

## **Policy instruments for eliminating plastic bags from South Africa's environment**

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### **Abstract**

The South African Government, private sector and civic society signed, on 28 September 2001 the Polokwane Declaration stipulating that South Africa achieves zero waste status in all sectors by 2022. Prior to that, two key policy frameworks: the 1999 National Waste Management Strategy and the 2000 White Paper on Integrated Pollution and Waste Management had been put in place with legal mandates from the 1996 Constitution, National Environmental Management Act of 1998 and the National Environmental Management Policy of 1999. Given that single measure policy instruments such as self-regulation, command-and-control as well as market-based approaches fail to achieve set targets, this paper interrogates tensions, debates and responses around finding a proper mix of policy instruments to achieve zero plastic bags waste in the country. The main findings revealed that the government oriented command-and-control approach failed. This resulted in negotiations between industry, labour and government leading to the conclusion of the Plastic Bags Agreement in 2002, followed by the repulsion of the 2002 Plastic Bags Regulations in 2003 as well as the introduction of standards stipulating thickness of plastic bags and an estimated US half a cent (ZAR 3 cents) levy per bag. The impact has been an average drop of plastic bags demand by between 70-90%.

*Keywords:* waste, policy instruments, South Africa, Plastic Bag Regulations.

### **1 Introduction**

The framework for South Africa's waste pollution and management is spelt out in the White Paper on Integrated Pollution and Waste Management of 2000 DEAT [1]. The White Paper is subsidiary to a number of other policies that



include among them the Environmental Conservation Act of 1989, Constitution of 1996 and the National Environmental Management Act of 1998. The white Paper also incorporates the provisions of the National Waste Management Strategy and Action Plans of 1999 DEAT [1].

## 2 A paradigm shift in waste management

Of critical importance from the National Waste Management Strategy and Action Plans of 1999 was the introduction of a new thinking towards integrated pollution and waste management in South Africa. The document presents an internationally accepted waste management hierarchy that prioritises preventive as opposed to end-of-pipe measures to managing wastes. The full hierarchy promotes generating no waste, minimisation, re-use and recycling of waste products whenever possible, followed by approved treatment procedures before disposal on landfills as a last resort DEAT [1]. In 2001, the Government (represented by the Department of Environmental Affairs and Tourism – DEAT), private sector and the civil society ratified the Polokwane Declaration DEAT [2]. The Declaration stipulates that South Africa should achieve a zero waste status in all sectors by 2022.

## 3 Methodological framework

Latour [3] argues that the world is full of hybrid or quasi-object entities. They are hybrids because they are simultaneously real, discursive and socially constructed and actor/actant-network theory (AANT) was developed to analyse such hybrids. AANT denies that purely technical, scientific or social relations are possible as what may be viewed on the surface as social is partially technical or scientific and vice versa. AANT is constructed around a number of dimensions and processes including the actor (human), actant (non-human), actor/actant-networks. Analysis lenses in this framework are provided through the moments of translation (i.e., problematisation, interessement, enrolment and mobilisation) and these assist in tracing actors, actants and their networks so as to examine controversies and determine how they are resolved and/ or appear as black boxes Davies [4].

## 4 Presentation and discussion of findings

### 4.1 Command-and-control approach to regulation

In September 1999, the then Minister of Environmental Affairs and Tourism, Vali Moosa made a policy statement on his intention to ban thin film (14-17 microns) plastic shopping bags. Following his statement, the lead environment agency, DEAT promulgated and gazetted the draft Plastic Bag Regulations on 19 May 2000. An explanatory memorandum to the regulations indicated that the collection and disposal of plastic bags is a growing problem in South Africa as the use of plastic bags made of thin plastic film had increased significantly in

recent years with large amounts of bags polluting and degrading the environment RSA [5].

The regulations were promulgated under the provisions of the Environment Conservation Act of 1989 and set the thickness of plastic shopping bags at 80 microns. A R100,000 fine (about US\$ 17,000 as of January 2005) and 10 year jail term were also pronounced. The proposed regulations were not well received, especially by organised business, which pulled resources and started lobbying government to have the regulations reversed.

In its submission to the Parliamentary Portfolio Committee for Environmental Affairs and Tourism in October 2000 organised business indicated that public education and awareness raising were the most critical aspects in addressing environmental problems related to plastic shopping bags litter and waste in South Africa Botha [6]. Efforts that were being made by the plastics industry to address the problem associated with plastic shopping bags since the early 1980s were also highlighted. The Plastics Enviromark was indicated as one of the most successful initiatives. The Plastics Enviromark was started in January 1997 and incorporated the exclusive use of a logo by raw material suppliers and plastics converters who contract to support environmental education and awareness programmes PFSA [7]. The submission reported that as of October 2000, about 80% of the companies in the plastics packaging industry were contributing to the Plastics Enviromark initiative. Some of the awareness programmes covered by the Plastics Enviromark initiative PFSA *et al* [8] include: a series of publications aimed at schools and other environmental organisations for community and school use and the promotion of the Green Cage project that encourages recycling of plastic products through conveniently locating Green Cages around the country. At the time of submission, there were about 120 Green Cages throughout the country with more than 70 new job opportunities having been created.

Organised business claimed that plastics were vital packaging materials globally and assisted in promoting good environmental stewardship. In South Africa, plastic shopping bags were used in almost every retail outlet as carriers for the customer's purchases and were convenient and cost-effective PCSA [9] with an average of 8 billion circulated annually Nedlac [10]. In conclusion, the submission called for a holistic approach to the litter problem and warned that at least 3,800 jobs could be lost as most companies used modern equipment that could not 80 microns plastic bags. This is a position that was carried throughout the lobbying period by industry until 2002.

#### 4.2 Regulations referred to Nedlac

After hearing the views from organised business and other submissions in October 2000, the Parliamentary Portfolio Committee declared a deadlock and referred the issue to Nedlac. Nedlac is South Africa's national organisation that discusses and tries to reach consensus between government, organised labour, organised business and organised communities on issues affecting social and economic policy through social dialogue.

The draft regulations and the comments from the public were tabled by Nedlac for discussion on 23 November 2000 Nedlac [10] and affected parties, particularly Government agreed that a joint research project into the regulations be urgently undertaken. The scope was that this would assist parties to develop a shared understanding of the potential socio-economic impacts of the proposed regulations. The Nedlac report of 2001 revealed that the plastic shopping bag manufacturing industry consisted six large companies that shared between 70-75% of the local market, which entirely depended on plastic bag business. Nedlac recommended that it was not feasible to change existing equipment to manufacture firstly the required 30 microns plastic bag and later an 80 microns plastic bag and proposed regulations Nedlac [10].

### 4.3 Organised business and self-regulation

As negotiations were taking place, in March 20002, government finalised the Plastic Bag Regulations. Organised Business felt there were not significant changes compared to the original 2000 version of the regulations prompting it to come up with an alternative self-regulating plan. By that time organised business was, represented by the Plastic Federation of South Africa (as spokes organisation), the Plastic Recycling Employers Organisation and the Chemical and Allied Industries Association. The business plan was popularised as the e-Bag Initiative.

#### 4.3.1 Concepts behind the e-Bag Initiative

The e-Bag Initiative aimed at reducing the number of plastic shopping bags that ended up in the waste stream. A levy was proposed at the point of sale of the plastic bag from the manufacturer to the retailer and the retailer in turn charging consumers for the bag at the point of sale. The retailer would also refund consumers for any bags that are returned to the point of sale. This arrangement was confirmed as having the impact to reduce the number of plastic shopping bags in circulation with the levy being used to stimulate the collection and recycling of plastic shopping bags. Industry would increase the thickness of plastic shopping bags to a minimum of 22 microns through regulation and further enhance the recycling content by developing a standard that would specify the characteristics of both shopping and refuse plastic bags.

Such a standard would include specifying a minimum thickness; ink to be used and its spread on the plastic shopping bag surface; the area of the bag that may be printed on and optimum size of bags. In respect of refuse bags, in addition to thickness the standard will specify a minimum recycled content. The e-Bag Initiative would be managed through a non-profit (Section 21 Company) to be named 'e-Bag South Africa'. The objectives of the Section 21 Company were outlined and these included among them the need to PFSA *et al* [8]:

- a) promote efficiency in the use, re-use, collection, recycling and disposal of plastic shopping bags,
- b) receive a levy from plastic shopping bag manufacturers and importers who were required to register with the South African Revenue Service,

- c) follow appropriate international trends in the enhanced recycling of plastic shopping bags,
- d) enter into partnerships with civil society organisations,
- e) ensure that collection points are established within easy walking distance of all major settlements,
- f) stimulate participation in education campaigns and recycling by small-scale and micro entrepreneurs and by organisations of civil society,
- g) support government initiatives, and
- h) investigate mechanisms to ensure participation in the company by all entities in the plastic shopping bag value chain.

#### 4.3.2 Strategies for plastic bags collection

A Section 21 Company was supposed to have a managing director who would report to a Board, which in turn reported to the Minister of Environmental Affairs and Tourism. South Africa was to be divided into regional areas that employed Litter SWAT Teams to collect plastic shopping bags. Such Teams were to be formed either on an *ad hoc* basis when required or be integrated with existing community-based initiatives (figure 1). Regional Development Officers were proposed whose mandate was to manage Litter SWAT Teams and co-ordinate school and community activities. In this respect, about 36 fulltime posts were envisaged in addition to between 2,000 to 4,000 temporary jobs.

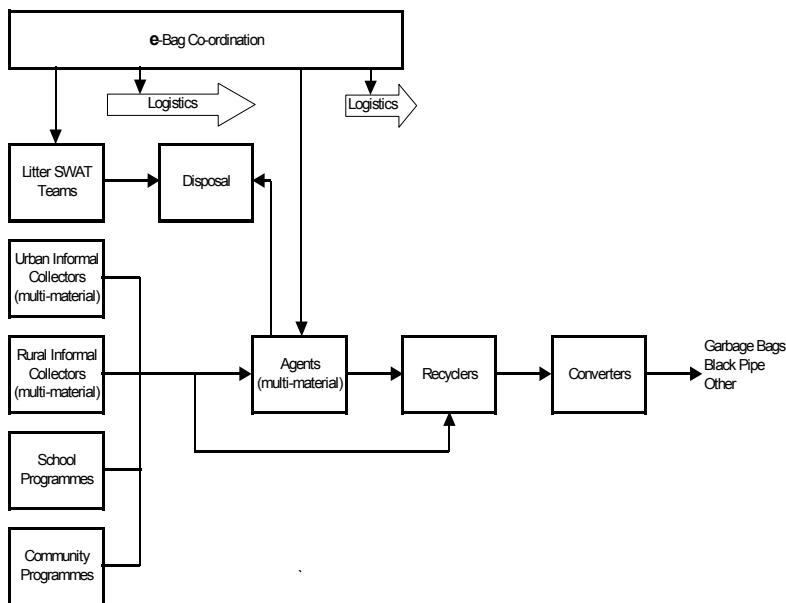


Figure 1: Plastic bags and other materials collection strategy (supplied by the PFSA, 2004).

The collectors would primarily collect plastic waste and sent it to collecting agents who would sell the collected plastic shopping bags to e-Bag Initiative or directly to recyclers who would in turn claim payment from the e-Bag Initiative (figure 1). In order to recover about 5% of the plastic shopping bags, the market price for recovered plastic shopping bag was set at R1,400 (about US\$235 as of January 2005) per tonne.

#### 4.3.3 Implementation

Polymer manufacturers and importers as well as plastic shopping bag manufacturers and importers, recyclers and retailers would register with e-Bag South Africa first PFSA *et al* [8]. Furthermore, these stakeholders were supposed to provide specific information to the e-Bag Initiative on a quarterly basis. This information included the total weight of polymer manufactured or imported and sold for plastic bag conversion as well as total weight of: plastic shopping bags manufactured or imported; those recovered through the litter collection strategy; those recovered through the refund system; those recovered from drop-off points; those provided to consumers; total weight of recyclate generated; recyclate to different end products; and material not suitable for recycling and disposed of to landfill.

At the other end, manufacturers were supposed to report on a monthly basis regarding the number of plastic shopping bags sold to retailers and the quantity of litter that is collected. This information would be collected at a local authority level and aggregated to a provincial and national level with DEAT providing information collected through the integrated waste management system. From the data generated, the annual rate of recycling, litter removal from the environment and waste reduction were to be determined and reported. In terms of finance, an estimated R84.5 million was expected from the proposed levy and this figure was based on locally manufactured plastic shopping bags only.

#### 4.3.4 Plastic Bag Agreement and environmental law reforms

In September 2002 the Government entered into a Plastic Bag Agreement with organised business (Chemical and Allied Industries Association, Plastics Federation of South Africa, Plastic Recyclers Employers Organisation, and the Retailers Plastic Bag Working Group) and organised labour (Cosatu and National Council of Trade Unions). The Retailers Plastic Bag Working Group was made up of representatives from Pick'n Pay Retailers (Pty) Ltd, Woolworths (Pty) Ltd, Clicks Stores and Shoprite Checkers (Pty) Ltd. The Government and its partners adopted the e-Bag Initiative and agreed upon the following concerning the amendments to the 2002 Plastic Bag Regulations DEAT [5]: minimum thickness was set at 30 microns, disclosure and transparency of cost at checkout points, printing on plastic bags (to include a safety or environment related message, name of converter, e-mark, polymer identification grade, product purchase bar code and country of origin), creation of recycling market, creation of Buyisa-e-Bag South Africa and promotion of job creation, mandatory levy and prevention of illegal imports as well as the enforcement date that was set for 9 May 2003.

The Plastic Bag Agreement resulted in the repulsion of the May 2002 regulations that were replaced by the watered down May 2003 regulations. The Agreement also resulted in the June 2003 Compulsory Specifications for plastic shopping bags standards. Buyisa-e-Bag became operational in May 2004 with a government budget of R20 million allocated annually for the next three years. The reason why a budget line was established according to the Director of Waste Management in DEAT Moathse [12] was that the levy from the plastic shopping bags was not 'ring-fenced' and could not be collected specifically for activities related to dealing with plastic shopping bags.

To facilitate the collection of the levy, the Revenue Laws Amendment Act of 2002 was amended in 2003 to make provision for the imposition of environmental levies RSA [13]. Furthermore, in 2004 the Environmental Conservation Act of 1989 was amended to enable the Minister of Environmental Affairs and Tourism to make regulations regarding financial matters relating to specific waste types.

#### 4.4 Results from implementation

##### 4.4.1 Demand for plastic shopping bags and impacts on jobs

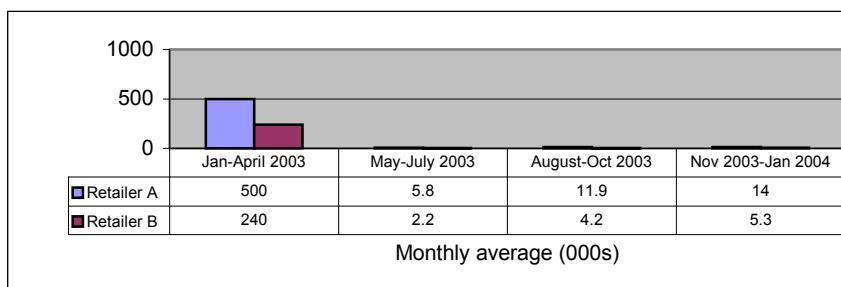
The following figures revealed the trend in demand for plastic shopping bags from the manufacturing plants. The figures and narratives were sourced from two manufacturing plants, one from Johannesburg and the other from Cape Town. Both plants belonged to the largest plastic shopping bag producer in South Africa. The first response indicated that the company had retrenched 150 (75%) of 200 employees Interview T11 [14]. The interview also revealed that the company used to produce 5 million bags per day and after the regulations, only 800,000 were being produced and as such operating a four-day shift from seven days previously. Another interview indicated that the plant was also operating on a five-day production week producing between 1.7 and 2 million bags per day. The total staff compliment was 225 compared to 166 that were left after retrenchments Email 13 [15].

Average figures from these two plants show that only 1,325 million plastic bags per day (about 311.4 million bags a year compared to 3.65 billion before the regulations) were being produced. This represents an estimated 92% cut in the actual number of plastic bags getting to the consumers. The 92% reduction in this company production figures also translate into a 42% slash of shopping plastic bags consumption and circulation at a national level just from a single producer if the base of 8 billion plastic shopping bags circulated annually previously in the county is used. On the jobs front, the figures represent about 49% of total (209 out of 425 employees).

The demand for plastic bags was also monitored for a complete year from two out of the three major groceries retail chains in Grahamstown between January 2003 and January 2004. The two retail chains are among the top three in the country. The period was selected to provide insights concerning demand before the regulations and demand after the regulations. Three distinctive phases emerged: one focusing on prior to the regulations (January to 8 May 2003), the other when the plastic bags were sold for between 26-46 cents (9 May to 11

August 2004) and when the plastic shopping bag ‘war’ erupted resulting in plastic bag prices being cut to between 10-17 cents (12 August and after). This is the price that plastic bags are being sold at to-date. Monitoring direct consumption was done in order to experience the real situation on the ground as events unfolded at the ‘lowest’ possible scale (local). The figures then presented a good case for comparison with sectoral and national patterns.

The demand situation from the observations is presented in graph 1. The figures presented in graph 1 show that demand trends at the local scale were similar to those experienced by the producers. The average monthly plastic shopping bag demand drastically fell by 98.8% (for Retailer A) and 99.1% (for Retailer B) during the first three months after the introduction of the Plastic Bags Regulation on 9 May 2003.



Graph 1: Retail plastic shopping bags monthly demand (000s).

However, the demand increased slightly after the reduction in plastic shopping bags prices on 12 August 2003 although overall, the demand remained subdued at 2.4% of the base average monthly consumption of 500,000 (for Retail A) and 1.8% (for Retail B) in the next three months between August to October. The trend improved slightly during the Christmas and New Year festive season. Average monthly demand rose slightly to 2.8% (from 2.4%) of average monthly base consumption of 500,000 (for Retail A) and 2.2% (from 1.8%) for Retail B. Overall, the monthly average demand for the two retail outlets fell by 98% from the period when the regulations were enforced to the end of the monitoring period in January 2004.

#### 4.4.2 Environmental and social impacts

From a statement that appeared on the DEAT website on 16 July 2003 DEAT [16], the Wildlife and Environment Society of South Africa (WESSA) was one of the early beneficiaries of the introduction of the Plastic Bags Regulations. Its joint initiative with the Spar retail chain to introduce the Cloth Bags and EcoBag resulted in two sets of donations: a R16,000 donation for WESSA Border-Kei Region Office in October 2000 and another R50,000 on 18 July 2003 for the Head Office in Kwazulu-Natal. Follow-ups in separate interviews granted by Makana, Nelson Mandela Metro, City of Cape Town, Govarn Mbeki and Tswane local authorities also confirmed that the new law has led to a significant reduction in plastic shopping bags litter and pollution in the environment.

Another environmental benefit has already been discussed under the *Kids in Parks Programme*.

The Kids in Parks Programme DEAT [17] is an initiative aimed at transforming and developing the school curriculum. The programme was jointly launched by the Ministries of Education and Environmental Affairs and Tourism in partnership with Pick'n Pay and South African National Parks (SANParks) in October 2004. This environmental education programme aims to DEAT [17]: provide meaningful environmental education (within the framework of Outcomes-Based Education and Curriculum 2005) so as to equip future generations with the knowledge and skills needed to manage the environment, enhance cultural resource management and indigenous knowledge, strengthen community-parks relationships, and contribute to local economic development through subcontracting, community-driven enterprises, joint ventures, apprenticeships and employment. The programme received initiation funding of about R 9 million (about US\$ 1.5 as of January 2005) from retail giant Pick'n Pay from its R1 donation per each Green Bag sold it pledged towards this environmental initiative Smith [18].

## 5 Conclusion

This paper presented two distinctive approaches to waste product regulation: government oriented command-and-control and organised business oriented self-regulation. The paper also discussed debates surrounding the initiatives and how the two approaches to regulation were married resulting in the repulsion of the May 2002 Plastic Bag Regulations through the Plastic Bag Agreement. The paper also revealed that the waste regulatory instruments managed to significantly benefit the environment with an estimated 83% (on average) of the plastic shopping bags having been removed from the environment a year later. A number of environmental programmes and organisations, among them, the Kids in Parks Programme and WESSA also benefited from the regulatory framework. The biggest challenge, however, is the sustainability of the initiative as well as the challenges the regulations presented to labour.

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