



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

2008/2009 WINTER CLEAN FIRES CAMPAIGN REPORT

Chief Directorate: Air Quality Management and Climate Change

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- To the following Winter Clean Fires Campaign partners for cooperation and commitment and for making this campaign a success:
 - The NOVA Institute who conducted the BnM rollouts in Zamdela, eMbalenhle, Balfour, Hendrina and other areas in Mpumalanga.
 - Anglo Coal who rolled out the BnM in the Witbank area.
 - The Central Energy Fund who conducted BnM rollouts in Alexandra and Soweto.
 - The City of Johannesburg who conducted BnM rollouts in Soweto.
 - Sedibeng District municipality, who hosted the maiden launch of the campaign in 2008.
 - Ekurhuleni Municipality who conducted BnM rollouts in Springs, Germiston, Benoni, Boksburg and Kempton Park.
 - The Department of Health who have also been part of the campaign development.

- Department of Energy for their support and advise during the campaign.
- Eskom who supported BnM rollouts in Zamdela and Deneysville
- The Jupiter Drawing Room, who have provided their creativity of the media.

INTRODUCTION

In South Africa, and the world, air quality management issues have in the recent past received growing attention in particular in dense low-income settlements where coal and wood are used for cooking and space-heating. Research studies conducted recently, in particular the baseline characterisation for the Vaal Triangle Air Quality Management Plan has pointed out that household fuel burning also contributes significantly to poor air quality. It has been established that many people living in these dense and low-income communities continue to use wood and coal as they are most affordable means of energy. People living and working in these communities where coal and wood is used as a fuel are often exposed to air quality that is harmful to their health and well-being as coal and wood burning emits various pollutants such as sulphur dioxide (SO₂), particulates matter, carbon monoxide (CO), etc.

Air pollution resulting from the use of coal and wood as a domestic fuel source is of concern. However, to address this problem might be a long-term intervention strategy which will require number of government departments and all spheres of government to carry out various interventions in coordinated fashion. The Department of Environmental Affairs took a lead and hosted the first workshop titled "Addressing Pollution from Residential Coal and Wood Burning in Dense Urban Settlements on 27 March 2007 with all affected stakeholders in 2007.

In that workshop, it was agreed that an integrated strategy was required to guide various interventions at addressing air pollution and associated health impacts from domestic fuel-burning. The Department of Environmental Affairs was charged with co-ordinating the development and the implementation of the strategy and the action plan. As a result the Department of Environmental Affairs commissioned the NOVA Institute to conduct a study and synthesize the findings of the research concerning all aspects related to the problem of air pollution in low-income communities. The purpose of the study was to provide useful recommendations aimed at informing the development of an integrated Strategy and Action Plan to address air pollution

challenges in the dense low-income settlements. The strategy will outline several interventions to be implemented to reduce air pollution in low-income. To this end, the study has been completed and the detailed report is available and process of the development of an integrated strategy and its associated action plan is well underway.

Recognising that the development of the strategy will take a while, and there is no doubt that the use of coal and wood in households will be a practice that is likely to remain for some time. The Department of Environmental Affairs, adopted the Department of Energy's top down fire-making methodology referred to as "Basa Njengo Magogo (BnM)" as a "transitional" intervention" to reduce air pollution in dense low-income communities. This is a low cost transitional intervention that is already being implemented by various organisations and is a scientifically proven to reduce emissions by about 80 percent. Figure 1.1 illustrates the two fire making methodology



Figure 1.1: Basa Njengo Magogo methodology (left) and classical fire making (right)

The Department of Environmental Affairs (DEA) in partnership with various organisations undertook an outreach campaign by the working title “The Clean Fires Campaign” during winter months in 2008 and 2009. The campaign was to roll out the Department of Energy’s top-down fire-making methodology referred to as “Basa Njengo Magogo (BnM) in the National Priority Areas, Vaal Triangle Air-shed Priority Area and the Highveld Priority Area. The main objective of the campaign was to raise awareness to communities that use coal fires for cooking and space heating about the impacts of emissions from these fuels, and are made aware of the better way of making these fires, Basa Njengo Magogo fire-making methodology.

The Winter Clean Fires Campaign concept was approved by the Department management including the Deputy Minister in 2007. The Winter Clean Fires Campaign was conducted through partnerships with a wide range of stakeholders, including the Department of Energy (DME), Department of Health (DoH), Central Energy Fund (CEF), Sedibeng District Municipality, Ekurhuleni Metropolitan Municipality, City of Johannesburg, the Jupiter Drawing Room, Eskom, Anglo Coal, Sasol and NOVA Institute and many more.

IMPLEMENTATION

The process began with the drafting of a business plan and establishment of an internal task team to carry responsibility for the campaign. The internal task team was established in November 2007 and held meeting on a monthly basis for day-to-day management of the campaign and to oversee the implementation plan. After several meetings with potential funders the campaign was kicked off in April 2008 with an inauguration of the Campaign Management Team made up of all representatives of all the campaign partners.

The Winter Clean Fires Campaign focused on rolling out the Basa Njengo Magogo (BnM) in the air quality National Priority Areas, Vaal Triangle Air-shed Priority Area and Highveld Priority Area in 2008 and 2009 respectively. In 2008, the Winter Clean Fires Campaign was launched by the Deputy Minister of the Department of Environmental Affairs, Ms Rejoice Mabudafhasi on 7 July 2008 hosted by Sedibeng

District Municipality at Saul Tsoetsi Sport Centre in Sebokeng in the Emfuleni Local Municipality. During the launch, about 250 officials including Air Quality Officers and Environmental Health Practitioners in the Vaal Triangle Airshed Priority Area, Ekurhuleni Metropolitan Municipality, and the City of Johannesburg Metropolitan Municipality were trained on the BnM fire making methodology by VEB Cele Consortium. The BnM training was done with the objective of encouraging the officials to go and provide further training to wider communities within their areas of jurisdiction.

The 2009 Winter Clean Fires Campaign was also launched by the Deputy Minister of the Department of Environmental Affairs, Ms Rejoice Mabudafhasi on 26 June 2009 hosted by Gert Sibande Municipality at Sasol Creation Centre in Embalenhle, Secunda. The launch was well attended by officials and community based organisation in the Highveld area and received a great support from Mpumalanga Provincial Government. The Deputy Minister thanked the campaign partners for their cooperation and support and presented each one with a letter of appreciation. The following sub-committees were established to ensure the implementation of the campaign:

Technical Assessment sub-committee: This subcommittee was established specifically for the assessment of the BnM impacts to see if this intervention is making any difference in the overall emissions.

Table 1.1: Technical assessment sub-committee

Name	Organisation
Mr Owen Pretorius	SASOL, Secunda
Dr Kristy Ross	ESKOM
Mr Hendrik Snyman	NOVA Institute
Mr Frank Schwegler	Anglo coal
Mr Greg Scott	Department of Environmental Affairs
Mr Thebe Mamakoko	City of Johannesburg Metropolitan Municipality
Mr Musa Mahlatji	Sedibeng District Municipality
Dan Hlanyane	Gert Sibande District Municipality

The Winter Clean Fires Campaign Management Team: The purpose of this sub-committee was to oversee the campaign overall management

Table 1.2: Winter Clean Fires Campaign Management Team

Name	Organisation
Mr Peter Lukey (Chairperson)	Department of Environmental Affairs
Mr Tsietsi Mahema (Co-chairperson)	Department of Environmental Affairs
Ms Agnes Phahlane	Department of Environmental Affairs
Mr Robert Phupheli	Department of Energy
Mr Murdock Ramathuba	Department of Health
Mr Mr Jabulani Shabalala (2008) and Mr Sbu Ngubane (2009)	Central Energy Fund
Mr Zies van Zyl (2008) and Mr Musa Mahlatji	Sedibeng District Municipality
Mr Rufus Sebati	Ekurhuleni Metropolitan Municipality
Mr Thebe Mamakoko	City of Johannesburg Metropolitan Municipality
Ms Nthabiseng Makgato (2008), Ms Phumzile Masina and Mr Tom Cullinan,	Jupiter Drawing Room
Mr Dave Lucas	Eskom
Mr Frank Schwegler	Anglo coal
Mr Doc Twala	Sasol Secunda
Mr Riftoff van Zyl	Sasol sasolburg
Dr Christiaan Paauw (2008) and Mr Hendrik Snyman (2009)	NOVA Institute
Mr Shumani Mugeru	Department of Transport

Technical Campaign sub-committee: This sub-committee was established to work closely with Jupiter to ensure that the content of the media is correct and accurate. However, the final sign off of the campaign concept lied with the campaign management team.

Table 1.3: Technical campaign sub-committee

Name	Organisation
Mr Robert Phupheli	Department of Energy
Mr Gideon Slabbert	City of Johannesburg Municipality
Mr Hendrik Snyman	NOVA Institute
Ms Nani Mangoale	Sasol Secunda
Ms Agnes Phahlane	Department of Environmental Affairs
Mr Phineas Pheleo	Mercury Media
Mr Jack Malatjie	Government of communications and information systems
Mr Obed Nelovholwe	Mayibuye works / Nova Institute

The department in partnership with Jupiter Drawing Room developed a suite of communication materials using two cocepts. In 2008 the “silent killer” concept was used with the underlying objective of warning people against the “silent killer”, in this instance being the smoke associated with wood and coal fires. The “Hero” concept was used in 2009, profing different characters as heroes for using the BnM fire making methodology. A suite of communications and outreach materials including, radio and newspaper advertisements, billboards, posters and flyers were developed. The radio scripts were translated into south sotho, zulu and tswana as they are the languages used in the Vaal Triangle Airshed Priority Area and the Highveld Priority Area. Mercury media contracted by Government of Communications and Information Systems (GCIS) developed a media schedule for the campaigns.

Radio adverts were aired on commercial and community radio stations once a day from July to September in 2008 and 2009. The radio stations used to spread the message were SABC radio stations, Lesedi FM, Ukhozi FM and Motswedding FM.

Community radio stations included Jozi FM, VCR, Overvaal, radio moutse, radio middleburg and many more in the Vaal and Highveld areas.

The following newspapers adverts in figure 1 were placed in the newspapers such as Sowetan, Daily Sun, community newspapers such as Vaal Vision, Vanderbilpark ster, Witbank news, Middelburg Observer, etc within the Vaal and the HigheblD Priority Area.



Figure 1.2: Examples of newspaper adverts for the winter 2008 campaign



Figure 1.3: Examples of newspaper adverts for the winter 2009 campaign

These adverts were placed in Sowetan on 30 and 31 July, 05 and 19 August, 03 and 17 September; Daily Sun on 05, 07, 14, and 19 August, 03, and 17 September in 2008. In 2009 the adverts were placed on 16, 20, 23, 24 August, 14, 21 August and 18, 25 September in Sowetan, Daily Sun and community newspapers identified.

Billboards were placed in the following affected areas such Sebokeng, Orange Farm, Evaton, Bophelong, Vanderbijlpark, Boipatong, Veereniging, Sharpville, Middelburg and Witbank. Below are some of the pictures of the billboards placed in some areas in the Vaal Triangle Airshed Priority Area and the Highveld Priority Area.



Figure 1.4: Examples of billboards adverts for the winter 2008 campaign



Figure 1.3: Examples of billboards adverts for the winter 2009 campaign

The media campaign was used in support of practical BnM demonstrations organised by the campaign partners held in various areas in the Vaal Triangle Airshed Priority Area and some parts of the Highveld Priority Area in winter months for 2008 and 2009, (See the tables below, 1.4 and 1.5).

The Department not only supported demonstrations with the media campaign but also with give-aways promotional items including branded beanies, scarves, gloves and information materials such as posters and flyers. Several demonstrations were held during the Departmental events such as women and environment conference in Limpopo, Atteridgeville and launch of the Highveld monitoring network.

Table 1.4: Winter 2008 BnM implementation areas

Organization	Area
Anglo Coal	Witbank
Central Energy Fund	Alexandra, Soweto
City of Johannesburg	Soweto: (Jabavu, Fredclarke, Chiecken Farm, Kliptown, Protea South and Dlamini Camp)
Ekurhuleni Municipality Metropolitan	Springs, Germiston, Benoni, Boksburg, Kempton Park
Eskom	Zamdela, Deneysville
Sedibeng Municipality (Emfuleni Municipality)	Sharpville
NOVA	Phumula, Wesselton, eMzinoni, eMbalenhle, Mhluzi, Ekangala, Zamdela (in partnership with Sasol)

Table 1.5: Winter 2009 BnM implementation areas

Organization	Area
Central Energy Fund / DME	Alexandra, Soweto
City of Johannesburg	Lenasia
Sedibeng Municipality	Sebokeng and Evaton
NOVA	eMbalenhle, Zamdela, Balfour, Hendrina and other areas in Mpumalanga.
Sasol	eMbalenhle

OUTCOMES AND LESSON LEARNED

Although it is too early for accurate results, research studies conducted in collaboration with Eskom to measure the impact of the Basa Njengo Magogo fire making methodology on the overall emissions in the National Priority Areas, the preliminary results were not conclusive. However, the technical committee will continue to explore different mechanism and methodology to measure the impact of the BnM fire making methodology.

The Clean Fires Campaign was reviewed by De Facto in August 2008. The primary objective of the research study was to evaluate or assess the target market response to the campaign communication materials, flyer, poster, and the press ads. The face to face interviews were conducted in Orange Farm, Diepsloot and Alexandra using the structured questionnaires. The initial feedback indicates that the campaign has successfully reached many people and effectively branded smoke as a 'silent killer' even though the use of English language was found to be a barrier to understand for many in the target group in the area. Posters and flyers were well received compared to the newspaper adverts and about 49 percent indicated the willingness to use the BnM methodology.

The study also indicated that more educational activities should be in place to increase the level of knowledge with regards to air quality and air pollution in the community. Therefore, the management team has agreed that in future, the department of education should be on board. One clear lesson learned from the study suggests that in future will need to cover at least 60% of spoken languages in an area. See appendix for the report.

CONCLUSION

Now, where to from here? It is acknowledged that burning of 'dirty fuels' for space heating and cooking is not a desirable situation, and the ultimate goal should be to phase out the use of these fuels. The Department of environmental affairs together with other affected departments and stakeholders are currently in the process of developing the strategy and its associated action plans to address air pollution in dense low-income communities. In the meantime, outreach activities will be rolled out to educate the people living in those areas about the dangers of coal and wood emissions to their health.

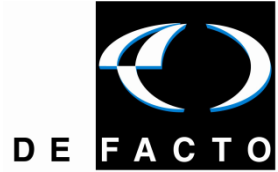
APPENDIX:

Research Report: Clean Fires Campaign Communication Check

CLEAN FIRES COMMUNICATION CHECK

SUMMARY MANAGEMENT REPORT

Prepared for: The Jupiter Drawing Room
Prepared by: De Facto – 011 886 1107
www.defacto.co.za
September 2008



Background

OBJECTIVE	To assess the performance and communication value of the proposed flyer, poster and press ads amongst members of the defined target group, as input for relevant fine-tuning and optimal development of the various executions if they perform satisfactorily.
METHODOLOGY	Quantitative – Personal Interviews
SAMPLE	90 black Gauteng-based township residents (Orange Farm, Diepsloot, Alexandra) who use open fires for cooking or heating. Sample quota controlled on the basis of: <ul style="list-style-type: none">• Monthly household income – under R5 000• Age – 16+• Gender - males and females
TEST MATERIAL	<ul style="list-style-type: none">• Colour visuals of the poster, flyer and three press ads
TIMING	8 th – 13 th August 2008

Summary of Findings

Background

1. The **clean fire method** proposed in the communication is currently said to be used by only **1%** of the sample surveyed in this study. The dominant method, reported by almost one third of the sample, follows steps 2 to 5 of the recommended method. This excludes the use of coal at the bottom.

2. In total, 63% claim to use various combinations of paper, wood and coal to light their fires.
3. A concerning 10% report inclusion of **plastics** in their fires and a further 5% use **candles** as part of their fire-lighting mix.

Response to Communication

Poster and Leaflet



4. The poster and leaflet/flyer were **similarly evaluated** overall:
 - moderately positive ratings of 6.3 out of 10 on average
 - 82/83% liked some aspect
 - BUT 51% also disliked some aspect
5. These campaign elements were **liked** mainly for their **message content**, particularly the leaflet (71%). However, message content was also the basis of **rejection** for 22-26%, suggesting dichotomous opinions in the communities surveyed and a significant level of resistance to the clean fires message.

The inclusion of **people** in the poster was positively commented on by 13% of the sample.

6. A small proportion (11% leaflet/17% poster) spontaneously raised **ease of understanding** as their reason for liking this communication. Furthermore, on prompting 86% agreed that they found the poster and leaflet easy to understand. However, it should be noted that in most instances interviewers assisted respondents with translation on request. The use of English does represent a barrier to understanding for many in the target group.

7. Beyond the issue of language, there was a measure of **confusion** about whether the right or wrong method was being shown in the visuals. Understanding was also impaired for some because of their resistance to the message. These respondents questioned the proposed method, saying it made no sense to them to light fires this way.

8. Notable **criticisms** beyond the message itself referred to the way in which the message is presented (12-19%), with reference to the depiction of the “wrong” fire-lighting method and the mbaula visual (eg coal not burning).

9. 85% claimed to find the subject matter of the poster and leaflet **interesting**.

Press Ads



10. These executions were **poorly rated** overall (4.9 to 5.7 out of 10 on average), although *woman outside* was marginally favoured over *family indoors* and *sleeping man*. The latter execution was least popular.

11. These campaign elements were **liked** mainly for their **message content** (46% overall) particularly in terms of the creation of awareness of the problem. However, 29% referred to message content as grounds for rejection, once again suggesting dichotomous opinions in the communities surveyed and a significant level of resistance to the clean fires message.
12. The *woman outside* execution prompted the highest **spontaneous positive response** of all three based on the way in which its message is presented (34%), although a notable 22% rejected it on these grounds. Other bases for liking these executions were at low levels.
13. These ads were all **criticised** for the way in which their message is being conveyed (22%-39%). In particular, respondents challenged the depiction of “bad” fire-making methods to illustrate the clean fires proposition. This led to incorrect **understanding** of message for some. Nevertheless, when asked, 95% feel they understand the message well. Those who admitted **confusion** also questioned the “bad” practice visuals and/or challenged the validity of the proposed clean fires approach.
14. 87% claimed to find the subject matter of the press ads **interesting**.
15. The press ads prompt an array of negative **emotions** such as sadness and fear, as well as caution and concern.

Total Campaign

16. The campaign was spontaneously **understood** as aiming **to create awareness** of:
 - The potential dangers of open fires, particularly regarding smoke
 - Good fire practice
17. 8 in 10 respondents agreed that the campaign told them **something new** that they did not previously know.
18. Half of the surveyed sample claimed strong **likelihood of converting** to the suggested clean fire method. 18% admitted resistance and were unwilling to change. This segment of resistors was generally not demographically biased except for a slight leaning towards those below the age of 35.

Final Outcomes

- Findings suggest that the social intervention represented by this campaign is necessary, considering current low adherence to the clean fires method and the evidence of potentially harmful habits.
- However, the campaign was only moderately well received, with the poster and leaflet better accepted than the press ads.
- Findings **in favour** of the campaign emerged as:
 - Meets a need for social education
 - High interest subject matter as it pertains to daily well-being
 - Inclusion of a human element
 - (press ads) emotive, albeit negatively
 - Perceived as understandable (once translated)
 - Understanding of broader message
- Factors working **against** this campaign can be summarised as follows:

- English as a barrier to understanding
 - Resistance to the message and a tendency to question the proposed method and the need to change
 - Uncertainty for some as to how the proposed method represents improvement
 - Visuals perceived as contradictory to proposed method, resulting in some confusion
- Feedback received informally via the contact between respondents and interviewers points to resistance to the campaign based on a broader agenda. That is, many expressed disappointment that improvement was being suggested in the form of better fire-making rather than in the form of access to electricity. Some reported feeling offended that efforts did not appear to be directed at improving infrastructure but focussed on changing behaviour which should soon be defunct if real progress is achieved.