



**Draft Climate Change Adaptation Action Plan for the Eastern Cape
Province**

FINAL DRAFT

31 March 2017

**Submitted as the final deliverable of the project titled ‘Support the review of Provincial
Climate Change Response Strategies and the Development of Action Plans’
by the Project Team at Climate System Analysis Group (CSAG), and African Climate
Development Initiative (ACDI)**

University of Cape Town (UCT)

**Physical address: CSAG, Environmental and Geographical Sciences Building,
University of Cape Town**

Postal address: Private Bag X3, Rondebosch, 7701, South Africa

Tel: +27 (0) 21 650 2784

Neither the University of Cape Town, nor its affiliates, nor their third party providers guarantee the accuracy, completeness, timeliness or availability of any information provided in this report. The University of Cape Town, its affiliates or their third party providers and their directors, officers, shareholders, employees or agents are not responsible for any errors or omissions, regardless of the cause, or for the results obtained from the use of such information. THE UNIVERSITY OF CAPE TOWN, ITS AFFILIATES AND THEIR THIRD PARTY PROVIDERS DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE. In no event shall the University of Cape Town, its affiliates or their third party providers and their directors, officers, shareholders, employees or agents be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of such information even if advised of the possibility of such damages.

Acknowledgments: The authors would like to thank the Eastern Cape provincial focal points, Lyndon Marden and Bathabile Sonqaba at DEDEAT as well as all the participants at the stakeholder workshops. This project belongs to you.

Contents

List of abbreviations	5
Executive Summary	7
1. Introduction	9
1.1. The Eastern Cape Context for climate change adaptation	10
2. Approach	13
2.1 The foundation of the Action Plan- summary of preceding work phases	13
2.1.1 Summary of the process for reviewing and updating of the CCRVA	13
2.1.2 Summary of the process for consolidating and updating the CCRS	14
2.2 The process of developing the Action Plan	15
2.3 Stakeholder Workshop	15
2.3.1 Preparing for stakeholder engagement	15
2.3.2 Stakeholder engagement	16
2.3.3 Reviewing and finalising the draft matrices	17
3. Population of the Programme Activities matrix	17
3.1 Sectors and Implementation matrices:	17
3.2 Programmes/barriers/enablers	18
3.3 Programme Matrices	20
4. Recommendations	36
4.1 Extending the activities	36
4.2 Exploring the lead and support institutions	37
4.3 Role of Climate Change Climate Change fora and work groups	38
4.4 Stakeholder mapping	38
5. Limitations	39
References	40
Appendix 1: Eastern Cape workshop participants	41
Appendix 2: Eastern Cape workshop agenda	46

List of abbreviations

ACDI	African Climate and Development Initiative (UCT)
AG	Auditor General
ARC	Agricultural Research Council
BCP	? (Marine and Coastal Zones, programme 2)
CBO	Community Based Organisation
CCRS	Climate change response strategy
CCRVA	Climate change risk and vulnerability assessment
CMP	Coastal Management Plan
COGTA	Cooperative Governance and Traditional Affairs
CSAG	Climate System Analysis Group (UCT)
DAFF	Department of Agriculture, Forestry and Fisheries
DEA	Department of Environmental Affairs
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism, Eastern Cape
DM	District Municipality
DMCC	? (Marine and Coastal Zones, programme 1)
DoE	Department of Education, Eastern Cape
DRDAR	Department of Rural Development and Agrarian, Reform, Eastern Cape
DRDLR	Department of Rural Development and Land Reform
DRM	Disaster Risk Management
DST	Department of Science and Technology
DWS	Department of Water and Sanitation
ECBAP	? (Biodiversity and Ecosyst sector, programme 1)
ECCCRS	Eastern Cape Climate Change Response Strategy
ECPTA	Eastern Cape Parks & Tourism Agency
EIA	Environmental Impact Assessment
ENCA	ENews Channel Africa
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
HOC	Head of Disaster Centre
IAS	? (Biodiversity and Ecosyst sector, programme 2)
IGR	Inter-Government Relations
ICMA	Integrated Coastal Management Areas
IPCC	Intergovernmental Panel on Climate Change
LM	Local Municipality
LTAS	Long Term Adaptation Scenarios
LTIS	? (Disaster Risk Management, programme 1)
NAP	National Adaptation Plan
NAS	South Africa National Adaptation Strategy
Nat. Geo	National Geographic
NCCRP	National Climate Change Response Policy 2011
NGO	Non-Governmental Organisation
NMBM	Nelson Mandela Bay Municipality
NWA	National Water Act
NWRS	National Water Resource Strategy
PCC	Provincial Climate Change
PDMC	Provincial Disaster Management Centre
PSDF	Provincial Spatial Development Programme
SDF	Spatial Development Framework
SABC	South African Broadcasting Corporation
SANBI	South African National Biodiversity Institute
SANParks	South African National Parks
SAPS	South African Police Service

SAWS
TNC
UCT

South African Weather Service
South Africa's Third National Communication to the UNFCCC
University of Cape Town

Executive Summary

In 2016, South Africa began the process to develop the National Climate Change Adaptation Strategy (NAS) which will be used as the National Adaptation Plan (NAP) to the UNFCCC. The NAS will prioritise the country's climate change adaptation needs, based on the updated assessment of impacts, vulnerability and adaptation responses. Extensive stakeholder consultation at national and sub-national levels will lead to an overall set of climate change adaptation and resilience priorities. These must reflect a unified, cross-sectoral and economy-wide approach to adaptation.

The Department of Environmental Affairs identified the need for strategic alignment and a shared vision for climate change adaptation between all nine provinces and to review the Provincial Climate Change Response Strategies and the Development of Action Plans. Existing provincial CCRVAs and CCRSs needed to be updated and revised to incorporate the most recent studies and information available. The updated CCRVAs would inform the updating or revision of any existing CCRS and, subsequently, this implementation/action plan.

In the Eastern Cape Province, the DEA has collaborated with the mandated department, the Eastern Cape Department of Economic Development, Environmental Affairs and Tourism (DEDEAT), to support the process leading to an improved state of readiness to respond to climate change, culminating in this draft implementation/action plan.

This phase (Phase 4 of the overall project) aimed to lead to the development of an updated draft Action Plan.

The task was to:

- a) Conduct stakeholder engagements in each of the four provinces to collect input on the execution of phase four.
- b) Consolidate, update and fill in gaps where possible implementation plans with clearly defined strategies, actions, responsibilities etc. to support implementation.

This was completed through a combination of the outputs from Phases 2 and 3, and the results of a stakeholder workshop held in East London in March 2017.

The list of prioritised Adaptation Options for the selected sectors were refined by the project team and collated into a final list from which the stakeholders would select a pre-agreed number to be discussed and expanded in the workshop. The Action Plan that emerged would be a starting point for the province, having only included a priority selection of the full

range of options. The selected options became Programmes and for each programme, an activity matrix was drawn up and populated with the following information:

Specific Activity/ Time Frame/ Lead and support institutions/ Scale/ Budget.

The stakeholders at the workshop then, within their selected sector groups populated the matrix as far as possible. It was then circulated by the provinces among their reviewers and returned with revisions and comments. The final product is included in this report and forms the basis from which the Action Plan for the province will be developed further and implemented.

This draft Action Plan thus provides an updated roadmap, guiding the way towards an improved state of readiness to respond to climate change in the Eastern Cape, by recommending sectoral programmes of action that strengthen adaptive capacity and reduce climate sensitivities and exposures.

1. Introduction

Climate change is a serious threat to the sustainable development goals globally and in South Africa, and threatens to halt or even reverse the socio-economic gains being made. In South Africa, the National Climate Change Response Policy (NCCRP) (DEA, 2011) facilitates the long-term, just transition to a climate-resilient and lower-carbon economy and society. The implementation of the NCCRP is the responsibility of the National Department of Environmental Affairs (DEA).

With respect to climate change adaptation, several national departments representing key sectors of South Africa's economy, including agriculture and forestry, water, human settlements, and health, have developed sectoral climate change adaptation strategies. The progress made on adaptation has been well supported by the LTAS (Long Term Adaptation Scenarios) programme conducted in 2014. In 2016, South Africa began the process to develop the National Climate Change Adaptation Strategy (NAS) which will be finalised in 2017 and will also be used as the National Adaptation Plan (NAP) to the UNFCCC (DEA, 2016a). The NAS will prioritise the country's climate change adaptation needs, based on the updated assessment of impacts, vulnerability and adaptation responses. Extensive stakeholder consultation at national and sub-national levels will lead to an overall set of climate change adaptation and resilience priorities. These must reflect a unified, cross-sectoral and economy-wide approach to adaptation.

The NCCRP requires that each province must develop a climate change response strategy, which evaluates provincial climate risks and impacts, to give effect to the policy at provincial level. At the same time, the provinces are required to coordinate provincial adaptation and mitigation responses across their own line departments, as well as between municipalities within the province. To this end, provinces have developed climate change risk and vulnerability assessment (CCRVA) reports, followed by climate change response strategies (CCRS) and in some of the provinces an implementation/action plan.

DEA recognised the need for strategic alignment and a shared vision for climate change adaptation between all nine provinces. Furthermore, existing provincial CCRVAs and CCRSs needed to be updated and revised to incorporate the most recent studies and information available. This process is ensuring that the CCRVAs are specific to each province's socio-economic and biophysical context, using climate trends and downscaled climate change projections for the short, medium and long term, and better incorporate sectoral realities and vulnerabilities. The updated CCRVAs inform the updating/ revision of existing provincial CCRSs and, subsequently, this updated Action Plan. In the Eastern Cape

Province, the DEA has collaborated with the mandated department, the Eastern Cape Department of Economic Development, Environmental Affairs and Tourism (DEDEAT), to support the updating and revision of 2011 Eastern Cape Climate Change Response Strategy (ECCCRS 2011).

Following from strategic cues provided by relevant national policies, particularly the National Climate Change Response Policy (NCCRP) (DEA, 2011), climate change adaptation planning and implementation in the Eastern Cape is directed by a number of provincial documents.

1.1. The Eastern Cape Context for climate change adaptation

The Eastern Cape Climate Change Response Strategy (ECCCRS) is an extensive document that includes the provincial CCRVA as well as the CCRS (addressing adaptation and mitigation) (DEDEAT, 2011). The process of updating the CCRVA and the revision of the adaptation component of the CCRS has culminated into this draft Adaptation Action Plan. This draft Action Plan builds on a six-month process, detailed in section 2.1 below, and was run by a project team from the University of Cape Town (UCT). The objective of the Action Plan is to provide an updated roadmap, guiding the way towards an improved state of readiness to respond to climate change in the Eastern Cape, by recommending sectoral programmes of action which can be taken forward immediately to strengthen adaptive capacity and reduce climate sensitivities and exposures.

Beyond the ECCCRS, the Eastern Cape's focus has mainly been on mitigation and sustainable energy production. This has resulted in the development of plans including the Provincial Bioenergy Implementation Support Plan (2015) and the Eastern Cape Sustainable Energy Strategy (2012). In terms of climate change adaptation, as is the focus of this Action Plan, the only explicit adaptation planning beyond the ECCCRS has been at the municipal scale, including the development of a CCRS for Alfred Nzo District Municipality (2015), in which there is extensive adaptation focus.

The Eastern Cape is a province of contrast and diversity. Proximity to the ocean, extensive mountain ranges and altitude variations makes for a diverse climate, resulting in a diversity of natural resource availability and production potential. Differential socio-economic infrastructure development, directly linked to the Apartheid Government's spatial planning policies, is further evident. While a tool for segregation, the Apartheid Government's spatial planning was also planned along resource availability and production potential, confining large parts of the population to the most resource poor and less productive areas of the province. As such, a spatial divide is apparent, between the well-developed and functioning socio-economic infrastructure of the west, and the lack thereof to the east. Accordingly,

areas of high vulnerability are largely, though not exclusively, concentrated to the eastern and north-eastern parts of the province. Aspects found to drive the high vulnerabilities identified include lack of access to basic services such as water, sanitation and electricity, coupled with high population densities, low local government expenditure and low governance capacity. Exposure is a further driver of vulnerability in the province, with low-lying coastal areas exposed to sea-level rise and storm surge, and areas experiencing frequent fire and flooding and a potential increase in the prevalence of malaria.

The climatic gradients are apparent across the province, from the east to the west and coastal to inland. This includes a transition from some winter rainfall to predominantly summer rainfall, yet with some areas experiencing all year-round rainfall. Low temperatures, hovering around 0°C during winter months, can be experienced at high altitudes, with snow not an unusual occurrence in some areas. In contrast, low lying coastal areas can experience average winter temperatures more than 10°C warmer.

While a lack of long-term homogeneous time series data prevents the performance of an extensive analysis of trends, existing temperature records show consistent warming trends. Temperature increases of about 2°C per century have been detected over the western interior of the province over the 1931-2015 period - more than twice the global rate of temperature increase. Temperature trends exhibit consistent warming of daytime maximum, and, though less consistently so, increases in night-time minimum temperatures. Warm nights have increased and cold nights have decreased. There has also been a significant trend towards a reduction in the annual maximum lengths of cold spells in the province.

Rainfall trends over the last 50 years are somewhat unclear. Annual rainfall totals show statistically significant increases over the western interior parts of the province, with associated increases in extreme daily rainfall events. The positive trends in annual rainfall totals over the western interior is reflected mostly in the summer rainfall trends, which is the main rainfall season for this region. There have also been significant increases occurring in very high daily rainfall totals, mainly in summer, in the western interior. Possible decreases in wet days in summer have been detected in the north east, while there are indications of increasing dry spell duration in the interior regions.

Sea-level rise at a rate of 15cm per century has been measured along the Cape south coast region, with rates found to increase towards the east. Sea-level rise projections are not yet available specifically for the Eastern Cape coastline, however it is worth noting that even a modest increase in oceanic wind speed would in itself have great implications for wave height and wave power.

Climate change projections indicate a continuation of the warming trend in the Eastern Cape

into the future, and while rainfall variability is very likely to increase the direction and amount of rainfall change cannot yet be projected with confidence (DEA, 2016b). The LTAS study showed that in Zone 5, the Eastern Cape, there is potential for both increases and decreases in rainfall (DEA, 2015). However, zone 5 represents the area of transition between the summer and winter rainfall regions, and as such is likely the area of greatest projection uncertainty. More intense rainfall events in the northern parts of province, as well as on the coastal plains and mountains, are a possibility, however cannot be projected with certainty.

Changes in basic climate parameters impact physical and chemical processes, with implications for ecosystem services and production and consequently for social and economic systems. For example, changing rainfall patterns and increasing temperatures, and thus changes in climate envelopes for biomes, are expected to lead to fundamental spatial shifts and changes in the biomes in the Eastern Cape. Biome shifts are set to change the hydrological properties of catchments, as well as fire regimes, as woody biomass responds and alters the fuel load. The changes could also have potentially cascading effects through ecosystems, altering the benefits that people derive from ecosystems, including clean water, wood products and food. Shifting biomes, as well as the direct impact of more variable and potentially more intense rainfall, could impact the productivity of grazing lands, many of which are already degraded and thus highly susceptible to further erosion. With the livestock sub-sector accounting for about 70% of the provincial agricultural income, climate change impacts on the livestock sub-sector may lead to loss of income and food security.

Reducing the impacts of climate change in Eastern Cape, from the biophysical impacts through to the social and economic impacts, requires reducing sensitivities to climate and, where possible, exposure. It further requires emphasis on strengthening adaptive capacity, the ability of to adjust to damage, take advantage of opportunities or respond to consequences (IPCC, 2014). In the Eastern Cape aspects identified as important for strengthening adaptive capacity include improved communication and information flow from provincial to municipal level and the allocation of budgets and skilled staff for mainstreaming adaptation, as well as focus on building understanding and awareness of climate change across scales and sectors and the strengthening of coordination of activities across sectors to avoid duplication.

A critical aspect of this draft Action Plan is to address the province specific vulnerabilities touched upon above, and providing the starting point for programmes of action that reduce climate sensitivities and exposures and strengthen adaptive capacity in the Eastern Cape.

2. Approach

2.1 The foundation of the Action Plan- summary of preceding work phases

The development of this draft Action Plan was preceded by two phases of work. A sectoral approach was chosen for the two work phases in order to better align with the current approach in ongoing national and local government planning processes, including the National Adaptation Strategy (in draft) and the Local Climate Change Support Programme (in process).

First, the risk and vulnerability assessment component of the 2011 Eastern Cape Climate Change Response Strategy (ECCCRS) (DEDEAT, 2011) was reviewed and updated, through focus on climate change trends and projections and the review of climate change risks, impacts & vulnerabilities. Second, recommendations were developed for the consolidation and updating of the adaptation component of the CCRS. This was done through the assessment of provincial adaptive capacity and the identification of priority adaptation focus areas for nine key adaptation sectors. The two work phases resulted in extensive reports,¹ and the process for developing this draft Action Plan is thus grounded in the outputs/outcomes of the two phases.

2.1.1 Summary of the process for reviewing and updating of the CCRVA

The updating of the risk and vulnerability assessment components of the ECCCRS (DEDEAT, 2011) was completed through a combination of desktop research and a participatory voting and risk ranking exercise conducted at a provincial stakeholder workshop in November 2016. The central outputs presented in the resulting report were the updated climate change trends and projections for the Eastern Cape and 33 priority climate change impacts for the province, across nine sectors. In addition, based on a request from the province, the report put emphasis on 'first to fourth order' impact chains, using examples on shifting biomes, changing rangelands and agriculture/food security and changing hydrological processes and water-related service delivery.

The updated climate change trends and projections were initially based on the latest science as presented in the draft Third National Communication (TNC) (DEA, 2016b). The ECCCRS (DEDEAT, 2011) was used as a starting point from which a list of impacts was compiled. Province relevant impacts presented in key documents published since 2011 were then added. The key documents included national climate change response plans, strategies and communications, Long Term Adaptation Scenarios (LTAS) reports, national sectoral climate change response plans, selected research reports, and selected provincial and municipal

¹ These can be accessed by contacting Lyndon Mardon at DEDEAT (Lyndon.Mardon@dedea.gov.za)

policies, strategies, frameworks and plans, including the Alfred Nzo District Municipality Climate Change Response Strategy (2015). This review led to the identification of a total of 240 impacts, organised according to sectors.

The updated climate change trends and projections, and the list of 240 climate change impacts across 13 sectors, were taken into the stakeholder workshop in November 2016. Through a participatory exercise, participants conducted a voting and risk ranking exercise that led to the prioritisation of impacts per sector. The impacts were brought down to a final list of 33 high priority impacts by the setting of a cut-off at impacts that received four votes or more and high/medium risk ranking. Four sectors, namely Mining, Energy, Forestry and Fisheries, did not have any impacts with high risk and four votes or more, and were excluded from further consideration. The 33 high priority impacts were thus spread across the following nine sectors: Biodiversity and ecosystems, Disaster risk management, Marine and Coastal Zones, Agriculture and food security, Water resources, Human health, Human settlements, Transport & Infrastructure and Industry and Manufacturing. The findings were presented in a comprehensive report. The specified nine key adaptation sectors and the priority climate change impacts were taken forward in the following work phase, which provided recommendations for the consolidation and updating of the adaptation component of the ECCCRS (DEDEAT, 2011).

2.1.2 Summary of the process for consolidating and updating the CCRS

This phase was completed through a combination of desktop research and participatory exercises conducted at the provincial stakeholder workshop held in November 2016. The main outputs presented in the resulting report were proposed key adaptation focus areas for the nine specified key adaptation sectors, and related provincial capacity constraints.

The starting point for the update of the ECCCRS (DEDEAT, 2011) was a desktop review, where information on adaptive capacity and adaptation options in the ECCCRS and other relevant national documents published since 2011 were assessed. The aim of the desktop review on adaptive capacity was to identify preliminary information regarding the existing capacity to plan and implement adequate adaptation responses in the province, and served to inform the preparation of a survey that was distributed to representatives present at the stakeholder workshop.

The aim of the desktop review on adaptation was to get an overview of the sectoral adaptation options identified in the ECCCRS and to highlight additional province relevant adaptation options identified in the more recent national policy development processes. This resulted in an extensive list of sector specific adaptation options for the nine key adaptation sectors specified in the previous work phase.

The list of sectoral adaptation options was taken into the stakeholder workshop, where participants were tasked with prioritising sectoral adaptation options for the province, guided by a set of criteria.

Analysis of the outputs of the participatory exercise and the data generated from the survey on adaptive capacity resulted in a comprehensive report which reports on the usefulness of the existing ECCCRS, makes suggestions for improving the strategy, as well as highlights initial priority adaptation options per sector; and sectoral adaptation recommendations thereof.

These recommendations were taken into this final work phase, as detailed below, and thus informed the development of this draft Action Plan.

2.2 The process of developing the Action Plan

In addition to the two work phases described above (the updating of CCRVA and the consolidation and updating of the adaptation component of the CCRS), the development of the draft Action Plan was informed by a second provincial stakeholder workshop that took place in March 2017.

The workshop participants were drawn from a range of provincial sector departments and other provincial institutions, local government (municipalities), sector, civil society and academia. Quite a few of the attendees had participated in the first workshop which took place in November 2016 as part of the preceding work phases. (The list of participants can be found in appendix 1). These stakeholders are critical for the population of the draft Action Plan, as they are well suited in identifying priority adaptation programmes and corresponding actions for their respective sectors.

2.3 Stakeholder Workshop

2.3.1 Preparing for stakeholder engagement

Two sets of participatory stakeholder workshops formed an essential part of the project. The first set of workshops (Gauteng, KwaZulu-Natal and Eastern Cape) took place in November 2016 and covered both Phase 2 and Phase 3. The second set of workshops took place in March 2017 and were held in all four provinces, focusing on the work of Phase 4.

The workshop participants were drawn from a range of provincial sector departments and other provincial institutions, local government (municipalities), key national sector departments (e.g. Department of Water and Sanitation), private sector, civil society and academia. The stakeholders played an important role in the co-production of outputs and validation of climate change risks/vulnerabilities, adaptation options and strategy, and priority actions. Their contributions were merged with the desktop analysis for the finalisation of the

outputs of each phase. The second workshop validated the outputs of phases 2 and 3 and tried to further increase the necessary buy-in and ownership.

In preparation for the stakeholder workshop specific outputs from the previous phases of work were reviewed by the research team. The aim was to compile a list of four to eight potential adaptation programmes for each of the nine key adaptation sectors. The project team further prepared a matrix framework for the draft Action Plan, outlining the details required for implementation. As per the matrix framework each adaptation programme needed to be broken down into a number of actions, and for each action details on the time frame for implementation, the actor(s) leading and supporting the implementation, the scale and, if applicable, exact location, of implementation, and an indicative budget needed to be specified. In addition, for each programme overarching barriers and enablers would be identified. The specification of barriers and enablers was intended to allow the implementers to leverage existing enablers to achieve the programme's activities, and to design activities to avoid or reduce the barriers that may impede progress towards successful activities. In order to identify areas where cross-sectoral collaboration and coordination is required, the identification of cross-cutting factors for each programme were also encouraged.

As a last step prior to the workshop, this list of sectoral adaptation programmes was shared with the provincial focal points for refinement, and lastly collated into a final list from which the stakeholders would select two programmes to be discussed and expanded on in the workshop.

2.3.2 Stakeholder engagement

The stakeholders represented most of the sectors identified by the delegates and were grouped accordingly for the activity. It was apparent that for this workshop it was more valuable to have, decision makers present, and especially those from the government departments who would be responsible for implementation. Unfortunately, this was not always possible.

The key task for participants at the stakeholder workshop in March 2017 was to identify two priority adaptation programmes per sector and to populate the matrices of the draft Action Plan accordingly. This was done by working in groups per sector, with participants asked to work with the sector they felt most qualified to represent. This resulted in a fairly good distribution of participants across eight of the nine sectors. However, some sectors (e.g. the disaster risk management sector) were better represented than others (e.g. the water resources sector). This is a weakness of the process and the focal point is reminded that more stakeholder engagement is required as the action plan is further developed and implemented.

There was no one present to represent the Industry and Manufacturing sector, and therefore this sector and respective matrix had to be left out and should thus be taken forward in future engagements between the provincial focal point and key role players in the Industry and Manufacturing sector.

2.3.3 Reviewing and finalising the draft matrices

The completed sector matrices were collated and reviewed by the project team, after which the provincial focal points circulated them among their reviewers and returned them to the project team with revisions and comments. The final draft product is presented in section three of this report, and forms the basis from which the final Action Plan for the province will be developed further and implemented.

The provincial focal point, based at the Department of Economic development and Environmental Planning was instrumental in guiding the process, from the invitation of stakeholders right through to the approval of the prioritised sectors that were to be included in the workshop activity, and thus in the draft Action Plan. The mandate for the consultant team was to work with the focal person throughout the process, in consultation with DEA national in developing the final output.

It will be reiterated later in this report how important the focal point is in driving the process forward, but at this juncture it must be said that the focal point, in this case, seemed to lack the required human and financial resource capacity to implement many of the actions. This is not necessarily a recipe for failure as the opportunity for identification and involvement of other role players within the Action Plan was one of the intentions of the process.

3. Population of the Programme Activities matrix

3.1 Sectors and Implementation matrices:

The previous workshop had prioritised sectors and identified response actions. Within each sector there were about 6-8 pre-prioritised actions listed. At the second workshop the use of specific criteria was applied to select the most important adaptation response options that would become specific programmes for which activities would be suggested.

From each of the 9 critical sectors it was recommended to select 2 for the workshop activity. The criteria for selection appear below.

Eastern Cape critical sectors:

1. Biodiversity and Ecosystems

2. Human settlements
3. Disaster Risk Management (DRM)
4. Water resources
5. Agriculture and Food Security
6. Human Health
7. Coastal and Marine zones
8. Transport and Public Infrastructure
9. Manufacturing

Criteria for selecting adaptation response actions:

1. The extent to which the intervention is expected to reduce climate change risks
2. The cost of implementation: extent of capital expenditure and operational expenditure
3. The co-benefits: to what degree is the intervention likely to contribute to other outcomes
4. The ease of implementation to available capacity (managerial/technical/financial)
5. It should not have perverse (unintended negative) consequences

The selection defined the Adaptation PROGRAMMES, for which activities were drawn up for the ACTION PLAN

3.2 Programmes/barriers/enablers

The programmes that were identified and prioritised for each sector form the basis of the Action Plan. While the selected programmes for the workshop may or may not be the most urgent or most suitable they were prioritised on the basis of the criteria. There would need to be more such programmes added to the Action Plan by the relevant stakeholders and organisations in the future and the guidelines in this document would serve to assist that process.

For each programme that was drawn up in a particular sector, the participants were asked to identify specific enablers and barriers that would impact on the realisation of the programme. These would be used to allow the implementers to leverage existing enablers to achieve the programme's activities, and to design activities to avoid or reduce the barriers that may impede progress towards successful activities.

While many of the barriers and enablers were specific to the sectors and programmes there were some that were fairly common to all sectors and provinces. These included:

Enablers: existing skills and knowledge; legislation and policy; willing participants

Barriers: Lack of resources, human and financial; lack of political will at high level

These provided a thoughtful consideration for the development of activities that would lead the provincial responses into the future.

For each adaptation Programme identified above, the participants were asked to:

- Identify an ACTIVITY that will be a practical and feasible step towards achieving the programme
- Identify the applicable start to finish time frame. (S 1-2y, M 3-5y, L >5y)
- Identify who would be the LEAD and SUPPORT institutions?
- Agree where would this take place, or at what scale?
- Give a general budget framework (S < R500k; M R500k - R5m; L >R5m)

3.3 Programme Matrices

SECTOR: DISASTER RISK MANAGEMENT

PROGRAMME 1: Strengthen mechanisms for cooperation and coordination with human settlements, agriculture, transport and public infrastructure sectors

BARRIERS: Inconsistency in attendance of fora meetings; Poor representation of province at province and district and local level; No advisory forums at local municipalities

ENABLERS: Disaster Management Advisory Fora at Provincial and District Level; Established LTIS quarterly

CROSS-CUTTING: Not specified

	ACTIVITIES	TIME FRAME	LEAD/SUPPORT INSTITUTION	SCALE/ LOCATION	BUDGET
1.1	Establish Climate Change task team (Provincial and District) for Disaster Management	Short	LEAD: PDMC SUPPORT: All Districts, research institutions, sector, national, civil protection units (e.g. SAPS, Emergency), Red Cross	Province (comprising representatives from each of the district municipalities' task teams on disaster management)	Small

TIME FRAMES
Short - 1-2 years
Medium - 3-5 years
Long >5 years

BUDGET
Small < R500k
Medium - R500k- R5m
High > R5m

NOTES:

1. The list of sectors must not be limited to the ones highlighted – Comment from participant.

SECTOR: DISASTER RISK MANAGEMENT

PROGRAMME 2: Raise awareness among line departments and municipalities through the dissemination of best practice case studies highlighting the benefits and effectiveness of the risk reduction measures with respect to the core business and services. Municipalities will cascade information to communities.

BARRIERS: Inadequate funding

ENABLERS: Data on disaster management incidents exists; Human capacity; The skill set and experience of conducting awareness raising activities

CROSS-CUTTING: Not specified

	ACTIVITIES	TIME FRAME	LEAD/SUPPORT INSTITUTION	SCALE/ LOCATION	BUDGET
2.1	Develop integrated awareness programmes - Identify topics/subject - Plan the roll out of the matter programme including logistics, roles and responsibilities, timeframes, write up the content, target audience	Short	Lead: PDMC and HOC (Head of Disaster Centre) Support: Affected sector departments, community leaders (political and traditional)	Provincial	Small
2.2	Develop a specific template for each sector to document best practice case studies	Short	Sector Department and PDMC	Provincial (most of the functions sit at the provincial level)	Small

NOTES:

1. Activity 1.2 Suggest that these case studies are incorporated into the awareness programme (1.1) - e.g. "...to document best practice case studies for integration into awareness programme"

SECTOR: HUMAN HEALTH

PROGRAMME 1 Design and implement targeted awareness campaigns on climate change-related health risks and preventative measures, tailored for specific regions and communities.

BARRIERS: Working in silos; Lack of capacity; Lack of research

ENABLERS: Tools and Guidelines exist; Existing partnerships (Private and Public)"

CROSS-CUTTING: Department of Social Development

	ACTIVITIES	TIME FRAME	LEAD/SUPPORT INSTITUTION	SCALE/ LOCATION	BUDGET
1.1	Assess data available for awareness campaign and initiate research to address gaps identified	Short	LEAD: DEDEAT, Department Health SUPPORT: Academic institutions Department Social Development DEA	Provincial	Medium
1.2	Conduct awareness campaign around relevant current climate change health risk	Ongoing	LEAD: Department Social Development Department Health SUPPORT: DEDEAT, DEA	Provincial	Medium

TIME FRAMES
Short - 1-2 years
Medium - 3-5 years
Long >5 years

BUDGET
Small < R500k
Medium - R500k- R5m
High > R5m

NOTES:

Not specified

SECTOR: HUMAN HEALTH

PROGRAMME 2: Strengthen relevant components of public health infrastructure in vulnerable communities to address climate change related health risks

BARRIERS: Lack of sufficient budget; Lack of capacity

ENABLERS: Willingness to address climate change impacts

CROSS-CUTTING: Department of Social Development; Department Health

	ACTIVITIES	TIME FRAME	LEAD/SUPPORT INSTITUTION	SCALE/ LOCATION	BUDGET
2.1	Assess by consulting health experts, which public health components are most important to address Climate Change health risks	Medium	LEAD: DEPARTMENT OF HEALTH SUPPORT: DEDEAT Academic institutions	Whole province	Medium
2.2	Strengthen the components identified in 2.1				

TIME FRAMES
Short - 1-2 years
Medium - 3-5 years
Long >5 years

BUDGET
Small < R500k
Medium - R500k- R5m
High > R5m

NOTES:

1. Activity 2.2 was raised afterwards and not discussed in the workshop

SECTOR: WATER RESOURCES

PROGRAMME 1: Strengthen conservation and water demand management at municipal level through systematic monitoring and awareness campaigns amongst all users

BARRIERS: Roles and responsibilities, Implementation tools and guidelines

ENABLERS: Strengthen governance and mandates of NWRS, NWA would be enabling

CROSS-CUTTING: All sectors especially Agric, H Settlements, H Health, Economic, Transport & Infrastructure, Mining, Biodiversity & Ecosystems, Planning, DRDLR

	ACTIVITIES	TIME FRAME	LEAD/SUPPORT INSTITUTION	SCALE/ LOCATION	BUDGET
1.1	Review the governance, roles & responsibilities for water sector	Short	DWS COGTA Human Settlements Private sector	National Provincial Local	Medium
1.2	Develop awareness campaigns on Climate Change, Water Conservation & Water loss (leaks & repairs)	Short/Medium/ Long	DWS, DAFF, Education, SAWS, Private sector, WRC, COGTA, DRDLR, Department of Communication, SABC, ENCA, Nat. Geog. - Water houses	National Provincial Local Gov	High
1.3	Develop monitoring tools where Municipalities monitor and report on monthly summaries of daily water use, water balance within their distribution, Revenue & non-revenue water and un-accounted for water (leaks),	Short/Medium/ Long	DWS, DAFF, Education, SAWS, Private sector, WRC, COGTA, DRDLR, Department of Communication, SABC, ENCA, Nat. Geog. - Water houses	National Provincial Local Gov	High
1.4	Develop and implement a Leak Repairs “find & fix” programme				

TIME FRAMES
Short - 1-2 years
Medium - 3-5 years
Long >5 years

BUDGET
Small < R500k
Medium - R500k- R5m
High > R5m

NOTES:

1. Activity 1.4 Was not discussed at the workshop.
2. The LEAD/SUPPORT institutions were not clearly differentiated

SECTOR: WATER RESOURCES

PROGRAMME 2: Diversify water sources (e.g. rain water harvesting, utilisation of grey water)

BARRIERS: Lack of research framework and agenda; Lack of skills and capacity

ENABLERS: Research and technology development; Skills and development

CROSS CUTTING: Key water sectors, including DAFF, research institutions, DST

	ACTIVITIES	TIME FRAME	LEAD/SUPPORT INSTITUTION	SCALE/ LOCATION	BUDGET
2.1	Conduct research on the rain harvesting technology and feasibility: Skills development & training	Medium	DWS DST DoE	Provincial Local Municipalities	High
2.2	Assess the utilisation of grey water and its potential	Long	DWS DST Local Gov - COGTA	DWS Province Local	High
2.3	Assess reliability of current water schemes, identify areas of high risk, Propose pilot projects.				

TIME FRAMES
Short - 1-2 years
Medium - 3-5 years
Long >5 years

BUDGET
Small < R500k
Medium - R500k- R5m
High > R5m

NOTES:

1. Diversified water sources are far more robust than single sources - This includes a combination of Ground Water, surface water (run-of -river scheme, storage dam, regional schemes), but also the smaller "back -up" options of rainwater harvesting, recycling and desalination. However, this requires extra funding and can we really afford a back-up scheme, when we still have current backlogs? i.e. communities with no water services at all! (COMMENT from Focal Point)
2. In Activity 2.1 What is the skills development and training aimed at? Possibly add "skills development and training" as a separate activity, and expand what the training will be focused on

SECTOR: BIODIVERSITY AND ECOSYSTEMS

PROGRAMME 1: Integrate biome-specific climate change adaptation measures into municipal Climate Change Response Strategies (CCRS), IDPs and spatial planning, as well as into Community-based Adaptation (CbA) and Ecosystem -based Adaptation (EbA) projects

BARRIERS: Lack of Prioritisation by political office bearers and traditional office bearers; Funding; Champions; Knowledge and how to access it

ENABLERS: Sympathetic lead agent; Experience; Cooperative governance; EASTERN CAPE biodiversity and Action Plan

CROSS CUTTING: DRDAR; Agriculture; Municipalities; DEA; COGTA; Traditional Leaders; ECPTA; DAFF; Universities SANBI

	ACTIVITIES	TIME FRAME	LEAD/SUPPORT INSTITUTION	SCALE/ LOCATION	BUDGET
1.1	Review current plans and determine what Climate Change information exists in/for each plan and biome	Short	DEDEAT	Biome/Provincial/ Municipal	Small
1.2	Map municipalities and biomes within the geographical areas (refer to ECBAP)	Short	DEDEAT	Biome/Provincial/ Municipal	Small
1.3	Design Awareness and capacity development campaigns	Medium	DEDEAT	municipal	Small
1.4	Adopt awareness and capacity development activities in IDPs				

TIME FRAMES
Short - 1-2 years
Medium - 3-5 years
Long >5 years

BUDGET
Small < R500k
Medium - R500k- R5m
High > R5m

NOTES:

1. Activity 1.3 requires more detail
2. Activity 1.4 would flow out of 1.3 – Not Discussed at the workshop

SECTOR: BIODIVERSITY AND ECOSYSTEMS

PROGRAMME 2: Strengthen partnerships and measures to monitor and control invasion of alien vegetation, overharvesting and overgrazing in the province's biomes for improved delivery of ecosystem services

BARRIERS: Lack of Prioritisation by political office bearers and traditional office bearers; Funding; Champions; Knowledge and how to access it

ENABLERS: Sympathetic lead agent; Experience; Cooperative governance; Eastern Cape biodiversity and Action Plan

CROSS CUTTING: DRDAR; Agriculture; Municipalities; DEA; COGTA; Traditional Leaders; ECPTA; DAFF; Universities SANBI

	ACTIVITIES	TIME FRAME	LEAD/SUPPORT INSTITUTION	SCALE/ LOCATION	BUDGET
2.1	Develop a monitoring plan for each biome and a control and eradication plan - IAS	Long	LEAD: DEDEAT SUPPORT: Other cross cutting institutions	Biome level	High
2.2	Resourcing and implementation of monitoring plan for each biome - pilot projects	Long	DEDEAT	Municipal wards	High
2.3	Evaluate the pilots and revise the plans	Short	DEDEAT	Municipal wards	Small
2.4	Roll-out the project and integrate it into the IDP	Long ongoing	DEDEAT	provincial	High

TIME FRAMES
Short - 1-2 years
Medium - 3-5 years
Long >5 years

BUDGET
Small < R500k
Medium - R500k- R5m
High > R5m

NOTES:

1. Activity 2.2 needs more detail regarding the pilot projects

SECTOR: HUMAN SETTLEMENTS

PROGRAMME 1: Integrate climate change considerations into housing and land use planning (Disaster Risk Reduction and protection of agricultural conservation land) Inclusive of all land users, not just agriculture or housing.

BARRIERS: Lack of participation; Lack of commitment; Political will; Lack of information; Poor communication (IGR); Inadequate funding

ENABLERS: Effective IGR; Common vision; Adequate funding

CROSS CUTTING: All sector departments; Private sector; Municipalities; Traditional leaders

	ACTIVITIES	TIME FRAME	LEAD/SUPPORT INSTITUTION	SCALE/ LOCATION	BUDGET
1.1	Prepare and implement: Provincial Spatial Development Plan Municipal Spatial Development Plan Int. GIS Land use management schemes/ systems IDPs	Ongoing	LEAD: CoGTA SUPPORT: All sector departments, Municipalities (SDF's)	Province Municipalities	Medium - High

NOTES:

1. In 1.1 it should be specified that Climate Change considerations are included in each plan

TIME FRAMES
Short - 1-2 years
Medium - 3-5 years
Long >5 years

BUDGET
Small < R500k
Medium - R500k- R5m
High > R5m

SECTOR: HUMAN SETTLEMENTS

PROGRAMME 2: Design and develop climate resilient low cost urban/ rural settlements, incorporating green infrastructure measures

BARRIERS: Lack of participation; Lack of commitment; Political will; Lack of information; Poor communication (IGR); Inadequate funding; Lack of technology

ENABLERS: Effective IGR; Common vision; Adequate funding

CROSS CUTTING: All sector departments; Private sector; Municipalities; Traditional leaders

	ACTIVITIES	TIME FRAME	LEAD/SUPPORT INSTITUTION	SCALE/ LOCATION	BUDGET
2.1	Incorporating green infrastructure measures: energy efficiency, water harvesting, rooftop gardening, natural light	Ongoing	LEAD: DEA SUPPORT: CoGTA or Provincial Treasury Municipalities	Province and municipalities	Medium - High

TIME FRAMES
Short - 1-2 years
Medium - 3-5 years
Long >5 years

BUDGET
Small < R500k
Medium - R500k- R5m
High > R5m

NOTES:

1. Activity 2.1 needs more detail regarding the process to do this

SECTOR: TRANSPORT AND INFRASTRUCTURE

PROGRAMME 1: Build awareness of the effects of climate change on transport and public infrastructure among key role players in the sector

BARRIERS: Silo mentality within role players

ENABLERS: Provincial and municipal government structures; Tertiary institutions

CROSS CUTTING: All sectors

	ACTIVITIES	TIME FRAME	LEAD/SUPPORT INSTITUTION	SCALE/ LOCATION	BUDGET
1.1	Stakeholder Identification	Short	Provincial Government	Whole Eastern Cape Province	Small
1.2	Develop an approach	Short	Provincial Government and municipalities and tertiary institutions	Whole Eastern Cape Province	Small
1.3	Roll-out awareness	Medium	All stakeholders	Whole Eastern Cape Province	Medium

TIME FRAMES
Short - 1-2 years
Medium - 3-5 years
Long >5 years

BUDGET
Small < R500k
Medium - R500k- R5m
High > R5m

NOTES: Not specified

SECTOR: TRANSPORT AND INFRASTRUCTURE

PROGRAMME 2: Prioritise the consideration of climate change impacts in the development of new transport related infrastructure

BARRIERS: Established mindset; No regulatory framework

ENABLERS: Department of transport; Department of roads; Municipalities

CROSS CUTTING: All sectors

	ACTIVITIES	TIME FRAME	LEAD/SUPPORT INSTITUTION	SCALE/ LOCATION	BUDGET
2.1	Ensure climate change champions participate in transport project planning processes	Short	Executive authorities (province, municipalities)	Whole Province	Small
2.2	Greening procurement processes	Medium	National and provincial treasury	Whole Province	Medium
2.3	Monitoring	Long term and continuous	DEDEAT and AG	Whole Province	Medium

TIME FRAMES
Short - 1-2 years
Medium - 3-5 years
Long >5 years

BUDGET
Small < R500k
Medium - R500k- R5m
High > R5m

NOTES:

1. For 2.1, have the champions been identified/ do they exist? If not, that will need to be the first step.
2. In Activity 2.2 how will this be done? This needs more detail.

SECTOR: MARINE AND COASTAL ZONES

PROGRAMME 1: Map coastal land exposed to the risk of inundation and erosion, for inclusion in the national/provincial Risk Atlas

BARRIERS: Lack of political will; Legal issues- land owner challenges; resources - lack human and financial; Lack of awareness; Implementation is a low priority

ENABLERS: ICMA; EIA regulations; Provincial climate change (PCC); DMCC; NMBM - setback assessment; DEDEAT - coastal leadership

CROSS CUTTING: Water sector – sanitation; Agriculture; Biodiversity; Economic Development; Operation Phakisa; Coastal access

	ACTIVITIES	TIME FRAME	LEAD/SUPPORT INSTITUTION	SCALE/ LOCATION	BUDGET
1.1	Ensure national project (CSIR) is incorporated into EC and DM/LM spatial plans and CMPs	Small/Medium	LEAD: DEDEAT- coastal and EIA DEA - O+C DEDEAT - Economic Dev SUPPORT: District Municipalities and Metros	Whole province coastal zone	Small for local roll out

TIME FRAMES
Short - 1-2 years
Medium - 3-5 years
Long >5 years

BUDGET
Small < R500k
Medium - R500k- R5m
High > R5m

NOTES:

1. Activity needs more detail. Do the spatial plans already exist?

SECTOR: MARINE AND COASTAL ZONES

PROGRAMME 2: Strengthen the protection of coastal habitats/natural buffers (defences, dunes, forests, estuaries)

BARRIERS: Multiple sectors; conflict over economic development; Land tenure; Traditional land ownership/control; lack of cooperative governance

ENABLERS: Sector MOUs; Awareness of risks at local level; Various existing plans; Eastern Cape BCP review; Eastern Cape PSDF review; DM/LM spatial development frameworks; Eastern Cape coastal management programme; Local buy-in and consultation; awareness

CROSS CUTTING: Not specified

	ACTIVITIES	TIME FRAME	LEAD/SUPPORT INSTITUTION	SCALE/ LOCATION	BUDGET
2.1	Integrated coastal protection plans - cross sectoral - covering all habitats	Small	DEDEAT- coastal and EIA COGTA DEA - O+C DEDEAT - Economic Dev District Municipalities and Metros DAFF SANParks	Provincial and local DM and Metro	S

TIME FRAMES
Short - 1-2 years
Medium - 3-5 years
Long >5 years

BUDGET
Small < R500k
Medium - R500k- R5m
High > R5m

NOTES:

1. Do these plans need to be designed and implemented, or do they exist already? Activity needs a verb: develop integrated coastal protection plans (if they do not already exist)

SECTOR: AGRICULTURE AND FOOD SECURITY

PROGRAMME 1: Expand capacity in extension support to address climate related risks, especially to small scale farmers, incorporating climate smart, ecosystem-based approaches

BARRIERS: Lack of effective extension capacity in climate related information

ENABLERS: Institutions of higher learning; DRDAR; DEDEAT/DEA; Municipalities; Traditional leadership

CROSS CUTTING: Biodiversity; health all others

	ACTIVITIES	TIME FRAME	LEAD/SUPPORT INSTITUTION	SCALE/ LOCATION	BUDGET
1.1	Conduct workshops for various stakeholders on Climate Change issues	Long	LEAD: Universities Research Institutes SUPPORT: Municipalities NGOs	Province wide	Conduct workshops for various stakeholders on Climate Change issues
1.2	Learning/exchange programmes on best practices	Long	LEAD: Universities Research Institutes SUPPORT: Municipalities NGOs	Province wide	Learning/exchange programmes on best practices

TIME FRAMES
Short - 1-2 years
Medium - 3-5 years
Long >5 years

BUDGET
Small < R500k
Medium - R500k- R5m
High > R5m

NOTES:

1. These activities are closely linked and could be implemented together.

SECTOR: AGRICULTURE AND FOOD SECURITY

PROGRAMME 2: Strengthen sustainable rangeland farming through biome-specific Ecosystem based Adaptation (EbA) measures as well as appropriate incentives and enablers

BARRIERS: Finance; Access to land

ENABLERS: Traditional leaders; Government - ARC

CROSS CUTTING: Water; Biodiversity; DRM

	ACTIVITIES	TIME FRAME	LEAD/SUPPORT INSTITUTION	SCALE/ LOCATION	BUDGET
2.1	Scaling up of existing programmes	Short	LEAD: DWAS ARC COGTA DEA/DEDEAT SUPPORT: Department of Planning Department of Rural Development and Land Reform	Province wide	High
2.2	Conduct workshops and learner exchange programmes	Short	LEAD: DWS ARC COGTA DEA/DEDEAT SUPPORT: Department of Planning Department of Rural Development and Land Reform	Province wide	High

TIME FRAMES
Short - 1-2 years
Medium - 3-5 years
Long >5 years

BUDGET
Small < R500k
Medium - R500k- R5m
High > R5m

NOTES:

1. For 2.1 please include which programmes exist that can be scaled up - i.e. "Scaling up of existing programmes, such as..."
2. 2.2 a bit more detail here - learner exchange between who? Workshops for who?!

4. Recommendations

4.1 Extending the activities

It was never the intention of the workshop to produce a full action plan as the process should and would be a longer, evolving one. The stakeholder consultation would have to continue as activities are defined and drawn up. Some criticisms of the activities that were there were many focused on awareness raising and capacity building, and fewer on actual actions to deal with climate resilience. This may be due to participants feeling that they weren't qualified to stipulate what actions should be done, as they would not be implementing them. By increasing awareness and capacity it should lead to more motivation among decision-makers and the public to actually contribute to further activities, but it is also clear that immediate responses/actions are also required.

The manufacturing sector for the Eastern Cape was omitted during the workshop due to lack of representation. Subsequently the focal point has reported that their Economic Development colleagues would be approached to determine the issues which should be addressed in this sector. It was also stated in the workshop that the contributors to the health sector were not experts in this area. In such cases the programme activities need to be ratified and added to by the relevant stakeholders.

Description of activities:

Activities need to be action focused and specific. It is recommended that an activity addresses one definite aspect that will help to achieve the aim of the larger programme. Successive activities may be required to build on each other to approach the final result. For example, in some case it was suggested that a plan be implemented, but if it hasn't been designed, tested and possibly reinforced with a case study or pilot project, then rolling it out may be counterproductive as it then faces a higher risk of failure.

Many of the activities proposed for the various sectors in the E Cape lack the detail required to achieve the specific programme's aim. They need to be laid out in a stepwise fashion, with achievable and measurable outcomes. Often the activity contains a series of actions, with different time frames, scopes and budgets. It would be advisable to separate these into distinct activities.

Time frame:

The time it takes to perform an action may not be the total time required to see it to completion. Some activities may require a significant time to kick-start as the required personnel, resources may not be in place. This can lead to delays. A medium-term activity may also be in danger of overlapping office terms in a government context and this can also

cause delays. Longer term projects must consider that institutional memory will be required for sufficient follow through to completion. In all cases milestone-setting and monitoring needs to be put in place

Lead and support organisations:

These will be discussed in more detail below, but it must be borne in mind that although some departments may seem a natural fit for an activity, it may be that they lack the specific mandate and authority to act. In many cases this rests at a national level. A step towards a solution to resolving this difficulty is to initiate a dialogue between the different levels of government to facilitate decision making and authority roles and to find a common purpose towards achieving the required outcome. Support institutes may, in some cases, be considered as candidates for lead organisation, as they may well have the required capacity but lack the mandate. This could be ceded to them through contractual arrangements, for example. Where the programmes are cross-cutting it will require dialogue and discussion to determine how different departments and sectors can work together

Scale/Location:

Many activities apply to the municipal level. It may not be possible to roll them out to all municipalities unless a provincial policy demands it. If some municipalities are in more need of the activity than others they could be prioritised and act as pilot projects or case studies.

Budget:

It was agreed at a steering com meeting that the budgets could not be accurately presented at a stakeholder meeting as the required financial knowledge and cost estimations and experience was not available. The estimates here are to serve as a guide for implementing agencies. Departments and other institutions involved will be more suited to attaching realistic budgets.

As more activities are added to a programme, so it gains momentum and stands a better chance of success.

4.2 Exploring the lead and support institutions

Many activities are not allocated lead or support institutions, other than DEDEAT. This places the department in an unenviable position of having to approach other departments to take on activities. It would be helpful if this was discussed at inter-departmental level.

Where other institutions and organisations are nominated as obvious leads for the activities, such as Disaster Risk Management, it is essential that these departments/entities, if they were not represented at the workshop, be approached for their opinions and buy-in. In all

cases lead organisations should be directed towards these programmes and activities by a provincial authority, which could facilitate the handling of mandates, and human and financial resources.

For the Water, Agriculture and Marine and Coastal Management sectors numerous lead organisations were listed. This raises the risk of coordinating these organisations being an impossible task and it is suggested that one organisation take a leading role to facilitate the cooperation. Where national and provincial competencies both exert some mandate over a sector, the initiation and persistence of a dialogue between the different levels of government will facilitate decision-making and authority roles and assist to find a common purpose towards achieving the required outcome

Support organisations may be varied in their nature, resources and location, and their cooperation may significantly enhance the success of the activity. Wherever possible they should be encouraged to form part of the group of implementers and participate where their skills and expertise allow.

4.3 Role of Climate Change Climate Change fora and work groups

In some provinces, a Climate Change of one form or another exists. It may be a loose network of stakeholders that are in contact but do not meet regularly or it may be a statutory body that is required to meet. In all cases participants have agreed that unless the authority of such a forum is recognised and that it is, preferably, under the auspices of the Premier's office, it struggles to maintain momentum. Having a driving force behind it, aka 'a champion' has been shown to immeasurably increase its chance of success. The forum should be intricately involved in planning and management decisions where climate risk and impact is foreseen. The Action Plan for the province offers an ideal opportunity for a cohesive and structured forum to consult to and advise.

Clearly the forum could not be expected to focus on all the issues that may arise and this is where appropriate work groups are an advantage. They would be subsets of the forum and lead and support organisations that could focus on specific aspects where they have the required knowledge and/or skills to enable the activities within programmes to be best advised and implemented.

The Eastern Cape is fortunate to have a wide range of educational institutions and non-governmental organisations who could be drawn in to assist with these groups.

4.4 Stakeholder mapping

In many instances where environmental issues are dealt with in a regulatory, advisory or

management context the value of stakeholder mapping has been recognised as a significant. It is the process of identifying the individuals or groups that are likely to affect or be affected by a proposed action, and sorting them according to their impact on the action and the impact the action will have on them. It entails research into and identification of, all role players, decision-makers and interested parties whose skills, knowledge and/or mandate are applicable to the issue at hand.

This information is used to assess how the interests of those stakeholders should be addressed in a project plan, programme, or other action. In the case of this action plan it would be most useful to perform a stakeholder mapping exercise for each sector to identify the actors and the linkages between them.

Not only does this provide a database of stakeholders but it offers them the opportunity of being drawn into fora and work groups where their contributions could enable the success of the programmes (Mitchell et al., 1997).

5. Limitations

When applying the findings of this project, it is important to first acknowledge some of the limitations. These relate to the time and capacity constraints of the larger project (which included three other Provinces). For the updating of the climate change risks, impacts and vulnerability, no primary research was conducted, and the findings were based on existing documents and information, with a strong focus on a few central documents such as the LTAS reports and the draft TNC.

Additional activities, as they are added by the stakeholders, should be subjected to further study and discussion. While the department (or LEAD agency) may be best suited to populate the matrix for the activity wider consultation should be always be sought.

There remains a need to embed the programmes, where possible, in the existing work programmes, priorities and budgets of provincial line departments and municipalities. However, at the same time, strengthened and new partnerships between government, NGOs, CBOs and the private sector must continue to be part of the updated action plan to achieve the required outcomes at a more integrated systemic (and landscape) level (as envisioned in the current ECCRS).

Although only risks were prioritised in the process leading to the above results, there are also opportunities for the province linked to the possibility of unchanged or increased annual rainfall, and moderate temperature increases especially along the coast. With adaptation, primary production of ecosystems and agriculture is likely to remain good and

water resources should not become generally limiting. Adaptation should aim to both reduce risk and increase resilience, and seize opportunities which may arise for the province.

References

DEA (Department of Environmental Affairs), 2011. National Climate Change Response Policy (NCCRP). Department of Environmental Affairs, Government of the Republic of South Africa, Pretoria.

DEA (Department of Environmental Affairs), 2016a. South Africa National Adaptation Strategy (NAS). Draft for comments, submitted 16 September 2016. Department of Environmental Affairs, Government of the Republic of South Africa, Pretoria.

DEA (Department of Environmental Affairs), 2015. The Economics of Adaptation to Future Climates in South Africa. An integrated biophysical and economic analysis. Report No. 6 for the Long Term Adaptation Scenarios Flagship Research Programme (LTAS) Phase 2. Department of Environmental Affairs, Pretoria, Republic of South Africa.

DEA (Department of Environmental Affairs), 2016b. South Africa's Third National Communication (TNC) to the UNFCCC. Chapter 3: Draft version dated 10 October 2016. Department of Environmental Affairs, Government of the Republic of South Africa, Pretoria.

DEDEAT (Department of Economic Development and Environmental Affairs), 2011. Eastern Cape Climate Change Response Strategy. Prepared for: Province of the Eastern Cape Department of Economic Development and Environmental Affairs. Prepared by: Coastal & Environmental Services, East London.

IPCC, 2014: Annex II: Glossary [Mach, K.J., S. Planton and C. von Stechow (eds.)]. In: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, pp. 117-130.

Mitchell, R. K., Agle, B.R. and Wood, D.J. 1997. Toward a Theory of Stakeholder Identification and Salience: Defining the Principle of Who and What really Counts. In: Academy of Management Review 22(4): 853 - 888.

Appendix 1: Eastern Cape workshop participants



ATTENDANCE REGISTER

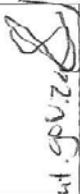
PROVINCIAL CLIMATE CHANGE SUPPORT PROGRAMME: PHASE 4 Review Support of Provincial Climate Change Response Strategies and the Development of Action Plans

DATE: THURSDAY 9 MARCH 2017

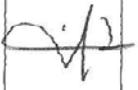
VENUE: East London International Convention Centre

	Name	Institution	Role/Position	Tel numbers	Email	Signature
1	Nadine Methner	(ACD1) UCT	Project Team	079 282 9316	n.methner@gizai.com	
2	Peter Johnston	CSAG UCT	Project Manager	083 3058582	peter@csag.uct.ac.za	
3	Bathabile Songxaba	DEDEAT	Ass. Manager NAM4CC	078 003 8150 043 6057193	bathabile.songxaba @dedea.gov.za	
4	P. MBIDA	EZDIT	ENGINEER	079 189 9975	Peter.Mbida@dt.ecprov. gov.za	

	Name	Institution	Role/Position	Tel numbers	Email	Signature
5	Ayaka Peter	ECPTA	Section Ranger	087 286 6516	ayaka.peter@ecpta.co.za	
6	Rose Julie	DEA:ILGS	LEDI	0459793165	RJULIE@ENVIRONMENT.GOV.ZA	
7	Katinka Waagsoethes	CSAG, UCT	Project Team		Katinka@CSAG.UCT.ac.za	
8	Lyndon Mardon	DEPEA	Manager	043 605 7128	lyndon.mardon@dedea.gov.za	
9	Zukile Mchlongo	ADM	DMO	043 783 2537	Zukilem@amsthde.gov.za	
10	Kulama Tinja	ADM	Senior DMO	082 547 1987	kulama@amsthde.gov.za	
11	Nampansa Lupetya	OPDM	Environment Officer	078 2171 333	n.lupetya@pinnacle.t.williams.ecogta.gov.za	
12	Dr. T. Mwanani	ECOGTA	DIRECTOR	098 539 129		
13	Phuliswa Tukusyo	DEA	OFFICER ENVIRONMENT	079 890 4339	Phuliswa@environment.gov.za	

	Name	Institution	Role/Position	Tel numbers	Email	Signature
14	ONESIMO Notubela	DEA	UGS	0755310411	0Notubela@environment.gov.za	
15	Dr Femi-Fakunde	UFH	Post Doc	0835499859	ffakunde@ufh.ac.za	
16	Lwando Zandile	Sqpm	DM	0810176575	lwandozandile@gmail.com	
17	Sholiswa Khehaya	DEA	Director: CCA	0722656747	sholiswa.khehaya@environment.gov.za	
18	LINDOKUHLE NDOHO	BCMM DISASTER	DM	043 743 7118	tracejk@buthlocality.gov.za	
19	Linda Mkhafji	BCMM DISASTER WGM	DM	0437637118	tracejk@buthlocality.gov.za	
20	NAMKEN ZIMWANA	DE-T DM	FVV MANAGEMENT	078 830 4224	namken@zimbabwe.gov.za	
21	Martin Chari	UFH RVSC	PhD student	0728020386	martinchari@gmail.com	
22	NICK HAMEX	ARMOR	PROJECT MANAGER	084 7723458	n.hamex@armora.com	

	Name	Institution	Role/Position	Tel numbers	Email	Signature
23	Nqobale Ngobas	ADM	Env. Research	043 701 4107	nqobale.nqobas@wale.gov.za	
24	ZANELE SHIBHELE	COSITA EC	CHIEF GIS Professional	040 6095 281 0798801589	Zanele.Shibhela@ eccogta.gov.za	
25	BONGANI MULO	ADM	ENVIRON MENTAL OFFICER	043 783 2337 063 5531 4096	bongani.mulo@ amethule.gov.za	
26	Tembela Bacela	Amechithi	Manager	043 653 5009	tbacela@amchithi. gov.za	
27	BOYISILE LUPHINDO	ADM	Director Management	043 701 4187	boyisile.luphindo@ amethule.gov.za	
28	Nadia Shah	GIZ	Adviser	012 423 7931	nadia.shah@giz. de	
29	PATRICK MOKO	IGDM	HOE	043 701 4137	patrick.moko@ amethule.gov.za	
30	Sheona Shibhela	Rhodes UNIV	HOD + researcher	082 884 4078	s.shibhela@ru. ac.za	
31	SIBABULLELA QATSIMI	ADM	DISASTER MANAGER	043 701 4043	sibabullela.qatsemi@ amethule.gov.za	

	Name	Institution	Role/Position	Tel numbers	Email	Signature
32	Siyasanga Luiswari	COATH EC	Chief Tokoo Regional Planner	040 609 5079	siyasanga.luiswari@ ecco.go.ke gov. zc	
33	Ayanda Kalwopi	Amathithi LM	Environment Management.	043 683 3058	akalwopi@amathithi.gov.zc	
34	Zina Petyi	Amathithi LM	DP-FMS Manager	043 683 5008 083 741 8189	Zbetyi@amathithi.gov.zc	
35	Nyandala Mabus	COATH EC	Reseller Management	084 500 3499	nyandala@amathithi.gov.zc	
36	G. Pienar	MENT EIM	Director EIM	082 458 4593	gerry.pienar@ alecea.gov.zc	
37	Leocadia Zhou	UFH	Director RAVAC	0827301106	Lzhou@ufh.ac.zc	
38	ANDREW MOTHA	DEA	CEO EO	012 399 9168	amotha@ environment.gov.zc	
39						
40						

Appendix 2: Eastern Cape workshop agenda



Agenda for 2nd Provincial workshop Eastern Cape: Provincial Plans Phase Four: Development of Action Plans

Date: 9 March 2017

Venue: East London International Convention Centre

VINCIAL CONSULTATIONS: Review Support of Provincial Climate Change Response Strategies and the Development of Action Plans		
	08:30-09:00	Arrival and registration - <i>tea and coffee served</i>
SESSION 1: Setting the scene	09:00-09:10	Opening and welcome (DEA)
	09:10-09:20	Provincial Focal point (EC)
	09:20-09:45	Introductions
	09:45-10:15	Workshop agenda, objectives & outcomes "What would a good IP look like?" Overview of the Phases II and III - Review of Sectors and Prioritised Adaptation options
SESSION 2: Adaptation Priorities Options to Actions Programmes and activities	10:15-10:25	Introduction to participatory activity
	10:25-10:50	<i>Tea and coffee break</i>
	10:50-11:10	Participatory activity: Priority Sectors: Developing Programmes
	11:10-12:00	Feedback from each sector (9x5min)
	12:00-13:00	Participatory activity: Programmes - Populate Activities Matrix, Include Barriers and Enablers
SESSION 3: Action Plan Detail	13:00-13:50	<i>Lunch break</i>
	13:50-14:05	Feedback and discussion, Cross cutting linkages. Barriers and enablers
	14:05-14:25	The way forward (UCT/EC)
	14:25-14:30	Closing (DEA)