KANNALAND
MUNISIPALITEIT / MUNICIPALITY

AIR QUALITY MANAGEMENT PLAN

2019

Kannaland Municipality
Address: 32 Church Street, Ladismith, 6655
Tel: +27 (0)28 551 1023 / **Fax:** +27 (0)28 551 1766
www.kannaland.gov.za

CONTENTS

ABBREVIATIONS AND DEFINITIONS

AEL	Atmospheric Emissions License
AQM	Air Quality Monitoring
AQMP	Air Quality Management Plan
AQO	Air Quality Officer
ARC	Agriculture Research Council
CCR	Climate Change Response
DEA & DP	Department of Environmental Affairs and Development Planning
DEFF	Department of Environment, Forestry and Fisheries
EIS	Electronic Information System
GHG	Greenhouse Gas
GRDM	Garden Route District Municipality
H_2S	Hydrogen Sulphide
IDP	Integrated Development Plan
mg/ton	Milligrams per ton
NAEIS	National Atmospheric Emission Inventory System
NEM:AQA	National Environmental Management: Air Quality Act, Act 39 of 2004 as amended
NO	Nitrogen Monoxide
NO_2	Nitrogen Dioxide
NOx	Nitrogen Oxides
PM10	Particulate Matter with aerodynamic diameter smaller than 10 micron
SAAQIS	South African Air Quality Information System
SAWS	South African Weather Service
SO_2	Sulphur Dioxide
SO_3	Sulphur Trioxide
THC	Total Hydrocarbon Content
tpa	Tons per Annum
TPM	Total Particulate Matter
WCG	Western Cape Government

EXECUTIVE SUMMARY

An Air Quality Management Plan (AQMP) was compiled for the Kannaland Municipality in 2012/13 as required by the National Environmental Management: Air Quality Act, 2004 as amended (NEM:AQA). As required by this Act, the AQMP must be reviewed and revised every 5 to 6 years. The Kannaland Municipality AQMP is aligned with the Garden Route District Municipality (GRDM) AQMP due to the requirements stipulated in NEM:AQA.

The 2012/13 version of the Kannaland Municipality AQMP was reviewed recently and revised to suit the changing environment within the region.

In this process an in-depth background study was carried out to assess the following:

- The degree to which the Kannaland Municipality complied with the 2012/13 version of the AQMP
- The status quo with respect to air quality management capabilities in the Kannaland Municipality
- Compilation of an extensive emissions inventory for the Kannaland Municipality, including the emissions of greenhouse gases
- A detailed dispersion modelling study aimed at understanding the air quality within the Kannaland Municipality
- The need for additional air quality monitoring and modelling capabilities within the Kannaland Municipality

The findings of these assessments are discussed in various progress reports which are available to the public on the Kannaland Municipality and GRDM websites. The individual reports are listed in References.

The vision and mission of the AQMP remain unchanged as:

VISION

TO HAVE AIR QUALITY WORTHY OF THE NAME "THE GARDEN ROUTE"

MISSION STATEMENT

TO MINIMISE THE IMPACT OF AIR POLLUTANT EMISSIONS ON THE POPULATION AND THE NATURAL ENVIRONMENT OF THE KANNALAND MUNICIPALITY AND TO MAINTAIN CLEAN AND HEALTHY AIR IN THE MUNICIPAL JURISDICTION

The WCG AQMP was revised in 2016 and forms the backbone of the newly revised Kannaland AQMP and its goals will be used to strengthen the Kannaland Municipality's air quality management performance over the next five years.

Within the WCG context, GRDM issued 21% of the total number of Atmospheric Emissions Licenses (AELs) and 18% of industry registered on National Atmospheric Emissions Inventory System (NAEIS) within the WCG, second only to the City of Cape Town (CCT).

Industry in the Kannaland Municipality includes, but is not limited to:

- Agriculture related industries

Within the Garden Route Districts context, the following apply to Kannaland:

- Kannaland covers the second largest area of the seven municipalities.
- Kannaland has the lowest population and population growth rate of the seven municipalities in the Garden Route district.
- Kannaland has the lowest level of industrial activities of the seven municipalities within the Garden Route district.

The degree to which the Kannaland Municipality complied with its 2012/13 AQMP is listed in the scorecard on the following page.

PERFORMANCE INDICATORS		
		
Good	Average	Poor

Key for Table 1

OBJECTIVE	STATUS
Objective 1: Set air quality goals	
Objective 2: Set up air quality management system	
Objective 3: Carry out risk assessments	No action was required for these objectives
Objective 4: Assess and select control measures	
Objective 5: Implement intervention and monitoring effectiveness	
Objective 6: Revise air quality goals	
Objective 7: Integrate the AQMP into the IDP	
Objective 8: Compliance monitoring, enforcement and control	
Objective 9: Review the AQMP	
Objective 10: Appoint an AQO	

Table 1: Compliance with 2012/13 AQMP

The second edition of Kannaland's AQMP provides insight into the state of air quality within the Kannaland area based on comprehensive dispersion modelling studies. No potential problem areas were identified in the Kannaland municipal area.

The Draft AQMP and all supporting documentation were made available to the public in general with an open invitation to submit comments on all aspects covered. A comprehensive report dealing with the public participation process is also available on GRDM's website.

1

INTRODUCTION

The World Health Organisation (WHO) estimated that 9 out of every 10 people globally do not have access to clean air. Furthermore, based on 2016 data, 4.2 million deaths annually were due to poor ambient air quality, and 3.8 million due to poor indoor air quality.

To improve air quality and reduce greenhouse gas emissions, the Department of Environment, Forestry and Fisheries published a number of regulations (listed in Annexure 1). The National Climate Change Response White Paper (DEFF, 2011), provides that South Africa will integrate climate change considerations into health sector plans to "reduce the incidence of respiratory diseases and improve air quality through reducing ambient particulate matter, ozone and sulphur dioxide concentrations by legislative and other measures to ensure full compliance with the National Ambient Air Quality Standards by 2020. In this regard, the use of legislative and other measures that also have the co-benefit of reducing greenhouse gas emissions will be prioritised".

In accordance with regulations, an Air Quality Management Plan was developed for Kannaland in 2012/13. This is the second edition of the AQMP and allows the Kannaland Municipality to:

- Compare performance to the previous and District Air Quality Management Plans
- Confirm current air quality
- Identify areas of concern
- Develop objectives to achieve over a five-year period

The vision and mission of the AQMP remain unchanged.

VISION

TO HAVE AIR QUALITY
WORTHY OF THE NAME
"THE GARDEN ROUTE"

MISSION STATEMENT

TO MINIMISE THE IMPACT OF AIR POLLUTANT EMISSIONS ON THE POPULATION AND THE NATURAL ENVIRONMENT OF THE KANNALAND MUNICIPALITY AND TO MAINTAIN CLEAN AND HEALTHY AIR IN THE MUNICIPAL JURISDICTION

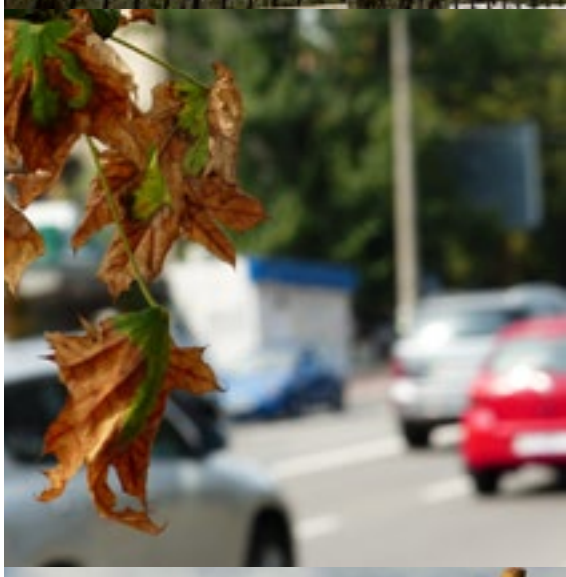
Kannaland covers the largest area of the seven municipalities within the Garden Route district, yet has the third lowest population. The Garden Route District is one of the most picturesque areas in the world and receives international acclaim. High tourist occupancy is experienced throughout the year. The District encompasses a very large area across seven municipalities and a variety of climatic conditions.

Primary economic activities in Kannaland are listed below:

- Agriculture and related activities

The Garden Route District Municipality, in collaboration with the seven municipalities in its region, appointed Lethabo Air Quality Specialists (Pty) Ltd (LAQS) to review all of the Air Quality Management Plans (AQMP) compiled in 2012/13 and to revise it if necessary.

LAQS carried out an extensive study in the Kannaland region to assess various aspects associated with air quality management and the findings were contained in various reports which are available on the Kannaland Municipality and GRDM's websites. Those reports, and LAQS's summarised findings, are discussed on the following page.



Progress Report 1

Compliance with the Existing Air Quality Management Plan

Hardly any of the goals set in the 2012/13 Kannaland AQMP were met.

Progress Report 2

Status Quo Assessment and Municipal Capacity

Industrial development within Kannaland remains low and air quality-related activities receive low priority. The Kannaland Municipality designated an air quality officer (AQO), but did not adopt the Air Quality Management Plan defined in 2012/13. The AQMP was not included it in the Integrated Development Plan. As such, no budget is allocated to air quality management.

Progress Report 3

Emissions Inventory

The emissions of various pollutants that occurred within the Garden Route district and specifically in the Kannaland Municipality during 2018 are given below. The air quality in Kannaland is regarded as good. For the sake of comparison emissions from two significant wildfire incidents were also estimated.

Progress Report 4

Assessment of Air Quality in the Kannaland Municipality

Comprehensive dispersion modelling was done to assess the general air quality within the region. This includes the Kannaland Municipality. No problem areas were identified in Kannaland during this process.

Progress Report 5

Monitoring and Modelling Requirements

The long-term monitoring of air pollutants in general is sufficient for the Kannaland region.

2

AIR QUALITY IN KANNALAND

LAQS compiled a detailed inventory of emissions that occurred within the Kannaland Municipal area during 2018 and the outcome is summarised in the table below. The following sources were assessed and included in the inventory:

- Industrial sources, including both licensed and unlicensed sources
- Residential emissions (use of fuel sources such as paraffin, coal and wood)
- Mobile emissions (vehicles)
- Municipal solid waste disposal
- Municipal waste water treatment plants
- Farm animals

The impact of the 2017 Knysna and 2018 Outeniqua fires was investigated. Based on available information and making use of general international emission factors, the estimated emissions during these two incidents are summarised below for comparison against the emissions inventory.

POLLUTANT	GRDM Inventory	Kannaland Inventory	Percentage of emissions contributing to GRDM	GRDM Fire Incidents	
				Knysna 2017	Outeniqua 2018
Total particulate matter	1 083	97	9%	19 889	46 968
Sulphur dioxide (SO_2)	982	123	12%	No reliable emission factors	
Nitrogen oxides (NOx)	4 464	188	4%	1 913	4 463
Carbon monoxide (CO)	3 797	143	4%	112 659	260 552
Carbon dioxide (CO_2)	1 598 444	58 751	4%	No reliable emission factors	
Total hydrocarbons (THC)	3 410	7	0,2%	4 983	11 840
Methane (CH_4)	16 566	1054	6%	5 631	13 175
Odorous compounds	55	0	0%	No reliable emission factors	

All figures are rounded off

Table 2: Summarised Emissions Inventory and Forest Fire Emissions, tons per annum

Within the GRDM context, the Kannaland Municipality has no licensed industries (AEL) and is a low contributor to emissions.

As can be seen from the comparative figures above, the emissions from the Outeniqua fire in 2018 exceeded the total emissions from all sources included in the emissions inventory. The difference lies in the duration of emissions. The forest fire emissions occurred over a relatively short period of time, numbered in days, whereas the emissions included in the emissions inventory occurred continuously throughout the year.

Health risk is based on dosage and time of exposure, i.e. a high dosage over a short period of time is as dangerous as a low dosage over an extended period of time. Community involvement and education is, therefore, of extreme importance. Developing strategies to avoid fires in general, and forest in particular, is imperative to ensure good air quality and promote health. These include preventative fire-breaks, burning of garden refuse, etc., but does not negate the need for industries and consumers to curb air pollution.

3

AREAS OF CONCERN

To date, Kannaland Municipality and GRDM reacted to complaints by the general public and thus identified areas of concern. Invariably this led to some form of air quality monitoring, typically using screening methods already in GRDM's possession.

A comprehensive dispersion modelling study was conducted after compilation of the emissions inventory for the Kannaland Municipality. The aim of the study was to determine if any others areas of concern existed outside the knowledge of both GRDM and Kannaland municipal personnel. The dispersion model did not identify any specific problem areas in the Kannaland municipal area, but future expansion of existing industries may result in odorous emissions that could lead to complaints from the general public.

4

AQMP GOALS AND OBJECTIVES

The following goals are recommended to the Kannaland Municipality to further improve the effectiveness of air quality management.

GOAL 1
Ensure effective and consistent air quality management

GOAL 2
Ensure effective and consistent compliance monitoring and enforcement

GOAL 3
Continually engage with stakeholders to raise awareness with respect to Air Quality Management (AQM) and Climate Change Response (CCR)

GOAL 4
Support AQM and CCR programmes, including promoting and facilitating the reduction of greenhouse gas emissions

The following goals and objectives are recommended to the Kannaland Municipality to further improve the effectiveness of air quality management.

GOAL 1
Ensure effective and consistent air quality management

Objective 1.1
Create awareness of the AQMP implications

While an AQMP was compiled for Kannaland in 2012/13, air quality management in the area is virtually non-existent as the AQMP was not included in the Kannaland Municipality's IDP. Furthermore, the Kannaland Municipality has not yet adopted a set of air pollution by-laws. Fortunately, no serious air quality issues exist as yet in Kannaland.

A concerted effort will be needed to create an awareness of air pollution and its risks to the population of Kannaland, especially those living in low-income areas, and to all role players within the municipal structure.

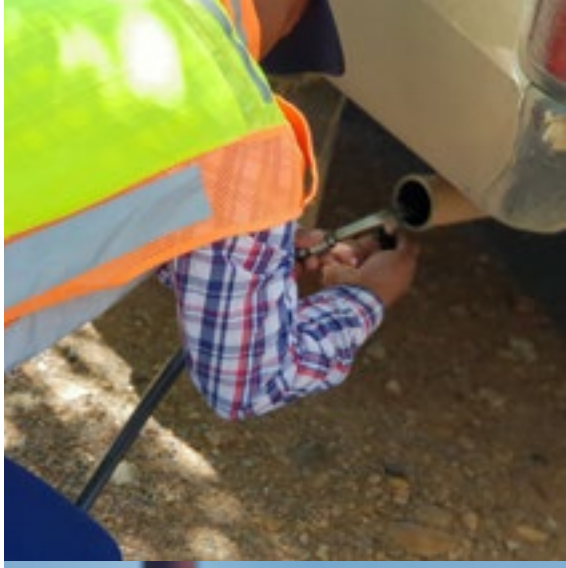
The following tasks are envisaged under this Objective:

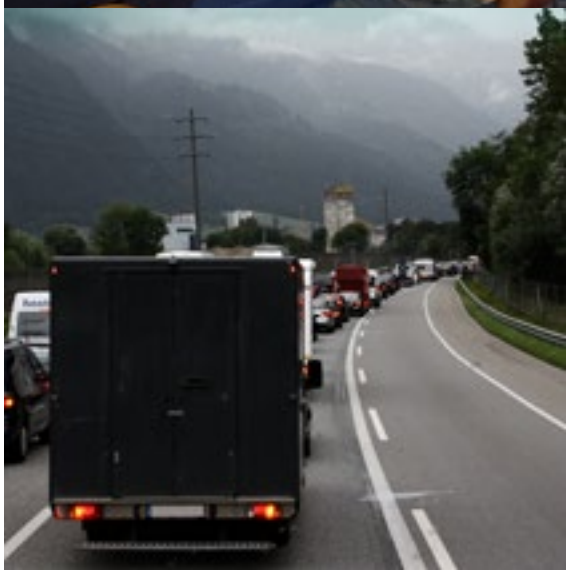
- Present the AQMP to the Kannaland Municipal Council for acceptance, approval and inclusion in the IDP.
- The AQMP must be workshopped with all municipal stakeholders, e.g. planning, traffic control, engineering, etc., to gain insight and buy-in so that all departments are aware of the need for proper air quality management input on all levels of development.

Objective 1.2
Promote cooperation amongst all spheres of municipal government

The National Framework for Air Quality Management in the Republic of South Africa (the National Framework), as published under Government Notice No. 1144 of 26 October 2018, underpins NEM:AQA by providing national norms and standards for air quality management to ensure compliance with legislation. The National Framework serves as the country's AQMP.

Paragraph 4.2 of the National Framework describes the duties and responsibilities on all levels of government involved with air quality management. Those activities that are regarded as the primary responsibilities of local municipalities are listed in the table on the following page.





SECTION NUMBER	TITLE	RESPONSIBILITIES
4.2.1	Information management	• Monitor ambient air quality and point, non-point and mobile source emissions.
4.2.3	Strategy development	• The development of Air Quality Management Plans as a component of integrated development plans as required by the Municipal Systems Act.
4.2.4	Standards setting	• The setting of municipal standards for emissions from point, non-point or mobile sources in the municipality in respect of identified substances or mixtures of substances in ambient air which, through ambient concentrations, bio-accumulation, deposition or in any other way, present a threat to health, well-being or the environment in the municipality.
4.2.8	Compliance monitoring	• Monitoring compliance with respect to reasonable steps to prevent the emission of any offensive odour caused by an activity, in terms of nuisance or disturbance matters. • Monitoring compliance in respect of noise caused by an activity, in terms of nuisance or disturbance matters. • Monitoring compliance with directives to submit an atmospheric impact report. • Monitoring compliance with the requirements of the National Dust Control Regulations. • Monitoring compliance with the emission standards set out for activities declared as controlled emitters in terms of Section 23 of the the NEM:AQA. • Monitoring compliance with the requirements of the National Dust Control Regulations for an activity, in terms of nuisance or disturbance matters.

Table 3: Primary Responsibilities of Local Municipalities

Although District Municipalities must comply with the above legislation, additional duties, as summarised in the next two pages, are added to their list of primary responsibilities.

SECTION NUMBER	TITLE	RESPONSIBILITIES
4.2.1	Information management	• Review emissions reports provided by industry in the NAEIS in line with AEL.
4.2.7	Authorisations	• Issuing of an Atmospheric Emission Licences. • Transferring of Provisional Atmospheric Emission Licence and Atmospheric Emission Licence if ownership of an activity for which a provisional atmospheric emission licence was issued is transferred. • Review of Provisional Atmospheric Emission Licence and Atmospheric Emission Licence at intervals specified in the licence, or when circumstances demand that a review is necessary. • Variation of Provisional Atmospheric Emission Licence and Atmospheric Emission Licence. • Renewal of Provisional Atmospheric Emission Licence and Atmospheric Emission Licence on application by the holder of the licence.

SECTION NUMBER	TITLE	RESPONSIBILITIES
4.2.8	Compliance monitoring	• Monitoring potential illegal listed activities. • Monitoring compliance with emission standards in respect of the manufacture, sale or use of any appliance or conducting of an activity declared as a controlled emitter. • Monitoring compliance with respect to reasonable steps to prevent the emission of any offensive odour caused by a listed activity. • Monitoring compliance in respect of noise caused by a listed activity. • Monitoring compliance with conditions or requirements of atmospheric emission licence and/or registration certificates. • Monitoring any application for an atmospheric emission licence or for the transfer, variation or renewal of such a licence to ensure that it does not contain false or misleading information. • Monitoring any information provided to an air quality officer to ensure that it does not contain false or misleading information. • Monitoring compliance with the requirements of the National Dust Control Regulations for listed activities. • Monitoring compliance with the emission standards set out for activities declared as controlled emitters in terms of Section 23 of the NEM:AQA , for facilities that have been issued with an AEL.

Table 4: Additional Primary Responsibilities of District Municipalities

As can be seen from these tables, some activities are common on both municipal levels and require cooperation to give justice to the activities.

The 2016 version of the Western Cape's AQMP pays substantial attention to cooperation to address air quality management and states the following in Goal 1 of the AQMP:

"Cooperative governance is a principle of environmental management and seeks to make the best use of scarce resources, through maximising available personnel, data and experience across institutions."

Close cooperation between all levels of Government is, therefore, promoted at both National and Provincial Government level. In keeping with the AQMP's of those two levels of Government, close cooperation between GRDM and Kannaland Municipality is also promoted by this AQMP.

Currently, GRDM fulfils 90% of air quality management duties in the Garden Route region. The current situation is not sustainable as two officials at district municipal level cannot do justice to all of the primary responsibilities imposed on both district and local municipalities by the National Framework. The aim of this objective is, therefore, to develop the capacity in the Kannaland Municipality to comply with all of the primary responsibilities, as shown above.

In order for the Kannaland Municipality to assume full responsibility for their obligations in terms of NEM:AQA and the National Framework, the following must be put in place:

- WCG, GRDM together with all seven local municipalities should initiate discussions with each other about sharing the responsibilities associated with air quality management. This is best achieved at a municipal management level so that the importance of air quality management and the cost implications are brought to the attention at the highest level of municipal management.

- Take notice of the contents of annual industry emission reports as provided by GRDM, to gain a better understanding of emissions in the municipal area and subsequently update the emission inventory.

- The Kannaland Municipality's AQO must participate in discussions and planning activities initiated by GRDM so that the AQO is involved in any air quality planning issues from the onset.

- Cooperate with GRDM in all aspects relating to the identification and compliance monitoring of listed activities to ensure that illegal operations are identified sooner and any concerns relating to licensed industry identified faster.

- Based on emissions contained in the inventory, identify suitable air quality monitoring equipment and budget for procurement of the equipment.

- Where equipment is borrowed from another municipality, budget must be allocated for consumable items for the equipment.

Objective 1.3
Strengthen and build capacity in AQM, compliance and enforcement

The Kannaland Municipality designated an Air Quality Officer as is required by the National Framework and Section 14 of the NEM:AQA. Based on feedback, the AQO spends hardly any time on air quality as other duties, e.g. disaster (drought) management consumes most of the time. The emphasis must change. Air quality management must be the primary duty of the AQO. Only if there are no such issues can an AQO pay attention to other duties. However, should an air quality issue arise, the AQO must be relieved from other duties to pay attention to the air quality issue at hand.

As stated before, GRDM has two officials dedicated to air quality management and they attend to 90% of the air quality issues in the district. As the area is vast, there are numerous industries and a variety of complaints, it is not possible for GRDM to effectively enforce air quality management actions.

This objective promotes the scenario of a combined team effort, with the seven municipal AQO's participating fully when necessary, thus creating a team of nine officials to manage and enforce air quality management practices. It will be a time-consuming activity which requires continuous attention as it involves a multitude of activities.

The following tasks are envisaged under this Objective:

- Training must be provided to the AQO and relevant environmental officers on the interpretation of annual emission reports if the information contained in these reports are to be of any use.

- The municipal AQO and relevant environmental officers must be trained in air quality management practices so that they can act as effective compliance inspectors if and when needed.

- The municipal AQO and the relevant environmental officers must be trained in the use of air quality monitoring equipment. This will enable the AQO to conduct short term air quality assessments in the Kannaland municipal area and report back on findings to the Kannaland Council, and share the information with GRDM, thus forewarning both bodies of potential health risk problems.

Objective 1.4
Develop institutional mechanisms to improve air quality and climate change response

The largest and continuous task within air quality management is the collection of data. Ensuring that the data received is accurate, forms an essential part of planning air quality in any region. To support this, and expand on available information, GRDM is developing an Electronic Information System (EIS) to enable business and civil society's involvement in the process of gathering information.

The following tasks are envisaged under this Objective:

- The Kannaland Municipality's AQO must obtain, verify and upload relevant air quality information, such as fuel usage, emissions and related data, to the EIS platform on a regular basis.

- Once activated, workshops, discussion groups and training of the target market by Kannaland's AQO will be essential to create buy-in from industry, especially unlisted industries, and maximise the air quality management opportunity this platform will provide.

- The municipal AQO will need to encourage submissions of information from business, industry and the public on the EIS platform.

- Once the EIS platform is populated with data, it will equip the Kannaland Municipality to manage air space more effectively and provide air quality information essential to town planning activities.

- Kannaland's air quality by-laws must be developed (with assistance from GRDM where needed), if necessary, to comply with Kannaland's unique requirements.

Objective 1.5
Develop, implement and maintain air quality management systems

Managing air quality and human health is not an isolated task left to the AQO's. Knowledge gained through an air quality study is an essential tool to planning and development. This includes industrial, commercial and residential development. To ensure that a development is viable, one of the first considerations should be the quality of the existing air space and then the impact such development would have on the air space. Building a residential development close to an existing emitter will create complaints in the future and, in serious situations, can lead to air pollution related illness. This AQMP promotes open communication channels between the various municipal stakeholders and industry to address existing concerns and avoid future development which would negatively impact human health.

The following tasks are envisaged under this Objective:

- Information obtained through this AQMP and Kannaland's dispersion modelling process must be shared with municipal town planners. It is proposed that regular discussion between the AQO and town planners should become part of the strategy to manage the impact of air quality on Kannaland residents.

- The dispersion model did not indicate any air quality concerns within the Kannaland Municipality. Should this change, or when warranted, short term air quality monitoring programs may be required and should be designed and implemented, with assistance from GRDM where needed. The physical monitoring activities are one of the primary responsibilities of municipalities according to the National Framework. Execution of such monitoring programs in the Kannaland area will be the responsibility of Kannaland's AQO.

- Kannaland's AQO must subsequently report the outcome of any monitoring project to Kannaland's Council and share the information with GRDM's AQO.

Objective 1.6
Ensure adequate funding for the implementation of air quality monitoring

Although there has been a number of engagements between National, Provincial and Municipal management structures on the importance of air quality management to human health and the inclusion of air quality structures within municipal plans, very little has been done on municipal level in the Garden Route District to ensure that its mandate is met.

The Kannaland Municipality currently has no budget for air quality management activities with the result that no action can be taken in this regard, even should such a requirement arise.

The monitoring of air quality is one of the primary responsibilities of local municipalities. To monitor air quality, specialised equipment is required which must be maintained and may require annual calibration. In addition, many devices require consumable items, e.g. filters etc., the costs of which must be budgeted for.

In consultation with GRDM, the air quality monitoring needs in Kannaland must be assessed so that appropriate monitoring activities can be launched.

The following tasks are envisaged under this Objective:

- Timeously plan an air quality budget submission to Kannaland Council. GRDM is to assist when needed.
- To avoid duplication of assets and unnecessary expenditure, the GRDM AQMP proposed that GRDM provides a coordinating service between B-municipalities. Each municipality would then be in a position to purchase, maintain and calibrate their own assets, but GRDM would facilitate use of said assets between municipalities to avoid duplicate expenditure.
- Should Kannaland municipality purchase air quality monitoring equipment, it must budget for both capital and operating requirements.

GOAL 2
Ensure effective and consistent compliance monitoring and enforcement

The key word to this goal is consistency. It is important that all data is collected periodically as pre-determined and within set time limits. The data thus obtained can be used to update the emissions inventory and comprehensive dispersion modelling facility, if available, which can then reflect the air quality conditions when planning any further development. In addition, it will support the process of development of air pollution control plans.

Objective 2.1
Improve air quality compliance monitoring and enforcement

The following tasks are envisaged under this Objective:

- Develop customised air pollution control plans in conjunction with GRDM as and where required.
- Update and review emission inventory data on the EIS platform and highlight concerns for further investigation.

Objective 2.2
Promote continuous improvement in respect of industry air quality compliance

The following tasks are envisaged under this Objective:

- Provide a reference framework to industry with approved emission survey methodology.
- The AQO must undergo training to enable the incumbent to do random inspections at unlisted industries as and when required.

Objective 2.3
Develop and implement air quality regulatory processes

The following tasks are envisaged under this Objective:

- Incorporate emission limits for fuel-burning appliances in the Kannaland Municipality's air pollution by-laws. GRDM is to assist if needed.
- Develop a permitting system for fuel-burning appliances.
- Participate in the development of a spot-fine system for vehicle emissions and implement the system on completion. If necessary, provision for such actions must be made in the air pollution by-laws.

GOAL 3
Continually engage with stakeholders to raise awareness with respect to Air Quality Management (AQM) and Climate Change Response (CCR)

GRDM built a good relationship with the public and continues with its ongoing communication about air quality issues. This should serve as a model to the Kannaland Municipality to set up its own air quality communication network which includes all shareholders, e.g. the general public, all industries, including both licensed and unlicensed industries, etc.

Objective 3.1
Develop comprehensive education and communication mechanisms, strategies and programmes with respect to AQM and CCR

The following tasks are envisaged under this Objective:

- The AQO must develop a comprehensive database of interested and affected parties so that relevant information can be shared easily and widely. The electronic media is perfectly suited for such purposes.
- The AQO must actively engage with all stakeholders on a regular basis, e.g. biannually, to set up a voluntary two-way communication process.
- Coordinate with DEFF and Working on Fire to educate the community on the health risk associated with burning of garden and other waste as well as wildfires.

GOAL 4
Support AQM and CCR programmes, including promoting and facilitating the reduction of greenhouse gas emissions

The AQMP's emissions inventory identified the contributors to greenhouse gas emissions in the Kannaland municipal area, including users of fossil fuels. This AQMP promotes direct discussion with these entities to reduce greenhouse gas emissions within the Kannaland area. The community itself has a large part to play in the battle against greenhouse gas emissions and must be made aware of alternative fuel and heating sources.

Objective 4.1
Reduce ozone depleting substances and greenhouse gas emissions, in line with National and International requirements

The following tasks are envisaged under this Objective:

- Identify the largest contributors to greenhouse gas emissions within Kannaland Municipality through the emission inventory.
- Engage with the contributors to reduce greenhouse gas emissions through the best practice framework. Assistance can be sought from GRDM.
- In collaboration with GRDM, initiate a project aimed at setting GHG emission limits on unlicensed fuel-burning appliances to reduce such emissions in the Kannaland region.
- If deemed necessary, revise the municipal by-laws to allow the setting of GHG emissions on fuel-burning appliances by municipalities.
- Educate the community on greenhouse gas emissions from household fuel sources and poorly maintained vehicles.
- Develop and conduct a vehicle emission testing programme and a non-compliance system as service to motorists.
- Partner with business and industry, especially those that make extensive use of road transport services, to roll out a voluntary vehicle emission testing programme.

GOAL	TASK	TIMEFRAME
Goal 1: Ensure effective and consistent air quality management		
Objective 1.1 Create awareness of AQMP implications	• Present the AQMP to Kannaland Council for acceptance, approval and inclusion in IDP • Workshop the action plan with Kannaland municipal stakeholders, e.g. planning, traffic control, etc., to gain insight and buy-in	6 months 6 months
Objective 1.2 Promote cooperation amongst all spheres of municipal government	• WCG, GRDM together with all seven municipalities should initiate discussions with each other about sharing the responsibilities associated with air quality management. This is best achieved at municipal manager level so that the importance of air quality management and the cost implications are brought to the attention of the highest level of municipal management • Take notice of annual industry emission survey reports shared by GRDM • Participate in discussions and planning where problems exist • Cooperate with GRDM in all aspects relating to the identification and compliance monitoring of listed activities • Compile list of air quality monitoring equipment available at Kannaland Municipality with the view of sharing equipment as and when necessary	Immediate 6 months 2 years 6 months 6 months
Objective 1.3 Strengthen and build capacity in AQM, compliance and enforcement	• Attend training on interpretation of air quality reports • Attend air quality management training with the view of becoming an inspector • Attend training sessions on air quality monitoring equipment • Maintain an emissions inventory and update on regular basis	1 year 1 year 1 year Ongoing

GOAL	TASK	TIMEFRAME
Objective 1.4 Develop institutional mechanisms to improve air quality and climate change response	• AQO to present and host training to industry and business to introduce EIS platform and encourage participation by stakeholders • AQO to actively engage with stakeholders to ensure business owners and municipal stakeholders submit required information on EIS platform • Customise air quality by-laws in consultation with GRDM, e.g. including regular monitoring of fuel-burning appliance emissions etc.	1 year 2 years 2 years
Objective 1.5 Develop, implement and maintain air quality management systems	• Arrange a workshop with municipal stakeholders to discuss current poor air quality areas and develop strategies for information-sharing and inclusion in development in planning • Participate in development of pollution prevention plans, based on outcome of dispersion modelling and air quality monitoring programs as and when necessary	6 months 3 years
Objective 1.6 Ensure adequate funding for the implementation of AQM by municipalities	• AQO must plan and develop an air quality budget for submission to Kannaland Council with the assistance of GRDM if needed • AQO must budget for the purchase of air quality monitoring equipment which could be shared between municipalities • Budget for calibration, maintenance and consumables of Kannaland-owned monitoring equipment	1 year 1 year 1 year

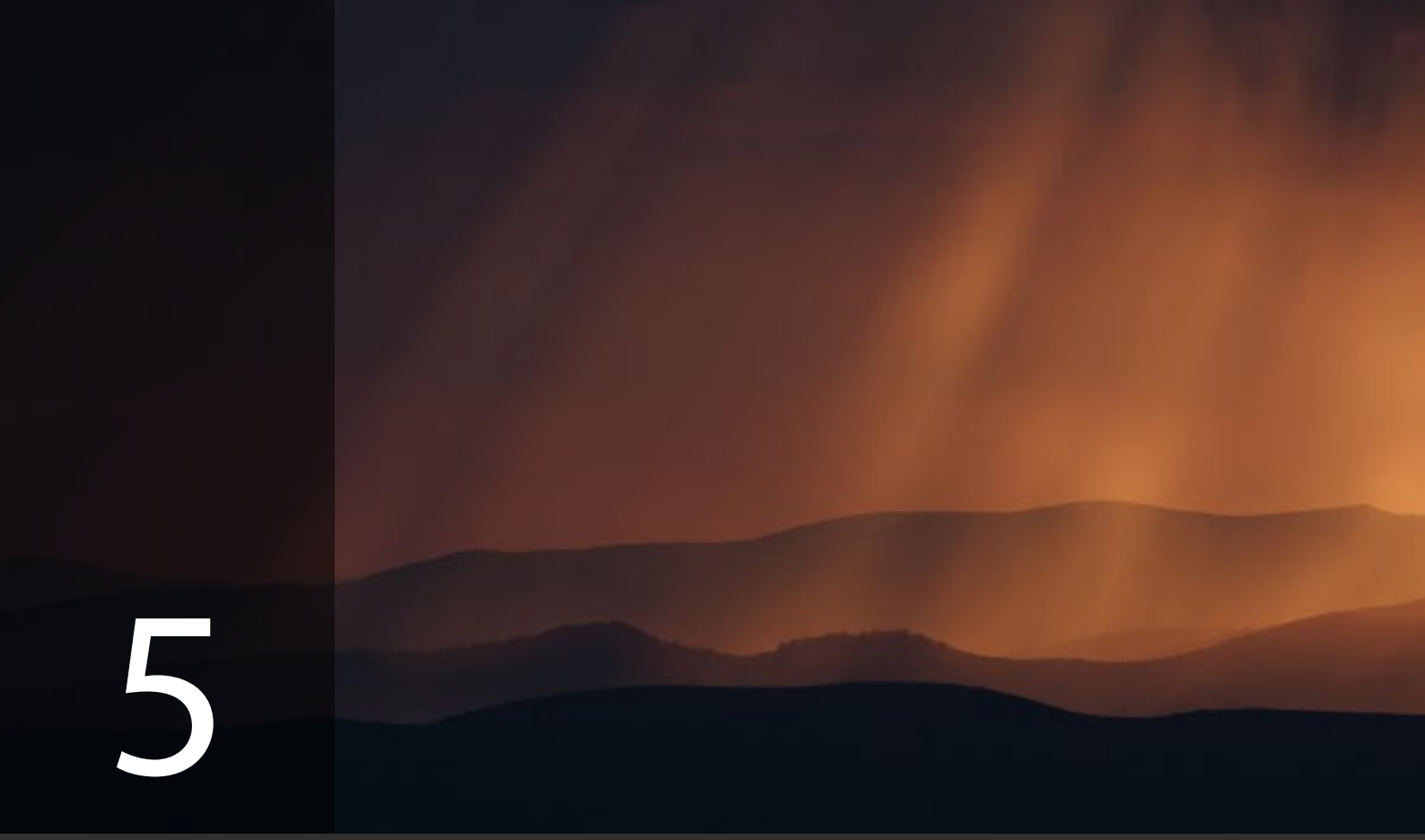





GOAL	TASK	TIMEFRAME
Goal 2: Ensure effective and consistent compliance monitoring and enforcement		
Objective 2.1 Improve air quality compliance monitoring and enforcement	• Develop customised air pollution control plans in conjunction with GRDM as and when required • Update and review emission inventory on EIS platform and highlight concerns for further investigation	4 years Ongoing
Objective 2.2 Promote continuous improvement in respect of industry air quality compliance	• Provide a reference framework to industry with approved emission survey methodology • The AQO must undergo training to enable them to do random inspections at unlisted industries as and when required	3 years 3 years
Objective 2.3 Develop and implement air quality regulatory processes	• With the assistance of GRDM, incorporate emission limits for fuel-burning appliances in Kannaland Municipality's air pollution by-laws • Develop a permitting system for fuel-burning appliances • Participate in the development of spot-fine system for vehicle emissions and implement system on completion	2 years 2 years 3 years

GOAL	TASK	TIMEFRAME
Goal 3: Continually engage with stakeholders to raise awareness with respect to AQM and CCR		
Objective 3.1 Develop comprehensive education and communication mechanisms, strategies and programmes with respect to AQM and CCR	• AQO must develop comprehensive database of interested and affected parties for distribution of information • AQO must actively engage with stakeholders on regular basis, e.g. biannually • Coordinate with DEFF and Working on Fire to educate the community on the health risk associated with burning of garden and other waste as well as wildfires	6 months 1-1½ years 1 year
Goal 4: Support AQM and CCR programmes, including promoting and facilitating the reduction of greenhouse gas emissions		
Objective 4.1 Reduce ozone depleting substances and greenhouse gas emissions, in line with National and International requirements	• Identify the largest contributors to GHG emissions from the emissions inventory • In collaboration with GRDM, initiate a project aimed at setting GHG emission limits on all unlicensed fuel-burning appliances to reduce such emissions in the Kannaland region • If deemed necessary, revise the municipal by-laws to allow the setting of GHG emission limits on fuel-burning appliances by municipalities • Engage with the largest contributors to reduce greenhouse gas emissions through best practice frameworks • Educate the community on greenhouse gas emissions from household fuel sources and poorly maintained vehicles • Develop a vehicle emission testing programme and a non-compliance system as a service to motorists • Partner with business and industry to roll out voluntary vehicle emission testing programmes	6 months 3-5 years 3-5 years 1-1½ years 2 years 3 years 5 years

Table 5: Goals, Tasks and Time Frames of 2019 Kannaland AQMP



5

SPECIFIC REQUIREMENTS APPLICABLE TO THE KANNALAND MUNICIPALITY

As no specific problem areas have been identified in the Kannaland region, no specific requirements apply to the Municipality. However, future development and /or expansion of industry may result in emissions of odorous gases. It is recommended that the Kannaland Municipality monitors the development closely and interact with GRDM on a frequent basis once these developments go into production.

CLOSING STATEMENT

Kannaland Municipality did not execute any part of the 2012/13 AQMP other than designating an AQO and reviewing the AQMP after the designated 5-year period. Although this may indicate non-compliance, industrial development in Kannaland remains low and as a result the general quality of ambient air in the district is good.

This Air Quality Management Plan identifies shortcomings in the capacity of Kannaland Municipality that limit the Municipality's abilities to effectively address the many issues involved with air quality management.

A key point stressed by the plan is the importance of closer cooperation between GRDM and the individual local authorities within the district. Only through a concerted and combined effort will the Vision and Mission of this plan be met.

At the end of the day this Air Quality Management Plan may only be regarded as a document required by law, to be included in Kannaland Municipality's IDP and then ignored. However, this will do a serious injustice to the people in the region. One needs only to be reminded of the details given in the Introduction to this plan: The World Health Organisation (WHO) estimated that 9 out of every 10 people globally do not have access to clean air. Furthermore, based on 2016 data, 4.2 million deaths annually were due to poor ambient air quality, and 3.8 million due to poor indoor air quality.

The importance of air quality on quality of life is often overlooked due to a lack of understanding of the impact poor air quality has on the health and wellbeing of the community. Globally air quality is starting to receive the recognition it deserves after extensive research identified it as the leading cause of most modern ailments, and the leading cause of premature deaths.

This Air Quality Management Plan promotes information sharing between various municipal departments whose activities impact directly on the community so that cognisance is taken of the impact of development decisions on the quality of air, specifically in residential areas.

REFERENCES

1 **Compliance with 2012 Air Quality Management Plan, Final Report**
Progress Report No. GRDM-2019 PR.1, April 2019

2 **Status Quo Assessment and Municipal resources, Final Report**
Progress Report No. GRDM-2019 PR.2, May 2019

3 **Emissions Inventory, Final Report**
Progress Report No. GRDM-2019 PR.3, May 2019

4 **Dispersion Modelling Study, Final Report**
Progress Report No. GRDM-2019 PR.4, May 2019

5 **Review of Monitoring and Modelling Requirement, Final Report**
Progress Report No. GRDM-2019 PR.5, May 2019

6 **The 2017 National Framework for Air Quality Management in South Africa**
Government Notice 1144 of 266 October 2018

7 **Second Generation Western Cape Air Quality Management Plan**
2016

ANNEXURE 1 | LEGISLATION

National Environmental Management: Air Quality Act, 2004 as amended
24 February 2005
(GN 163 of GG No. 27318)

National Ambient Air Quality Standards 24 December 2009
(GN 1210 of GG No. 32816)

National Ambient Air Quality Standard for Particulate Matter with Aerodynamic Diameter less than 2.5 micron metres (PM2.5)
29 June 2012
(GN 486 of GG No. 35463)

List of Activities which Result in Atmospheric Emissions which have or may have a Significant Detrimental Effect on the Environment, including Health, Social Conditions, Economic Conditions, Ecological Conditions or Cultural Heritage
22 November 2013
(GN 893 of GG No. 33064)

Amendments to the List of Activities which Result in Atmospheric Emissions which have or may have a Significant Detrimental Effect on the Environment, including Health, Social Conditions, Economic Conditions, Ecological Conditions or Cultural Heritage
12 June 2015
(GN 551 of GG No. 38863)

National Dust Control Regulations
01 November 2013
(GN 827 of GG No.36974)

Declaration of a small boiler as a controlled emitter and establishment of emission standards
01 November 2013
(GN 831 of GG No. 36973)

Declaration of Small-scale Char And Small-scale Charcoal Plants as Controlled Emitters and Establishment of Emission Standards
18 September 2015
(GN 602 of GG No. 39220)

Regulations Prescribing the Format of the Atmospheric Impact Report
02 April 2015
(GN 747, as amended by GN R284)

National Atmospheric Emission Reporting Regulations
02 April 2015
(GN 283)

Regulations Prescribing the Atmospheric Emission Licence Processing Fee
11 March 2016
(GN 250 of GG No. 39805)

Regulations for the Procedure and Criteria to be followed in the Determination of an Administrative Fine in terms of Section 22a of the Act
18 March 2016
(GN 332 of GG No. 39833)

Air Quality Offsets Guideline
18 March 2016
(GN 333 of GG No. 39833)

National Environmental Management: Air Quality Act (39/2004): National Greenhouse Gas Emission Reporting Regulations
3 April 2017
(GN 275 of GG No. 40762)

PHOTO CREDITS

Images in this publication were supplied by municipalities in the Garden Route District, who commissioned photographers to provide photographs. The relevant permission has been granted by the municipalities, photographers and models for use of the images in this publication.

Thank you to the following contributors:

- Melanie Marè Photography for George Municipality
- Kelvin Saunders for Garden Route District Municipality
- Elle Photography for Garden Route District Municipality

Thank you to the following contributors at Pixabay.com:

- Gerhard Gellinger
- Jeanine Smal
- Skeeze
- Kees Kortmulder
- Hans Braxmeier
- Hermann Traub
- Forum Krakow
- Jean van der Meulen
- Brigitte Werner
- Delyth Williams
- Ria Algra
- Krissie Gwynne
- Mylene
- Free Photos


KANNALAND
MUNISIPALITEIT / MUNICIPALITY