineries or for biochar, and sustainable livestock production (with associated animal products) and marketing on rehabilitated rangelands;
3. Are participants in GCF-supported and Government co-financed initiatives for communities; and
4. Are employed on projects for municipal built and ecological infrastructure co-financed by the South African government.

In particular, the community members from the above groups, through employment via the Eco-DRR project, will have improved livelihoods to better cope with flood events (more details will be unpacked in feasibility).

Indirect Beneficiaries

Indirect beneficiaries are people who are better able to cope with the impacts of climate change intensified droughts, floods and wildfires as a result of the scale up activities of the project, including through the DFFE: EP, the Community Works Programme and improved integration of Eco-DRR into settlements planning across South Africa. The ability of the programme to share the evidence base and build knowledge in other landscapes where increased climate resilience is evident, will impact on the uptake of these approaches in new locations. It can be expected that other communities within the LMs, where site-based interventions have taken pace, will likely indirectly benefit from the improved capacity developed locally through the site based interventions. The engagement of local government officials and traditional leadership, as well as various civil society actors present in these areas, will support in the exchange of knowledge and the opportunity to upscale across the local municipality, thereby reducing the exposure to droughts, floods and wildfire overtime as well as beyond the lifespan of the project.

Indirect beneficiaries calculations consider the LMs within which the communities in the targeted project implementation sites reside. The identified LMs are:

- Umzimvubu and Ntabankulu LMs (Alfred Nzo DM)
- Bushbuckridge LM (Ehlanzeni DM)
- Ramotshere Moiloa LM (Ngaka Modiri Molema DM)
- Makhuduthamaga LM (Sekhukhune DM).

This number excludes the direct beneficiaries counted under Outcome 1. The population of the LMs including male and female numbers were sourced from Statistics South Africa's 2022 Census².

² https://census.statssa.gov.za/assets/documents/2022/Provinces_at_a_Glance.pdf

Table 2: Indirect Beneficiaries for Outcome 1

	Indirect Beneficiaries Total Number of People Minus Direct Beneficiaries from Outcome 1
Ehlanzeni (Bushbuckridge LM)	501,697
Female (54.3%)	272,255
Male (45.7%)	229,442
Alfred Nzo (Umzimvubu & Ntabankulu LMs)	317,271
Female (53%)	168,186
Male (47%)	149,085
Sekhukhune (Makhuduthamaga LM)	270,260
Female (54.2%)	146,580
Male (45.8%)	123,680
Ngaka Modiri Molema (Ramotshere Moiloa LM)	158,336
Female (51.4%)	81,307
Male (48.6%)	77,029
Total	1,247,564

It is important to note that these indirect beneficiaries will also be direct beneficiaries of the projects efforts to improve early warning systems (Outcome 2) and double counting has been accounted for in this regard. As such, these indirect beneficiaries are not considered in the Table 5 and the associated calculations due to double counting.

3. ESTIMATION OF BENEFICIARIES FOR DISASTER RISK PREPAREDNESS

3.1. Outcome 2

DMs are taking the lead regarding improved early warning systems and the development of the necessary information dissemination methodologies. They will work with all LMs in their area of jurisdiction to improve these improved response approaches, including systems, communications, hazard avoidance and places of safety. This will have impact on all people living within the DM's area of jurisdiction. DMs also take the lead in terms of ensuring that all integrated planning at LM level takes place and is inclusive of connected issues between the LMs, particularly with regards to socio-economic, developmental and various aspects linked to environment, inclusive of disaster risk reduction.

Direct beneficiaries were not determined.

Indirect beneficiaries: refers to the populations of the four targeted DMs (Alfred Nzo, Ehlanzeni, Ngaka Modiri Molema and Sekhukhune DMs) minus the direct beneficiaries counted under Outcome 1. The populations for the DMs including male and female numbers were sourced from Statistics South Africa's 2022 Census³.

Table 3: Indirect Beneficiaries for Outcome 2

	Indirect Beneficiaries Total Number of People in DM Minus Direct Beneficiaries Counted Under Outcome 1
Ehlanzeni	2,021,773
Female (52.8%)	1,064,324
Male (47.2%)	957,449
Alfred Nzo	892,833
Female (53.1%)	473,883
Male (46.9%)	418,950
Sekhukhune	1,266,737
Female (52.9%)	669,270
Male (47.1%)	597,467

³ https://census.statssa.gov.za/assets/documents/2022/Provinces_at_a_Glance.pdf

Indirect Beneficiaries	
Total Number of People in DM Minus Direct Beneficiaries Counted Under Outcome 1	
Ngaka Modiri Molema	934,455
<i>Female (51.1%)</i>	<i>477,472</i>
<i>Male (48.9%)</i>	<i>456,983</i>
Total	5,115,798

4. SUMMARY ESTIMATION OF BENEFICIARIES

Table 4. Summary of direct and indirect beneficiaries linked to project outputs – ARA1

Outputs	Definition of direct and indirect beneficiaries	Direct beneficiaries (disaggregated by gender)	Indirect beneficiaries (disaggregated by gender)
Outcome 1: The incorporation of Eco-DRR strategies into integrated landscape management enhances the resilience of ecological infrastructure and climate-vulnerable communities.			
Output 1.1. Ecosystems are rehabilitated, maintained and sustainably managed for Eco-DRR.	<p>Direct beneficiaries: refers to the targeted communities within the selected project implementation sites in the four DMs (i.e. Alfred Nzo, Ehlanzeni, Ngaka Modiri Molema and Sekhukhune DMs) where Output 1.1's interventions will be implemented. These communities will benefit from rehabilitated, maintained and/or sustainably managed ecosystems through activities such as invasive alien plant (IAP) removal and associated biocontrol, control of bush encroachment, changes in grazing management, revegetation with indigenous species and a combination of hard and soft erosion control measures. These activities will have direct impact on these beneficiaries by reducing their exposure to the climate change induced hazards of droughts, floods and wildfires.</p> <p>Indirect beneficiaries: refers to the population of the LMs within which the targeted communities i.e. direct beneficiaries are located in. The communities in the LMs will indirectly benefit by the sharing of an evidence base and building and transferring knowledge in other landscapes as well as promoting lesson learning from Output 1.1's activities. The LMs will also indirectly benefit by identifying opportunities for replication and/or upscaling within the broader area. The engagement of local government officials and traditional leadership, as well as various civil society actors present in these areas, will support in the exchange of knowledge and the opportunity to upscale across the local municipality, thereby reducing the exposure to droughts, floods and wildfire overtime as well as beyond the lifespan of the project.</p>	366,088 persons (male 168 034, female 198 054)	1 613 652 persons (approx. male 747 270 female 866 382)
Output 1.2. Local, gender-inclusive and sustainable ecosystem-based livelihoods support locally led adaptation.	<p>Direct beneficiaries: refers to the targeted communities within the selected project implementation sites in the two DMs of Alfred Nzo and Ehlanzeni where Output 1.2's interventions will be implemented (see Figure 2 and Figure 3). These communities will directly benefit from the introduction of gender-inclusive, ecosystem-based livelihood stacking strategies in Alfred Nzo and Ehlanzeni DMs that addresses immediate climate adaptation needs and creates a compelling value proposition for private-sector investment. These will have direct impact on all those living within households in these areas of intervention.</p>	292 752 persons (male 134 355, female 158 397)	1 111 720 persons (approx. male 512 882 female 598 838)

Outputs	Definition of direct and indirect beneficiaries	Direct beneficiaries (disaggregated by gender)	Indirect beneficiaries (disaggregated by gender)
	<p>The household dataset was sourced from Eskom (2015) and then was mapped spatially using GIS coverages of the project intervention areas. It was assumed that each household comprises of 4 people. The ratio of female and male beneficiaries was determined by applying the ration within each LM using that derived by Statistics South Africa's 2022 Census⁴. This was then assumed across all households.</p> <p>Indirect beneficiaries: refers to the population of the LMs within which the targeted communities i.e. direct beneficiaries are located. These LMs are:</p> <ul style="list-style-type: none"> • Umzimvubu and Ntabankulu LMs (Alfred Nzo DM), and • Bushbuckridge LM (Ehlanzeni DM). <p>Firstly, it is assumed that the support to the development of localised livelihood options including the development of Small Micro and Medium Enterprises (SMMEs) will have downstream socio-economic impacts including linkages into an array of associated businesses. This will act as a stimulus to local growth and development in the two LMs. Secondly, with staff responsible for local economic development (LED) at each LM, as well as private sector and civil society, involved in the Eco-DRR project interventions there is opportunity for the transfer of knowledge and the benefit of sharing the evidence base generated. This will provide opportunity to up-scale these across the LMs and into other local landscapes. Thus through lesson learning from Output 1.2's activities, these LMs will indirectly benefit by being able to identify opportunities for replication and/or upscaling within the broader area. The population of the LMs including male and female numbers were sourced from Statistics South Africa's 2022 Census⁵.</p>		
Outcome 2. The incorporation of Eco-DRR into transformative disaster preparedness and response reduces the adverse impacts of climate-induced hazards on built infrastructure and climate-vulnerable communities.			
Output 2.1. Local governments and communities implement improved Eco-DRR preparedness and response measures.	<p>Direct beneficiaries: no direct beneficiaries have been determined.</p> <p>Indirect beneficiaries: DMs are taking the lead regarding improved early warning systems and the development of the necessary information dissemination methodologies. They will work with all LMs in their area of jurisdiction to improve these improved response approaches, including systems, communications, hazard avoidance and places of safety. This will have impact on all people living within the DM's area of jurisdiction. Indirect beneficiaries therefore refers to the population of the four targeted DMs (Alfred Nzo, Ehlanzeni, Ngaka Modiri Molema and Sekhukhune</p>	N/A	5 481 886 (male 2 598 883, female 2 883 003)

⁴ https://census.statssa.gov.za/assets/documents/2022/Provinces_at_a_Glance.pdf

⁵ https://census.statssa.gov.za/assets/documents/2022/Provinces_at_a_Glance.pdf

Outputs	Definition of direct and indirect beneficiaries	Direct beneficiaries (disaggregated by gender)	Indirect beneficiaries (disaggregated by gender)
	DMs) that will benefit from enhanced capacity within DMs and local communities to adopt more proactive responses to climate-induced hazards that are inclusive of Eco-DRR including improved dissemination of early warning products, messages and practices.		
Output 2.2. Eco-DRR is mainstreamed into national and sub-national asset risk management, environmental policy and spatial planning.	<p>Direct beneficiaries: no direct beneficiaries have been determined.</p> <p>Indirect beneficiaries: DMs take the lead in terms of ensuring that all integrated planning at LM level takes place and is inclusive of connected issues between the LMs, particularly with regards to socio-economic, developmental and various aspects linked to environment, inclusive of disaster risk reduction. They will take the lead in ensuring that policy and planning instruments developed across all LMs in their district are inclusive of climate change adaptation, of ecosystem-based adaptation and Eco-DRR. Indirect beneficiaries therefore refer to the population of the four targeted DMs (Alfred Nzo, Ehlanzeni, Ngaka Modiri Molema and Sekhukhune DMs) that will benefit from the improved capacity of policy and decision makers to understand the linkages between ecological infrastructure and vulnerability to climate change as well as mainstreaming of ecosystem-based adaptation and Eco-DRR measures into sub-national policy, planning and budgetary processes. This will result in improved levels of climate resilience over the duration of the project, and thereafter with subsequent iterations of policies and plans with time.</p>	N/A	5 481 886 (male 2 598 883, female 2 883 003)
Outcome 3: An enabling environment is created for investment in Eco-DRR through a strengthened evidence base and improved learning and knowledge management.			
Output 3.1. Financial mechanisms developed and strengthened to enhance private and public sector investments in Eco-DRR.	No direct or indirect beneficiaries can be calculated for Output 3.1	N/A	N/A
Output 3.2. Informed decision making for Eco-DRR is supported and promoted.	No direct or indirect beneficiaries can be calculated for Output 3.2	N/A	N/A
Total		658 840 people (male 302 389 female 356 451)	13 689 144 people (approx. male 6 457 918; female 7 231 226)

However, it is important to consider the issue of double counting of direct and indirect beneficiaries. In this regard, the total number of direct and indirect beneficiaries when considering double counting has been presented in the table below. Bearing in mind that the beneficiaries between Output 1.1 and 1.2 as well as Output 2.1 and 2.2 are the same, the table below presents the beneficiaries per outcome.

Table 5. Summary of direct and indirect beneficiaries linked to project outputs – ARA1 considering double counting

Outcome and Definitions	Adaptation Benefit	Direct beneficiaries (disaggregated by gender)	Indirect beneficiaries (disaggregated by gender)
<p>Outcome 1: The incorporation of Eco-DRR strategies into integrated landscape management enhances the resilience of ecological infrastructure and climate-vulnerable communities.</p> <p>Direct beneficiaries: only considers the communities in the targeted project implementation sites in the 4 DMs under Output 1.1. These are inclusive of the same beneficiaries in Output 1.2.</p> <p>Indirect beneficiaries: considers the LMs within which the communities in the targeted project implementation sites reside (i.e. Umzimvubu and Ntabankulu LMs, Bushbuckridge LM, Ramotshere Moiloa LM and Makhuduthamaga LM).</p> <p>As the indirect beneficiaries calculated under Outcome 1 will be also be indirect beneficiaries under Outcome 2, these indirect beneficiaries cannot be counted twice.</p>	Protection of vulnerable groups and ecosystems from floods, droughts and wildfires by clearing IAPs, improving rangeland management and conducting wetland and riverine rehabilitation.	366 088 people (male 168 034 female 198 054)	Not considered due to double counting
<p>Outcome 2: The incorporation of Eco-DRR into transformative disaster preparedness and response reduces the adverse impacts of climate-induced hazards on built infrastructure and climate-vulnerable communities.</p> <p>Direct beneficiaries: no indirect beneficiaries were determined.</p> <p>Indirect beneficiaries: This only considers the four DM populations (Alfred Nzo, Ehlanzeni, Ngaka Modiri Molema and Sekhukhune DMs) minus the direct beneficiaries counted under Outcome 1.</p>	Protection of vulnerable groups and built infrastructure from floods, droughts and wildfires through improved disaster risk reduction preparedness and response measures coupled with mainstreaming of Eco-DRR into policy and spatial planning.	N/A	5 115 798 people (male 2 430 849 female 2 684 949)
<p>Outcome 3: An enabling environment is created for investment in Eco-DRR through a strengthened evidence base and improved learning and knowledge management.</p>	Enhanced enabling environment by improving investment in Eco-DRR,	N/A	N/A

Outcome and Definitions	Adaptation Benefit	Direct beneficiaries (disaggregated by gender)	Indirect beneficiaries (disaggregated by gender)
No direct or indirect beneficiaries can be calculated for Outcome 3.	developing finance mechanisms and promoting informed decision-making		
TOTAL		366 088 people (male 168 034 female 198 054)	5 115 798 people (male 2 430 849 female 2 684 949)

References

National Treasury. (2021). *Municipal Socio-Economic Profiles: Mpumalanga*. Pretoria: National Treasury.

National Treasury. (2021). *Municipal Socio-Economic Profiles: Eastern Cape*. Pretoria: National Treasury.

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