

**Environmental policy processes surrounding South Africa's Plastic Bags
Regulations: Tensions, debates and responses in waste product regulation**

Thesis

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By

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ABSTRACT

This study was conducted in South Africa. South Africa is the first country within the Southern African Development Community to have regulated plastic shopping bags waste through the imposition of both a standard on thickness and a levy. Given this scenario, the Plastic Bags Regulations present an illustrative case for researching complexity, uncertainty and controversies surrounding a new trend in environmental policy making, namely waste product regulation. The thesis focuses on understanding and investigating *tensions*, *debates* and *responses* emerging from the policy process as *actors* and *actor-networks* put not only the Plastic Bags Regulations as *focal* actant (token) but also other actants and actant-networks as well. To this end, a research question that addressed environmental policies, tensions, debates and responses that informed the development of South Africa's Plastic Bags Regulations was spelt out. The research objectives included the need to: (1) analyse selected international environmental policy processes surrounding plastic shopping bags litter and waste regulation and how these influenced developments in South Africa; (2) identify actors, actants and actor/actant-networks that shaped and were being transformed by South Africa's Plastic Bags Regulations and explain the tensions, debates and responses arising in the policy processes; (3) identify environmental policy outputs and assess outcomes emerging from the formulation and implementation of South Africa's Plastic Bags Regulations; and (4) establish patterns in environmental policy process reforms around South Africa's Plastic Bags Regulations.

The language of actors (human), actants (non-human) and actor/actant-networks brings to the fore the aspects of *processes* and *relationships* that exist around them. As such, insights from the actor/actant-network theory (AANT) were drawn upon to inform the research. AANT enquiry framework collapses binaries such as nature/society, art/science, structure/agency and global/local historically associated with a particular type of social theory. AANT also denies that purely technical, scientific or social relations are possible (the notion of *quasi-objects* or *token*). Data sets were generated *following* the Plastic Bags Regulations as token actant with time frames ranging from *prior to*, *during* and *after* the formulation of the regulations. Similarly, data analysis drew insights from AANT's four moments of translation namely *problematization*, *interessement*, *enrolment* and *mobilisation*, with the intervention theory providing an evaluative perspective that complemented AANT.

The findings were that after the promulgation of the first draft of the Plastic Bags Regulations in May 2000, tensions emerged around the nature of regulation (whether *command and control* – preferred by government or *self regulation* – preferred by industry and labour). In this regard the

latter group raised concerns about jobs, income and equipment loss as well as the need to have a holistic approach to waste management rather than targeting a single product at a time whilst the former maintained that this would not be so. As such, education, awareness and stringent anti-litter penalties were proposed by industry and labour as *sustainable* responses to the problem of plastic shopping bags waste rather than regulation. These debates continued and resulted in minor amendments to the original regulations as finalised by Government in May 2002. However, industry and labour continued lobbying government resulting in the conclusion of the *Plastic Bags Agreement* in September 2002 and the ultimate *repulsion* of the May 2002 regulations in May 2003. As revealed by this research, these responses led to broader social responses and further tensions as demand for plastic shopping bags went down by about 80% although an estimated 1000 jobs were lost and a number of companies lost equipment and business (with some closing down) following the implementation of the regulations. During implementation, debates emerged around the need to promote locally made carry facilities with two alternatives in sight namely: the *Green Bag* and the *Biodegradable Plastic Bag*. Debates also took place regarding enforcement of the new law resulting in the amendments of various pieces of legislation including the Environmental Conservation Act, Environmental Management Act and the Revenue Laws Act. Overall, a 15-year policy reform cycle and sub-cycles was determined. The research also established that the government considered the regulations a success and was already implementing similar initiatives to regulate other waste products, among them, used tyres, used oil and glass, confirming the trend towards waste product regulation in South Africa.

From these research findings, a series of conceptual frameworks were drawn up to clarify the nature of tensions, debates and responses surrounding certain lead actors, actants and actor/actant-networks. Some of the conceptual frameworks that emerged around the actors and actor-networks include *Organised Government*, *Organised Industry* and *Organised Labour*. Conceptual frameworks that emerged around key actants and actant-networks include the *Integrated Pollution and Waste Management*, *Plastic Bags Regulations* as well as the discourses surrounding the *Green bag* and *biodegradable plastic bags*. The thesis concludes by reflecting on how the above and the *grand* actor/actant-network conceptual frameworks emerging from this research might be adopted with varying degrees of flexibility to research environmental and waste management policy processes in different waste product regulation set-ups.

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LIST OF ACRONYMS

| | |
|---------|---|
| AANT | Actor/actant-network theory |
| ACCI | Australian Chamber of Commerce and Industry |
| ACR | Australian Council of Recyclers |
| AMRC | Association of Municipal Recycling Coordinators |
| ANZECC | Australian and New Zealand Environment and Conservation Council |
| ARA | Australian Retailers Association |
| CAIA | Chemical and Allied Industries Association |
| CBOs | Community based organisations |
| CONEPP | Consultative National Environmental Policy Process |
| DEAT | Department of Environmental Affairs and Tourism |
| DEFRA | Department of Environment, Food and Rural Affairs |
| DEH | Department of the Environment and Heritage |
| DEHLG | Department of Environment, Heritage and Local Government |
| DELG | Department of Environment and Local Government |
| DG | Director –General |
| DPLD | Department of Provincial and Local Government |
| DTI | Department of Trade and Industry |
| DWAF | Department of Water Affairs and Forestry |
| EJNF | Environment Justice Network Forum |
| EPA | Environment Protection Agency |
| EPHC | Environment Protection and Heritage Council |
| EU | European Union |
| GEAR | Growth, Employment and Redistribution |
| HDPE | High-density polyethylene |
| IP & WM | Integrated Pollution and Waste Management |
| ISO | International Standards Organisation |
| LDPE | Low-density polyethylene |
| MINMEC | Committee of Ministers and Members of the Executive Councils |
| Nedlac | National Economic Development and Labour Council |
| NEMA | National Environment Management Act |
| NEPAD | New Economic Partnership for Africa's Development |
| NEPC | National Environment Protection Council |
| NGOs | Non governmental organisations |

| | |
|--------|--|
| NPBWG | National Plastic Bags Working Group |
| NWMS | National Waste Management Strategy |
| PCSA | Packaging Council of South Africa |
| PET | Polyethylen-terephthalat |
| PFSA | Plastics Federation of South Africa |
| PIFA | Packaging and Industrial Films Association |
| PMG | Parliamentary Monitoring Group |
| PREO | Plastic Recycling Employers Organisation |
| RISDP | Regional Indicative Strategic Development Plan |
| RoZ | Republic of Zimbabwe |
| RSA | Republic of South Africa |
| RTE | Real time evaluation |
| SADC | Southern African Development Community |
| SARS | South African Revenue Services |
| STANSA | Standards South Africa |
| UN | United Nations |
| UNCED | United Nations Commission on Environment and Development |
| UNDP | United Nations Development Programme |
| UNEP | United Nations Environment Programme |
| WCED | World Commission on Environment and Development |
| WSSD | World Summit on Sustainable Development |
| ZWNZT | Zero Waste New Zealand Trust |

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DEDICATION

To my dear wife Senia Nhamo and lovely child Anesu Tadiwanashe Nhamo.

CHAPTER ONE

INTRODUCTION AND CONTEXT OF THE STUDY

1.0 INTRODUCTION

This chapter provides the context in which the research was undertaken. Background information is presented articulating the research problem. The chapter starts by locating the study area and its historical context. This is followed by sections covering sustainability in South Africa's waste management, issues around integrated solid waste management, plastics and the environment, plastic recycling in South Africa as well as the justification of the study. The last part presents the research focus (i.e., the questions, goal and objectives) and thesis outline.

1.2 STUDY AREA AND HISTORICAL CONTEXT

South Africa is the last country to have gained independence on the African continent in 1994. Today, it stands as one of the backbones of the African economy having taken a lead role in the development of the New Economic Partnership for Africa's Development (NEPAD, 2002). The country is also a member to a number of regional and transnational trading blocks, among them, the 14 member states Southern African Development Community. The following paragraphs focus on South Africa's land resources, population and the footprints of urban apartheid.

1.2.1 Government system and land resources

South Africa has a complex government system that includes the national legislature (parliament), executive authority (president, cabinet and deputy ministers), justice system, national departments, state institutions supporting constitutional democracy, traditional leadership, provincial and local governments, co-operative governance, public administration and security services (<http://www.info.gov.za/aboutgovt/index.htm>, 17 January 2005). However, for the purposes of this study, brief descriptions will be undertaken for selected structures, particularly the national, provincial and local governments as well as the national departments. Both the national and provincial governments are run along the lines of portfolios and portfolio committees (RSA, 1996a). The national legislature comprises bodies such as the National Assembly, National Council of Provinces and parliamentary portfolio committees (<http://www.info.gov.za/aboutgovt/index.htm>, 17 January 2005). Up to 37 national departments were in existence by the time of completing this write-up (*ibid*). The provincial governments are lead by premiers and various Members of the Executive Council for different portfolios, including that for Environment and Nature Conservation (RSA, 1996a).

The provinces are further divided into local government jurisdictions, both urban and rural. The mayor and deputies as well as town clerks and ward councillors head the local governments falling within the category 'urban' while those that are 'rural' fall under council and traditional leadership (DPLD, 1998). Before December 2000, the local government sector comprised about 843 municipalities (Department of Labour, 2002) and this number was reduced to 284 following the amalgamation of municipalities into four major structures. The new structures include metros, local municipalities, district municipalities and district management areas (RSA, 1998a). The first three structures resemble features aligned towards the 'urban' set up whereas the last set is more 'rural'. Metro Councils should have more than 500,000 voters and are organised around sub-councils (Paralegal Advice Organisation, 2004). Six such metros existed as of December 2004: Johannesburg, Cape Town, Durban, Pretoria, Nelson Mandela (formerly Port Elizabeth) and East Rand (*ibid*).

In terms of environmental and waste management, the full administrative structure involves, at the national level, the Parliamentary Portfolio Committee for Environmental Affairs and Tourism, the Minister of Environmental Affairs and Tourism plus the Deputy, Committee of Ministers and Members of the Executive Councils (MINMEC) for Environment and Nature Conservation as well as the Director General (DG) and the Deputy DG of the Department of Environmental Affairs and Tourism (DEAT). Under the DG comes a number of branches or programmes, chief directorates and various directorates including the branch for Environmental Quality and Protection (Matjila & Joubert, 2004; DEAT, 2004). The branch for Environmental Quality and Protection has two chief directorates: (1) Regulatory Services (made up of four directorates namely Enforcement, Compliance Monitoring, Authorisations and Environmental Impact Management) and (2) Pollution and Waste Management (made up of another four directorates namely Chemicals Management, Environmental Economics, Air Quality and Waste Management) (*ibid*). At provincial level the Members of the Executive Councils for Environment and Nature Conservation head environmental affairs (including waste management) with input from the Provincial Portfolio Committees responsible for environment. At the local government level, environmental and waste management responsibilities are shared between departments of Environmental Health, City Engineers (including Town Planning) and Parks and Recreation (DPLD, 1998). These departments are assisted at the council level by Portfolio Committees for the Environment, ward councillors and ward development committees.

South Africa is divided into nine administrative provinces that cover land area ranging from about 17,000 square kilometres (1.4% of national) for Gauteng to about 362,000 square kilometres (29.7% of national) for the Northern Cape (Statistics South Africa, 2001). The other seven provinces are the Eastern Cape, Free State, Kwazulu-Natal, Limpopo, Mpumalanga, North West, and Western Cape. Overall, the country's total surface area is estimated at 1.22 million square kilometres (*ibid*), making it the second largest country in southern Africa after the Democratic Republic of Congo with about 2.35 million square kilometres of land area (Mapquest, 2004).

1.2.2 Population numbers

The 2001 census estimates South Africa's total population at 44.8 million (Statistics South Africa, 2004). The Northern Cape Province, which is the largest in terms of area, hosts only 1.8% of the national population, with Gauteng having the second largest (19.7%) after Kwazulu-Natal with 21%. One other striking aspect of the South African population concerns the large numbers of those aged 20 years and above who have never been to school. About 4.6 million (10.3%) in this age group never went to school. If the figure is added to those 20 years and above who only managed some kind of primary education (12.7%), the figure goes up to 23% of the total population having only reached primary education (*ibid*). This figure has strong bearing on the study in terms of linking the grassroots to participation during environmental and waste management policy processes. Usually, these people are disempowered and have little to contribute during such debates, particularly where policies are put in government gazettes for comments before being passed (Christopher, 2001).

Language is another issue. There are 11 major languages spoken in South Africa with Zulu having the largest share at 23.8%, followed by Xhosa with 17.6% (Statistics South Africa, 2001). The least spoken language is Ndebele (1.6%) followed by Venda (2.3%). The other languages spoken include Afrikaans (13.3%), Pedi (9.4%), English and Tswana (8.2% apiece), Sotho (7.9%), Tsonga (4.4%), Swati (2.7%) and other (0.5%). Language stands out as a barrier to effective communication and public participation in social policy. People participate actively if they understand what is being communicated to them (Maibach, Rothschild, & Novelli, 2002). For South Africa, this might imply translating discussion documents into the 11 major languages identified.

In terms of employment, only 33.7% of the economically productive (15-65 age group) are formally employed (Statistics South Africa, 2001). Household size averages 3.8 people although

this differs significantly across population groups ranging from the smallest found in white population (2.8 people), black (3.9), Indian (4.0) and Coloured (4.3). Issues of both employment and household size impact on service delivery in the country, particularly given that the preferred future is based on the commercialisation of municipal service delivery (Qotole, Xali, & Barchiesi, 2003; DPLD, 2000).

1.2.3 Apartheid footprints in urban development and waste management

In his book 'The atlas of changing South Africa', Christopher (2001) sees apartheid as the battle to control space and specific places. He claims that South Africa was partitioned into discrete, legally defined groups. Segregation operated from what he terms 'petty apartheid' exemplified by different entrances to buildings and residential areas, to 'grand apartheid' that involved separating nation-states. In this regard, three typologies of apartheid are identified: state, urban and personal. The focus of this research will, for now restrict the discussion to a more in depth perspective on urban apartheid.

During the late 1940s, the ruling National Party concentrated on implementing residential segregation in urban areas. As such, political debate in the 1960s was essentially urban based as frantic legalised efforts were made to restrict the black majority populace from getting into cities (Christopher, 2001). This was enforced through two major acts: the Population Registration Act, and the Group Areas Act, both passed in 1950. The Population Registration Act established three core groups namely: White (European), African (Bantu or Black) and Coloured. The Coloured group was further subdivided into Cape Malay, Griqua, Indian, Chinese and Cape Coloureds. Urban land uses and space were also zoned following these population groups with the black majority put into zones as far away as possible from the central business districts and/ or at times closest to their work places where environmental pollution (including waste) was high. Townships were created with the remaining unemployed blacks forced to go to homelands such as Boputhatswana, Ciskei, and Transkei. This was done through a number of additional acts that included among them (*ibid*): the Abolition of Passes Act (1951), Native Resettlement Act (1954), Natives (Urban Areas) Amendment Act (1955), Bantu Laws Amendment Act (1965) and the 1984 Black Communities Development Act. This resulted in great anger and disappointment from within the previously disadvantaged communities leading to armed resistance and ultimately an independent and democratic South Africa in 1994 (RSA, 1996a).

The footprints of apartheid in as far as waste management is concerned is best summarised by Qotole, Xali and Barchiesi's (2003: 1) quote below. They write:

The collection of household refuse – or the lack of it – is one of the most powerful visual benchmarks of inequality in South Africa. Although the situation has improved somewhat since 1994, formerly whites-only suburbs are still kept immaculately clean with regular door-to-door refuse collection and teams of street sweepers, while most black township and rural area residents are forced to dump their refuse in open spaces or in unsealed communal skips.

The work of these authors is based on two case studies on the Billy Hattingh micro-enterprise refuse collection programme in Khayelitsha (Cape Town) and the corporatised refuse collection service ‘Pikitup’ in Johannesburg. Johannesburg and Cape Town are the largest and second largest metropolitan centres in South Africa respectively. Some of the major findings from the studies were that the whole policy shift to commercialising waste removal lacked proper public consultation, with the voices of concerned grassroots silenced. It also resulted in the loss of public sector human skills base and in some cases unemployment.

Statistics South Africa (2001), established that out of about 11.2 million households in South Africa, about a million of them (9%) did not have any form of refuse disposal facility. About 6.2 million households (55%), enjoyed a weekly refuse removal service from local authorities. Other services provided (or lack thereof) and their distribution by population groups is shown in table 1.1.

Table 1.1: Refuse removal services by household and population group

| Service | Number of households | | | | | |
|-------------------------------|----------------------|---------------|----------------|------------------|-------------------|------------|
| | Black African | Coloured | Indian/Asian | White | Total | % of total |
| Weekly from local authority | 3,909,787 | 746,509 | 273,744 | 1,280,176 | 6,210,215 | 55 |
| Less often by local authority | 147,972 | 11,984 | 1,376 | 10,694 | 172,027 | 2 |
| Communal refuse dump | 167,045 | 17,354 | 781 | 10,499 | 195,679 | 2 |
| Own refuse dump | 3,447,516 | 100,018 | 5,934 | 101,574 | 3,655,043 | 33 |
| No facility at all | 952,730 | 12,171 | 1,094 | 6,747 | 972,741 | 9 |
| <i>Total</i> | <i>8,625,050</i> | <i>88,036</i> | <i>282,930</i> | <i>1,409,689</i> | <i>11,205,705</i> | <i>100</i> |

Source: Compiled from Statistics South Africa (2001: 106)

Table 1.1 raises interesting facts about the biased services concerning refuse removal across South Africa. An estimated 90.8% of white households enjoyed weekly refuse removal services from local authorities as of 2001 (Statistics South Africa, 2001). This figure is in sharp contrast to only 45.3% coverage of the same facility in black households. On the other end of scale, only half a percent of white households did not have any form of refuse removal service compared to 11% of black households, a figure that reduces slightly to 9% if all the previously disadvantaged

communities' households are included in the analysis. This picture presents a big challenge for South Africa's future environmental and waste management policy. Findings from this research revealed that the use of authorised open refuse dumping and communal skips is still common practice in Grahamstown (Eastern Cape Province) and other areas (see section 5.7.5).

1.3 SUSTAINABILITY IN SOUTH AFRICA'S WASTE MANAGEMENT POLICIES

Sustainability of development, and particularly environmental and waste management policies and policy processes in South Africa is framed around the involvement of actors and takes into consideration their diverse interests (UNDP South Africa, 2003). In this regard, actors from the state, private and collective sectors are identified as key to achieve development that is sustainable in waste management (DEAT, 2000i). This is what Pape and McDonald (2002), refer to as the stakeholder governance model. The state has jurisdiction over the (in) justices in social policy aspects and needs to play a delicate act of balancing interests from the private and collective actors. The private sector's interests are concerned with profit and the need to have a predictable political and regulatory framework (UNDP South Africa, 2003). However, of late, industry has been buying in to the concept of good environmental stewardship. The sponsoring of this research by Nampak bears witness to this claim¹. The collective sector (NGOs, CBOs, labour, general public, etc) is located on the ground where waste management related problems are experienced and these groups often have understandings that are needed to seek and implement solutions and monitor policies. Civil society, as it is commonly known, has become a key partner in the development process as it provides alternative and complementary channels for mobilising human and financial resources.

Despite significant achievements in policy development in South Africa (UNDP South Africa, 2003), growing unemployment, income poverty and inequality and the shortfalls in service delivery systems have fuelled criticisms about the effectiveness of the Government policies to transform the conditions of the previously disadvantaged poor. Policy failure at implementation level is blamed on a number of aspects, particularly the absence of high-level policy skills and middle-level governance and management skills. The implementation gap has also been associated with high volumes of official policy documents and legislation prepared since the birth of a democratic South Africa in 1994 (*ibid*). In terms of waste management, several policies and associated documents were prepared that confirm the heavy implementation load discussed

¹ Nampak sponsored this three-year industry-environment interface research to have insights into sustainable development and zero waste policy in South Africa.

above. For example, the following documents were prepared during a three-year period covering 1998 to 2000:

- National Environmental Management Act (RSA, 1998b)
- National Environmental Management Policy (DEAT, 1999a)
- National Waste Management Strategy and Action Plans (DEAT, 1999d)
- White Paper on Integrated Pollution and Waste Management (DEAT, 2000i)
- Draft Plastic Bag Regulations (DEAT, 2000a)

There was also a series of starter documents that accompanied the White Paper on Integrated Pollution and Waste Management that include:

- Starter document for general waste collection: Guideline document for waste collection in high density unserved areas (DEAT, 2000d)
- Legal Framework Document for Integrated National Waste Management Planning (DEAT, 2000b)
- Starter Document for Integrated National Waste Management Planning: Review of Current Legislation (DEAT, 2000c)
- Starter Document for Guidelines for the Compilation of Integrated National Waste Management Plans
- Starter Document for General Waste Collection: Guideline Document for Waste Collection in High Density Unserved Areas - Reference Document (DEAT, 2000e)
- Starter Document for Waste Recycling: Legal Framework Document for recycling (DEAT, 2000h)
- Starter Document for Waste Recycling: Background Document of Post Consumer Recycling in South Africa and Internationally (DEAT, 2000g)

One aspect that stands out clearly in terms of policy processes, is the acknowledged involvement of civil society (including those from the grassroots) during the drafting of these core waste management documents (DEAT, 2000i; DEAT, 1999a; DEAT, 1999d). However, the high profile environmental and waste management policy reform was not matched with a deliberate effort to build the human resource base, especially at local government level where much of waste management policy implementation takes place (UNDP South Africa, 2003).

All capacity-building initiatives were directed at the national and provincial government levels (UNDP South Africa, 2003). Even so, the programmes at provincial level were largely *ad hoc* leading to some poor provinces such as Eastern Cape and North West being unable to develop and implement appropriate strategies to capacitate their middle management staff. A focus that places policy failure on implementation aligns itself to the traditional top-down, rational approach in social policy (Keeley & Scoones, 2003; Lane, 1990). This approach views policy as following neatly laid down procedures and discrete stages from agenda setting, decision-making,

formulation, implementation and ultimately evaluation (*ibid*). In this regard, any failure in social policy is blamed on poor management (Hill & Hupe, 2002). This is contrary to one of the cornerstones of this work that looked at environmental and waste management policy around the Plastic Bags Regulations as a process shaped by a series of linked and cyclical stages that cover the entire policy cycle (Rist, 2000; Parsons, 1995) from agenda setting decision-making through formulation, to implementation and evaluation. In this regard, what happens during agenda setting has bearing on any other stage in the policy process and vice versa.


With regard to macroeconomic policy and waste management, the 1996 Growth, Employment and Redistribution (GEAR) stands out as the central policy (UNDP South Africa, 2003). GEAR aimed to reduce the budget deficit from about 5% to below 3% by 2000. This resulted in severe restrictions on expenditure (as rightfully pointed out by respondents from local authorities during field work), particularly on local government service delivery, including waste management. This resulted in new models based on municipal services cost recovery (Pape & McDonald, 2002) and public-private partnerships (DPLD, 2000) being established. Since then there has been antagonism in policy matters, especially between government and civil society on matters relating to privatisation, partnerships and service delivery (UNDP South Africa, 2003).

1.4 INTEGRATED MUNICIPAL SOLID WASTE MANAGEMENT

A number of nouns (Lombard, 1994) are commonly used to in terms of municipal solid waste (MSW). These include by-product, cuttings, debris, dung, carcass, garbage, litter, refuse, residue, rubbish, rubble, scrap, sewage and tailing. Whatever we may wish to call it, waste is characteristically a human concept, as this does not exist in a typical ecosystem. The nouns trash, garbage, refuse and rubbish (McKinney, 1996) are often used as synonyms although technical explanations may be attached to each one of them. Trash refers to typically 'dry' and non-edible waste products, for example, paper and board, plastic, glass and metal. Garbage refers to rather 'wet' matter, such as food remains, yard waste and carcass. Refuse captures both trash and garbage whilst rubbish incorporates refuse as well as construction and demolition debris. Waste may also be classified as hazardous and non-hazardous or into solid, liquid and gas (Tchobanoglous, Theisen, & Vigil, 1993). In South Africa, waste is classified into two main groups: general and hazardous (DEAT, 2000i). From the two groups, waste is further divided according to its source of origin into: domestic, commercial or industrial. General waste, which is of relevance to this study, is further sub-divided into paper, metals, glass, plastic, organic and inert materials.

The subject of waste management therefore brings together a host of aspects and disciplines that aim at improving the delivery of the services so as to promote good environmental stewardship. Much of solid waste handled by municipalities is packaging (paper, glass, plastic and metal) and as such the management style should follow an integrated approach. Integrated solid waste management refers to the control of the generation, storage, collection, processing and ultimate disposal of solid wastes in a way that is in agreement with best principles of good environmental stewardship. The practices therefore cover a range of aspects from public health, environmental science and education, engineering, economics, finance, planning and many more. The commonly used methods of disposal at the turn of the 20th Century were: dumping on land, dumping into water bodies, trenching, feeding to animals and incineration. Sanitary landfilling came into being in the early 1930s and until recently it has been the major waste management system in place internationally (EPA, 2000a) and in southern Africa. Modern waste management strategies emphasise pro-active (preventive) rather than re-active (end-of-pipe treatment and disposal) measures. In this regard a waste management ladder can be drawn (figure 1.1) that aims at achieving zero waste.

Figure 1.1: Waste management ladder

| <i>Management parameter</i> | <i>Categories</i> | <i>Priority/Level of pollution</i> |
|-----------------------------|--------------------------|---|
| <i>Zero Waste</i> | No waste at all | Most preferred option <i>(pro-active)</i>  Least preferred option <i>(re-active)</i> |
| <i>Cleaner production</i> | Refuse/Prevent | |
| | Reduce/Minimise | |
| <i>Recycling</i> | Re-use | |
| | Recover | |
| | Compost | |
| <i>Treatment</i> | Incineration for energy | |
| | Physical | |
| | Chemical | |
| <i>Disposal</i> | Landfill | |
| | Open burning and dumping | |

Source: Modified after CEC (1994), DEAT (1999c) and DEHLG (2004)

In zero waste, the primary responsibility for negative product impact on the environment is placed on both *manufacturers* and *consumers* (Earthlife Africa, 2002). Emphasis is also placed on educating the public as well as developing strategies that may influence and enhance public

involvement in waste prevention, re-use and recycling (Pauli, 1997). To this end, the South African Government, private sector and civic society signed, on 28 September 2001 the Polokwane Declaration that stipulates the need to achieve zero waste status in all sectors by the year 2022.

1.5 PLASTICS AND THE ENVIRONMENT

Since the focus of this research is on managing plastic waste, it is inevitable to consider aspects concerning plastics and the environment. Plastics are a valid resource and it is foolish not to give them major respect (Stevens, 2002). They are cheaper than alternative materials and their properties make them a preferred choice for use in a range of sectors, from packaging to engineering. Some of the common uses of plastics cover packaging (by far the largest), building technology, consumer products, transportation, furniture and electrical (Levy, 2000).

Issues pertaining to plastics and the environment are two fold: those around raw materials and production processes; and those regarding plastic litter and waste. Plastic usage has increased remarkably in the last decade and this has led to pressure on the source of raw materials. Virtually all plastics are made from non-renewable, heavy pollutant petroleum products (crude oil, natural gas and coal). On the other hand, the problem of plastic waste, both in the managed mainstream and litter is not new. In the 1960s, it was suggested that so much plastic had been produced that the entire planet “could be wrapped in it” Stevens (2002: 6). However, it is not so much the use of plastic that poses the greatest threat, but the magnitude of its use given that an estimated 30 billion kg plus of plastics are generated annually in the USA alone. Of this figure, more than 50% becomes part of the municipal solid waste stream of which plastic in this waste stream account for between 5-7% of the total weight (Levy, 2000; Fishbein, 1994). Overall, more than 50% of all discarded plastic comes from packaging, of which a third is accounted for by one-way packaging. Plastic litter, particularly plastic bags, is also associated with severe aesthetic poverty (Stevens, 2002; Levy, 2000). Highways and other environs are littered, with beach litter often containing between 40% and 60% plastics. Plastic litter is also hazardous to a range of living creatures that can die as a result of ingestion or by becoming entangled. It is estimated that more than 100,000 marine mammals and 700,000 sea birds (Hugo, 2004; Short, 2003) die every year from encounters with plastic marine debris. Given the vast coastline and marine resources of South Africa, this must be a cause of concern and significant to environmental and waste management policy processes surrounding the Plastic Bags Regulations.

1.5.1 Problems associated with recycling plastics

Plastic waste usually suffers from contamination introduced during original usage. Recycling is easy within processing plants (pre-consumer) before the plastic gets dirty. Otherwise post-consumer recycling is heavily dependent on the setting up of easily accessible and efficient separation by type points (Stevens, 2002). Kerbside and drop-off recycling stations are widely used in many developed countries from the EU, USA, Australia and Canada. However, plastic recycling technology is still in its infancy, especially the use of compatibilisers and stabilisers used to recycle mixed plastic feedstock (*ibid*). Plastic formulations and printing (DTI, 2003) also limit recycling potential and as such, simple formulations are being worked upon so as to enhance recycling. This has been the case with regulating printing on plastic shopping bags in South Africa.

However, even if plastic is recycled, its products suffer from poor quality, which affects product demand, and in turn results in viability problems. Some of the common products made from recycled plastic include outdoor furniture, refuse bins, pipe, toys and lumber (PFSA, 2001). The single largest limitation to plastic recycling relates to high transportation costs associated with delivering the feedstock to recycling depots. As revealed by this study, plastic recycling also suffers from sectoral competition as collectors and recyclers would first seek economically rewarding waste products such as paper and board, glass and metal (see section 6.8.1).

1.5.2 Plastic problem in South Africa

About 3,500 particles of plastic per square kilometre of sea were recorded off the southern coast of South Africa (Hugo, 2004). Other surveys conducted in the Eastern Cape to Cape Town showed plastic waste increasing by about 90% since 1999 (*ibid*). The problem is widely spread to the extent that plastic litter and waste is found even on remote rural beaches. Plastic waste found on urban beaches is mainly land-based, originating from packaging while that on rural beaches originates from ships such as those involved in the fishing industry (Gjerde & Kelleher, 2004). On average, plastic comprises about 7% (by total weight) of urban waste in South Africa (Hugo, 2004). Some of the negative impacts of plastic litter and waste include aesthetic poverty, killing of marine life, increased waste management costs through clean-up operations, clogging of storm-water drains resulting in flooding and persistence and accumulation in the environment. An estimated R8 million is budgeted annually for clean-up operations by local authorities (*ibid*) and the cost of the deterring impact of plastic debris to tourism is probably many more millions.

1.5.3 Government position on plastic bags

The Cape Times of 16 August 1999 quotes, then Minister of Environmental Affairs and Tourism, Valli Moosa proclaiming the intended ban on plastic shopping bags. In his words, the Minister is cited thus,

... And what about the accursed plastic bags? I have given serious consideration to restricting the use of plastic bags, which have virtually become our national flowers – either banning their use completely, or severely restricting their use and that of other forms of plastic (Gosling: Online <http://www.iol.co.za>, 20 February 2003).

To follow up on the Minister's plans, the Plastic Bags Regulations were gazetted on 19 May 2000. The regulations were promulgated under the provisions of the Environment Conservation Act (RSA, 1989), which was later amended in 2004 (RSA, 2004b). The regulations set the thickness of plastic shopping bags at 80 microns from 14 microns (the human hair measures approximately 50 microns). A R100,000 fine and 10 year jail term were also pronounced for those who did not abide by the new law. An explanatory memorandum to the regulations had this to say concerning the problems (RSA, 2000: 2):

The collection and disposal of plastic bags is a growing problem in South Africa. The use of plastic bags made of thin plastic film has increased significantly in recent years and the discarding of large numbers of bags has resulted in pollution and degradation of the environment. Thin non-reusable bags are indiscriminately dumped and not collected for recycling or disposal ... The problem is severe in low-income areas where waste collection services are inadequate.

The proposed regulations were not well received by organised industry and labour. They quickly made their submissions and followed them up with a series of meetings and negotiations that resulted in the Plastic Bag Agreement in September 2002 (DEAT, 2002b). The agreement (see section 6.10) was reached under the auspices of the National Environmental Management Act (RSA, 1998b) as amended in 2004 (RSA, 2004a). The Agreement fell through after both organised industry and labour refused to accept the finalised Plastic Bags Regulations of May 2002 that required them to produce plastic bags of 30 microns and other 'stringent' measures they believed would impact negatively on their business and labour (DEAT, 2002c). As such, the May 2002 Regulations were later repealed (refer to section 6.11) and new, watered down regulations put in place in May 2003 (RSA, 2003). As documented under section 6.11, the new regulations reduced to 24 microns the regulated thickness of plastic shopping bags, imposed a 3 cents levy per bag to be paid by the consumer and removed the R100,000 fine as well as the 10 year jail sentence to offenders (*ibid*).

1.5.4 South Africa going against the global norm

The decision to increase the thickness of plastic shopping bags contradicts global trends that place emphasis on thinning packaging products. To this end, a report by the Plastic Federation of South Africa (PCSA, 2004) highlighted significant packaging products thinning achievements by South African producers since 1955. For example, the plastic shopping bag was reported thinned from 30 microns in 1982 to 14 microns in 1999; beverage can from 73g (1955) to 31g (1999); corrugated box from 530g (1970) to 55g (1999); food can 84g (1955) to 53g (1999); glass bottle 575g (1985) to 395 (1999); and PET bottle 68g (1079) to 47g (1999). This stood as the preferred future for addressing issues pertaining to environment and sustainability.

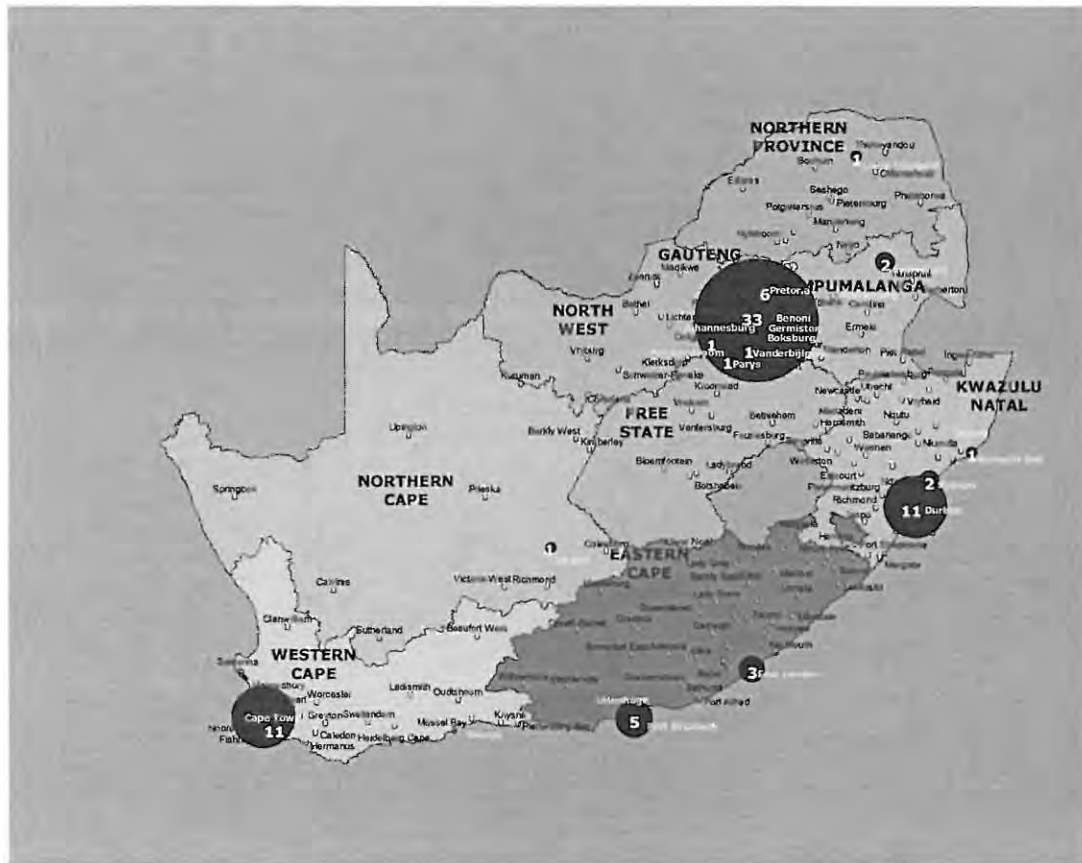
1.6 COMPREHENDING THE FIGURES

Findings from this study showed that there are about 52 companies in South Africa that produce thin film plastic shopping bags amounting to 40,000 tonnes annually. An additional 4,000 tonnes worth of plastic bags are imported. Dow Chemicals is the sole company producing the high-density polyethylene (HDPE) material used in making plastic shopping bags. Before the regulations, the companies employed about 2,600 people in production capacity and 1,200 in service capacities giving a total of 3,800 employees. However, South Africa also exported a range of plastic shopping bags that were valued at about R80 million (8 million kg) annually. Overall, an estimated 8 billion plastic shopping bags measuring 14 microns of 5.5 g/bag were circulated each year in the country as of 2001, with an average selling price of R10 per kg. Given the total population of about 44.8 million people, this comes to each individual consuming about 178 plastic shopping bags per year.

1.7 PLASTIC RECYCLING IN SOUTH AFRICA

Towards the end of 2001, the Plastics Federation of South Africa (PFSA) undertook a comprehensive national survey on plastics recycling. The study, which surveyed 123 recyclers, was done to enable industry to illustrate their status and input findings into ongoing policy processes around recycling and the proposed Plastic Bag Regulations (PFSA, 2001). Of the 123 recyclers, 54 were in Gauteng Province, 28 in Kwazulu-Natal, 19 in the Western Cape, eight apiece in Eastern Cape and the North West and five others in the remaining provinces, except for the Northern Cape. Previously disadvantaged individuals owned only 18 recycling companies. The spread of major HDPE and low density polyethylene (LDPE) recyclers across South Africa is shown in Figure 1.2 in black circles. These are not necessarily all that were sampled during the survey.

Figure 1.2: Major HDPE and LDPE recyclers across South Africa



Source: Supplied by PFSA, 2004

The study (PFSA, 2001) also provided a base for the setting of recycling targets and related aspects as per the provisions of the National Waste Management Strategy and the White Paper on Integrated Pollution and Management (DEAT, 2000i; DEAT, 1999d). It revealed that of the 923,000 tonnes (including HDPE) of plastic converted, only 14.4% was recycled and of the 140,000 tonnes converted of HDPE that is used for plastic shopping bags, only 15.9% was recycled, most of which came from non-plastic shopping bags products (PFSA, 2001). Such products include crates, milk and fruit juice bottles, drums, packaging film, tubs, closures, cosmetic bottles, irrigation piping, pallets and shade-cloth.

The survey (*ibid*) also concluded that much of the recycling was pre-consumer and that growing recycling in the country required that the plastic industry targets post-consumer plastics. Some of the strategies outlined to achieve high post-consumer collection rates included the need to improve collection prior to landfilling, access to refuse bags at landfill sites, setting up community-based collection and sorting facilities, labelling of packaging with identification

logos as well as raising money to install wash facility equipment and upgrade extrusion equipment. A cyclical packaging value chain of a plastic product was also identified with raw materials and suppliers (local and imported) at the top, followed by converters, distributors (local and transnational), customers, disposal by local authorities and consumers, primary collectors, collectors (sorting and balling), recyclers (local and transnational) and a link back to converters (*ibid*). The study showed that no recycling operations were funded or driven by environmental concerns. This observation explains why very little (if any plastic shopping bags) were recycled. However, the survey also showed that there existed excess demand for HDPE and LDPE recycling in most provinces throughout South Africa, a good indicator for recycling potential.

1.8 JUSTIFICATION AND ORIENTATION OF THE STUDY

To the best of my knowledge, and as revealed by the literature, South Africa is the first country to have regulated plastic shopping bags litter and waste through the imposition of both a standard on thickness (aimed at manufacturers) and a levy (aimed at the consumer) in the world. Researching environmental and waste management policies and policy processes that shaped and that were shaped by the Plastic Bags Regulations from formulation through implementation, therefore presents an opportunity to contribute to new knowledge of the implications of this emerging trend in environmental policy making. This thesis focuses on understanding and investigating tensions, debates and responses emerging from the entire policy process as the actors, actants and actor/actant-networks (see section 3.3.1) engaged with this new development in environmental policy making.

The realisation that social policy such as environmental and waste management policy has a significant effect on South African citizens' lives implies that policy processes around the Plastic Bags Regulations should be examined from a point of view of the exercise of power and how it is exercised (Bochel & Bochel, 2004). There is therefore a need to not only concentrate on traditional policy analysis facets such as decision-making, implementation and evaluation. Rather new insights should be drawn from an investigation of neglected policy alternatives, and reasons for such exclusions. Social policy studies tend to neglect the processes of policy formulation (*ibid*).

In addition, most studies focusing on public social policy analysis have been biased towards 'following' the human actors as token (focal) units of analysis. Hence a focus on politicians, bureaucrats, managers, media and many more (cf. Bochel and Bochel, 2004; UNDP South Africa, 2003; Hill and Hupe, 2002). However, the orientation of this work is to 'follow' the non-

human actant (Plastic Bags Regulations) as the token of analysis (see sections 3.1 & 3.4). With this kind of orientation, the thrust is on how power amongst the various actors, actants and actor/actant-networks is exercised and distributed during the entire policy process (see Part IV). The study also addresses issues pertaining to the effectiveness of the Plastic Bags Regulations within the short to medium term horizon, bearing in mind that the regulations are subsidiary to a number of policies indicated earlier.

Therefore, what makes this research unique is its focus on understanding the complexity around this new trend in environmental policy making, with a particular focus on waste product regulation. The significance of the study for South Africa also lies (as revealed by this work) in that Government recently outlined a position to follow the same trend in regulating waste streams, among them, tyres, oils and glass (see section 7.8.5). Given this scenario, the Plastic Bags Regulations provide an illustrative case to unpack complexity around waste product regulation trends, especially in South Africa.

1.9 RESEARCH GOALS

Given the above context surrounding environmental policies, policy processes and trends around South Africa's Plastic Bags Regulations, the following research question, aim and objectives were developed to guide this study:

1.9.1 Question

What *environmental policy processes, environmental policies, tensions, debates and responses* informed and were transformed by South Africa's Plastic Bags Regulations?

1.9.2 Aim

To identify and explain environmental policy processes (including environmental policies, tensions, debates and responses) that influenced, and were impacted by the formulation and implementation of South Africa's Plastic Bags Regulations.

1.9.3 Objectives

1. To analyse selected international environmental policy processes surrounding plastic shopping bags litter and waste regulation and how these influenced developments in South Africa.

2. To identify actors, actants and actor/actant-networks that shaped and were being transformed by South Africa's Plastic Bags Regulations and explain the tensions, debates and responses arising in the policy processes.
3. To identify environmental policy outputs and evaluate outcomes emerging from the formulation and implementation of South Africa's Plastic Bags Regulations.
4. To establish patterns in environmental policy process reforms around South Africa's Plastic Bags Regulations.

With a view to providing insight into environmental policy processes associated with waste product regulation, a new trend in integrated pollution and waste management in South Africa.

1.10 THESIS OUTLINE

This thesis is presented in five parts. Part I is made up of two chapters: Introduction and a literature review chapter (chapter two). Part II comprises a single methodological chapter whilst Part III (also made up of a single chapter) focuses on the selected international cases of plastic bags litter and waste management regulations from Ireland and Australia. Part IV is based on South African experiences and has three chapters that deal with the contextual profile, formulation and implementation of the Plastic Bags Regulations. The last, Part V, constitutes two chapters that deliberate on emerging issues, conclusions and reflections on the entire research process. This section articulates the patterns in environmental policy process reforms surrounding South Africa's Plastic Bags Regulations. A short overview of the chapters is presented in the following paragraphs.

Chapter one provides an overview of the study and presents background and a justification for undertaking the research. It also outlines the research question, aim and objectives of the study.

Chapter two reviews the relevant literature surrounding environmental policy processes. It also spells out a conceptual map that was developed to summarise complexities and uncertainties surrounding environmental and waste policy process research and provides an opening argument for the selection of a hybrid enquiry framework for this research.

Chapter three discusses the research design decisions and the actor/actant-network theory (AANT) as the preferred hybrid enquiry framework for the research. The chapter also establishes an overall framework for data generation and analysis based on AANT that is linked by the need to look at cross cutting issues regarding the *tensions*, *debates* and *responses* surrounding the Plastic Bags Regulations as spelt out in the research aim.

Chapter four deliberates selected international cases of plastic shopping bags litter and waste management, with particular reference to the Irish and Australian experiences. These international perspectives are intended to provide detailed insights regarding environmental policy processes surrounding the management of plastic litter and waste with the view to enhancing the interpretation of findings from the focus case study, South Africa.

Chapter five provides a detailed contextual profiling of environmental policies with a bearing on waste management in South Africa. The chapter sets the scene for a clearer understanding and grounding of developments that followed thereafter in line with the need to regulate plastic shopping bag litter and waste in the country. It also identifies key policy frameworks (including acts) that informed the promulgation and subsequent repulsion and finalisation of South Africa's Plastic Bags Regulations in May 2003.

Chapter six builds on chapter five and articulates environmental policy processes that emerged during the Plastic Bags Regulations formulation phase. Emphasis is placed on the *tensions*, *debates* and *responses* arising amongst key actors, actants and actor/actant-networks that emerged in the process. The same approach is followed in *Chapter seven* which focuses more on the implementation phase of the Plastic Bags Regulations. It should be noted, however, that the separation of the formulation and implementation phases was done for analysis purposes; such a separation, as noted in chapter two, is not clearly distinguished in practice.

Chapter eight summarises the emerging patterns across the research and provides insight into the full scope of environmental policy processes surrounding South Africa's Plastic Bags Regulations. The emerging patterns are presented in the form of a summary of findings, conclusions and a series of conceptual frameworks that were developed based on the findings and the conclusions.

Chapter nine is a reflection on the entire research process and is divided into three major sections: example of how the series of conceptual frameworks developed in chapter nine might

be adapted for researching similar waste product regulation processes both within and outside South Africa; suggestions to key actors and actor/actant-networks that emerged from the research; and a reflection on the research process that includes a critical review on how the actor/actant-network theory was used and the extent to which the research goals were addressed.

CHAPTER TWO

COMPLEXITY IN RESEARCHING ENVIRONMENTAL POLICY PROCESSES

2.0 INTRODUCTION

The complexity in researching environmental policy processes can be illuminated by re-visiting the Minister of Environmental Affairs and Tourism's statement of September 1999 and the memorandum to the draft Plastic Bags Regulations of May 2000 discussed in chapter one. In the text terms including 'our national flower', 'banning their use' or 'severely restricting their use', 'thin plastic film' and 'non-reusable', 'not collected for recycling and disposal', 'low economic value' and 'problem is severe in low-income areas where waste collection services are inadequate' open a complexity of dimensions in terms of environmental policy analysis. Among some of the issues that arise from scrutinising these phrases are: the plastic shopping bag problem had reached crisis levels in South Africa; the envisaged form of regulation was authoritative; scientific, technical and economic explanations as to why the plastic shopping bags were not being recycled; the political and social context in which the problem is defined (apartheid and post-apartheid eras) and when one reads between the lines, issues of social justice.

This kind of complexity therefore calls for a study that positions itself within a firm, but open framework that looks at researching environmental policy processes within the broader historical, political, social, economic, scientific and technological context. It also calls for understanding and explaining environmental policy processes from a *relational perspective* that considers the entire spectrum of complex interactions and issues as one unit. In this regard, the range of environmental policy processes surrounding the Plastic Bags Regulations need to be explained and discussed. The focus of this chapter therefore is to consider issues pertaining to complexity in environmental policy processes (including discourses of sustainable development, with emphasis on solid waste management). This includes a consideration of theories of (environmental) policy making (including decision-making, formulation, implementation and evaluation) so as to present the broader setting of the study.

2.1 UNCERTAINTY AND ENVIRONMENTAL POLICY PROCESSES

The knowledge about environmental problems is characterised by huge uncertainties (Mickwitz, 2003). Brian Wynne (cited in Mickwitz, 2003: 418), talks of uncertainties (I would equate them to threats) and classifies them into: risk, uncertainty, ignorance and indeterminacy. Mickwitz

(*ibid*) then goes further to elaborate on the differences between these uncertainties. When possible outcomes can be defined and their probabilities assigned in a meaningful manner, we talk of *risk*. When possible outcomes are identifiable, but their probabilities cannot be established, we are faced with *uncertainty*. When we are unaware of what we are unaware of, then we are *ignorant*. *Indeterminacy* describes a condition in which, for example, the complexity of environmental systems is so vast that very little is known about the relevant parameters and their relationships. As such, modelling becomes a matter of hit and miss, as is the current position with climate change research that has concluded that global warming is taking place and is human induced, yet there are those that still disagree. Therefore, due to uncertainties involved in many environmental problems, environmental policy instruments often also have unanticipated environmental effects.

Writing from a developed country perspective, Beck (2000) maintains that the biggest challenge of today is the need for society to respond to risks of industrial production, scientism and technological progress that resulted in poor environmental management practices characteristic of industrial development in the 20th Century. Such risks, according to Le Grange (2003: 20) threatened and destroyed nature as the life support system and today, developing economies face “a double blow” as they are hit by “the risks associated with material immiseration and those brought about by modernisation and industrialisation”. People in these communities are poor, hungry, crowded and threatened by diseases. Communities are exposed to risks such as pollution, waste, HIV/AIDS and degraded environments as a consequence of poor living conditions, including close proximity to landfill sites and industrial zones (*ibid*). Within the context of this study, the need to sustainably manage waste has therefore been emphasised at many international, regional and local platforms (UN, 2002; NEPAD, 2002; DEAT, 2000i; DEAT, 1999d) and this calls for governments to ‘do something’. Doing something in the eyes of many governments means putting social policies and policy instruments in place to address, especially, social justice and development aspects (RSA, 1998b; RSA, 1996a).

The nature of risk does not grant privilege to particular kinds of knowledge and as such collapses the traditional dualism between, especially, scientific and non-scientific knowledge (Beck, 2000) often associated with environmental policy discourses. Risk society therefore requires the opening up of environmental policy processes to allow stakeholders from the private, civil society and government to have their voices heard. Therefore, risk society opens public discourse and social science to the challenges of environmental crises that should be considered simultaneously global, national, local and personal. In reality though, some sections of society

are privileged with better access to information and differences also exist in discourse competencies, in resources to divert and displace risks to other groups and in protecting oneself from the potential danger (Adam *et al.*, 2000). However, Beck (2000) argues that the global nature of risk does not imply a global equality of the risk, rather, the opposite is true as environmental risk usually follows the poor. In this regard, governments are seen as playing central roles in shaping policies that are aimed at addressing such injustices.

The aspect of an uneven spread of environmental problems also links to theories of equity, justice, equality or fairness (Ostele, 2002). However, as rightfully noted by Ostele, the same social policy approach that is supported for reasons of equity by one set of actors, is at the same time rejected for the reasons of inequality by other sets of actors. Overall, the theory of equity stresses the importance of a fair distribution of resources and burdens (Mickwitz, 2003; Ostele, 2002). Equity considerations in social policy aim at addressing three dimensions: what is to be shared, among whom (recipients) and how (Ostele, 2002).

Beck (2000) also brings another perspective. He says what society is or is not prepared to do is not an outcome of scientific, technological or environmental diagnosis of that risk. Instead, the outcomes are as a result of a global dialogue between cultures – an environmental risk varies according to both intra and inter-cultural perceptions and evaluations. Hence risks become political issues only when society is generally aware of them (Adam, *et al.*, 2000). In a way, risks become social constructs that are strategically defined, covered up or dramatised in the public sphere with the assistance of scientific ‘facts’ generated for the purpose (Harrison & Bryner, 2004a; Keeley and Scoones, 2003).

Adam and Van Loon (2000), maintain that at times the misrepresentation and trust in science requires one to understand risk construction as a practice of manufacturing specific uncertainties. Those in key social positions of authority such as the media, scientists, politicians and the legal profession (Howlett & Ramesh, 1995) usually define the risks. Harrison and Bryner (2004b), indicate that although environmental problems may be conceptualised in many forms, policy makers often align themselves to a particular understanding, often ignoring other understandings, which in actual fact may be equally valid.

When researching in a risk society, one has to understand the concept of ‘sub-politics’ (Beck, 2000; Beck, 1992). Sub-politics refers to politics outside and beyond the representative institutions of the political system of governments. The concept captures direct *ah hoc* individual

involvement in decision-making from the bottom-up. At this level, *ad hoc* 'coalitions of opposites' (Sabatier & Jenkins-Smith, 1999) exist such as parties, regions, governments, rebels, classes, private organisations, NGOs, CBOs and labour (Beck, 2000).

The notion of environmental risk also calls for engagement across disciplinary boundaries. In this respect, methods of enquiry that set binaries like realist versus constructivist, positivist versus interpretative fall away (Adam *et al.*, 2000). As such, we need to focus on the subject matter and pursue new ways of seeing aspects previously deemed out of bounds (Kumar, 2002). Like Smith (2004) advises, when dealing with environmental risk it is important to remember that: (1) the analysis is as political as it is scientific, i.e., a conflict of values must be considered over and above scientific information; (2) because of a lack of data or the appropriate methodology, science often lacks information to carry out environmental risk assessments with a degree of certainty; and (3) there is often disagreement within the affected community on the nature of risk involved. In addition, the fact that most environmental problems such as waste production are of long-term nature (Harrison *et al.*, 2004a; Mickwitz, 2003), increases the degrees of uncertainty and complexity. Given these diverse perspectives that describe the contemporary nature of environmental problems, a wide range of definitions have also emerged regarding what constitutes (environmental) policy.

2.3 DEFINING (ENVIRONMENTAL) POLICY

The concept 'policy' can be applied in a range of settings (Van der Waldt, 2001) and since it is difficult to analyse policy as 'inaction', policy analysis concentrates on policy as 'action' as this involves perceived behaviour and intent. In Van der Waldt's view policy can therefore be applied as:

- an expression of general purpose or desired state of affairs,
- specific programme proposal,
- formal authorisation, for example, an allocation of relief funds to flood victims,
- statement of expression by office bearers and officials, for example ministers' speeches and press releases,
- a document outlining specific goals and objectives required to address an identified problem resulting in the promulgation of an act and/ or regulations to address it or vice versa, and
- a decision made by politicians.

Many definitions on policy are available in the literature. However for the purposes of this research the definitions by Anderson (1984), Wilson (2002) and Mariga (2002) are adopted for both their generalisation and practice-based orientation.

Anderson (1984: 3) defines policy as “a purposive course of action followed by an actor or a set of actors in dealing with a problem or matter of concern”. Such a definition has value, particularly for this study in that it recognises that policy decisions are usually a product of a set of interactions between actors rather than a sole actor within a government setting. It also realises the relationship between government action and the perception of the existence of a problem that ought to be addressed (John, 1999). Instead of simply describing a government policy, policy analysts have to probe reasons why a government, for example put in place policies and possibly assess their outputs and outcomes (Howlett et al., 1995). As such, the task to investigate why a policy was not implemented as planned is even more challenging than its formulation. To this end, the need to assess outputs and outcomes emerging from the formulation and implementation of South Africa’s Plastic Bags Regulations has been identified as one of the objectives to this study (see section 1.9.3).

Wilson (2002: 15) says policy refers to a “systematically defined course of action selected from alternatives in the light of given conditions, that guide and determine present and future decisions, with the intention of achieving a stated objective or objectives”. Expanding on this definition, Mariga (2002: 32) maintains that “in practice policies generally consist of a broad course of action (or inaction) or a web of interrelated decisions which evolve over time during the process of implementation”. In this respect, policy is made, as it is being administered and administered as it is being made, a phenomenon often associated with policy as *process* rather than a connection of discrete stages (Rist, 2000). This praxis shows how policy as theory plays out during implementation – a fusion of theory and practice, and influences the whole cycle in policy making.

2.4 ENVIRONMENT AND WASTE ON THE POLICY AGENDA

The ‘environment’ became a policy issue in the mid 1960s (Carter, 2001a). By that time many governments had adopted a technocentric approach that considered environmental problems as the unfortunate side effects of economic growth and development. Therefore, the main assumption was that governments would eventually find a way of addressing such problems (Howlett et al., 1995). The standard approach to dealing with such environmental problems was re-active rather than pro-active (UNEP, 2003b; UNEP, 2002). This approach could not, however, stem the ever-increasing and complex environmental problems such as resource depletion, waste, pollution and global warming as discussed earlier under 2.1.

Two landmarks in environmental management and policy are worth mentioning: The World Commission on Environment and Development (WCED) that produced the now famous document *Our Common Future* (or The Brundtland Report) (WCED, 1987) and the United Nations Summit on Environment and Development that took place in Rio de Janeiro, Brazil from 14-17 June 1992 leading to the adoption of Agenda 21 as the global action plan on sustainable development (UNCED, 1992). The two landmarks called upon world governments to embrace the concept of sustainable development, originally defined in *Our Common Future* as development meeting the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987). The Rio Summit stipulated as one of its fundamentals, the 'precautionary principle'. The precautionary principle implies that "action to protect the environment against the danger of severe and irreversible damage need not wait for rigorous scientific proof" (Weiss, 2003: 137). It arose due to the fact that most issues of environmental policy and law depend on science and technology. As such, the precautionary principle has led to governments coming up with strategies for pro-active management of environmental risks under conditions of scientific uncertainty, which is usually the situation in decisions concerning environmental policy (*ibid*). Other landmarks discussed under this section include the World Summit on Sustainable Development, New Partnership for Africa's Development and Southern African Development Community sustainability initiatives. The landmarks will each be discussed briefly in the next section.

2.4.1 Concept of sustainable development

The aim of the World Commission on Environment and Development was to find practical ways of addressing the environmental and developmental problems of the world (WCED, 1987). In particular, it had three general objectives to address: re-examine the critical environmental and development issues and formulate realistic proposals for dealing with them; propose new forms of international co-operation on these issues so as to influence policies and events in the direction of needed changes; and raise the levels of understanding and commitment to action of individuals, voluntary organisations, businesses, institutes, and governments. As such, *Our Common Future* reported on many of the global realities and recommended urgent action on eight key issues to ensure that development was sustainable, among them: population and human resources, food security, the urban challenge, energy, industry, species and ecosystems, managing the commons and conflict and environmental degradation. In a way these eight key issues were identified as some form of early indicators to sustainable development.

Our Common Future's definition of sustainable development was also adopted during the UN Earth Summit of 1992 that set Agenda 21 as a global action plan for implementing sustainable development (UNCED, 1992). However, in as much as *Our Common Future's* definition takes cognisance of people, many environmental policies and legislation hardly recognise them as the primary focus of development (Jacobs, cited in Cahill, 2002:2). In this respect Jacobs (*ibid*) identifies equity (commitment to meet basic needs of the poor), quality of life (i.e., economic growth should not be taken as equal to human well-being), and participation (involving as many stakeholders as possible in policy processes) as additional key themes in attaining sustainability.

2.4.2 Rio de Janeiro and after

The Rio Conference witnessed the adoption of Agenda 21, which is a blueprint for sustainable development (UNCED, 1992). Agenda 21 (21st Century Agenda) is a list of action points agreed upon by world governments. The world action plan realised that economic development neglects other developmental issues (Castro, 2004). Agenda 21 actions are reflected in various chapters that include, among others: promoting environmentally sound management of solid waste and sewage, combating poverty, education, training and awareness, protecting and promoting human health, protecting the atmosphere, managing fragile ecosystems and conserving biological diversity. Since then, many multilateral environmental agreements have been put in place and ratified by many countries globally including South Africa. A full review of progress in addressing Agenda 21 plans was undertaken during the World Summit on Sustainable Development (WSSD) held in Johannesburg, South Africa in September 2002, which led to the WSSD Plan of Implementation (UN, 2002).

Regarding waste management, Article 21 of the WSSD Plan of Implementation calls for the prevention and minimisation of waste and maximisation of reuse, recycling and use of environmentally friendly alternative materials. It also calls for the participation of government authorities and all stakeholders, in minimising adverse effects on the environment. Actions to achieve this goal at all levels include the implementation of the waste management hierarchy discussed in chapter one.

The Millennium Development Goal number seven (UNDP, 2003) stipulates the need to ensure that environmental sustainability is achieved at the lowest possible scale, thus, the household. Three targets are set: to integrate the principle of sustainable development into national policies and programmes by 2015; have the proportion of people without access to safe drinking water, and by 2020, achieve significant improvement in the standards of living of at least 100 million

squatter residents. The risk of urban squatters still stands. Fragile (and even stable ecosystems) easily succumb to heavy population densities resulting in the depletion of naturally occurring life support systems and quality of life issues like waste management and sanitation.

2.4.3 New Partnership for Africa's Development

To address the ills of unsustainable development, the New Partnership for Africa's Development (NEPAD) has put in place an Action Plan for the Environment Initiative (NEPAD, 2002). The initiative notes that Africa is identified as being rich in natural resources including land, minerals, biological diversity, wildlife, freshwater, fisheries and forests. However, rapid population growth, rising poverty levels (including the widening gap between the rich and the poor) and inappropriate development practices are mentioned as major factors leading to degraded environments (UNEP, 2003a). The NEPAD initiative sets 11 action plans grouped according to areas of concern or programmes. Integrated waste and pollution control, the management of cities as well as the management of coastal and marine resources are three of the 11 Action Plans that are directly related to the focus of this research (NEPAD, 2002).

2.4.4 SADC environmental sustainability initiatives

At the Southern Africa Development Community (SADC) sub-regional level, issues of sustainability and the environment are dealt with in two documents: the 1996 SADC Policy and Strategy for Environment and Sustainable Development (SADC, 1996), and the 2003 Regional Indicative Strategic Development Programme (SADC, 2003). The Strategy for Environment and Sustainable Development was drawn up following the Rio Summit in 1992. The document provides an overall framework that guides good environment management. Five broad strategic areas that would facilitate sustainability in development were identified as:

1. Assessing environmental conditions, trends and programmes made and needed for sustainable development.
2. Minimising significant threats to human beings, ecosystems and future developments.
3. A call to move away from unsustainable to sustainable development for the benefit of all generations.
4. Managing shared natural resources in an equitable and sustainable manner.
5. Increasing regional integration and capacity building for sustainable development.

The implementation plan was designed around sectoral responsibilities that were shared by the member countries. Some of the sectoral responsibilities included Environment and Land Management, given to Lesotho, Mining (Zambia), Energy (Angola), Fisheries (Malawi), Food Security (Zimbabwe) and so on. Waste management was, however, not considered an issue that

needed high priority then and as such remained subdued in most member states until the last decade when a number of countries started developing specific policies aimed at addressing unsustainable ways of managing wastes. Some of the countries with specific policies include Botswana (Republic of Botswana, 1998a; Republic of Botswana, 1998b) South Africa (RSA, 2004a; DEAT, 2000i; DEAT, 1999d) and Zimbabwe (RoZ, 2002).

The SADC Regional Indicative Strategic Development Plan - RISDP (SADC, 2003) has been put in place to re-orient developmental strategies. RISDP has re-grouped sectoral responsibilities under new cluster directorates that include Trade, Industry, Finance and Investment; Infrastructure and Services; Food, Agriculture and Natural Resources; and Social and Human Development and Special Programmes. Issues concerning the environment are dealt with under the Food, Agriculture and Natural Resources cluster. The RISDP takes the environment and sustainable development as one of eight cross cutting priority areas. The document also recognises efforts made by member states in addressing environmental concerns during the past two decades as reflected by the ratification of major multilateral environmental agreements like the United Nations Framework Convention on Climate Change, Convention to Combat Desertification, Convention of Biological Diversity, Basel/Bamako Conventions, the Millennium Development Goal and many more. However, RISDP notes that there still remain high levels of pollution as well as poor sanitation and urban conditions whereby the poor become both the victims and agents of environmental degradation.

To address problems associated with environmental degradation (SADC, 2003: 101), RISDP sets the overall goal of environmental intervention as “to ensure the equitable and sustainable use of the environment and natural resources for the benefit of present and future generations”. Five areas of focus are established:

- creating the requisite harmonised policy environment as well as legal and regulatory frameworks,
- promote environmental mainstreaming in order to ensure the responsiveness of all SADC policies, strategies and programmes for sustainable development,
- ensure regular assessment, monitoring and reporting on environmental conditions and trends in the region,
- capacity building, information sharing and awareness raising on problems and perspectives in environmental stewardship, and
- ensure coordinated regional positions in the negotiations and implementation of multilateral environmental agreements.

Seven broad strategies are set. Similarly, nine broad targets are spelt out among them, having instruments for regional cooperation finalised by 2006, environmental standards and guidelines developed and implemented by 2008, state of the environmental reports for southern Africa produced regularly at five-year intervals, SADC plan of action for implementing the WSSD Implementation Plan in place by 2004 and the principle of sustainable development integrated into national policies and programmes by 2015.

2.4.5 Dealing with packaging waste

Policy makers are now concerned and generally have consensus that packaging, like other solid wastes, presents a priority environmental problem (Pearce, 1998). As indicated in section 1.4, packaging waste falls into four broad categories including plastic, paper and board, metal and glass. Environmental impacts from packaging waste are not only associated with its management in the main waste stream, but also its production, transportation and the use phases of packaging itself (McGlade, 2004). The impacts include air pollutants and green house gasses, use of fresh water and wastewater discharge, depleting of non-renewable natural resources and the damage resulting from extraction and filling up limited landfill space (Stevens, 2002).

The European Union (EU) put packaging on the policy agenda as far back as the short-lived *Beverage Containers Directive* of the mid 1980s (Levy, 2000). This was followed by the *Regulation on the Transboundary Shipment of Waste of 1993* (Fishbein, 1994), which aimed at supervising and controlling waste shipments within, into and out of the EU. In 1994 the *European Packaging and Packaging Waste Directive* was passed (Levy, 2000; CEC, 1994; Fishbein, 1994) with two main objectives: to harmonise national measures concerning the management of packaging and packaging waste and to ensure the functioning of the internal market and avoid obstacles in trade. The Directive required that by July 2001 at least 50% and no more than 65% of packaging waste by weight be recovered from the waste streams and that a minimum of 25% and a maximum of 45% by weight of the total waste be recycled. In line with the need to recover and recycle packaging waste, a number of EU national schemes were established. In 1997 there was the *EU Communiqué on Packaging and Other Taxes* (Levy, 2000). This was drawn to help standardise the use of economic instruments, especially for packaging. Lastly, there was a *1997 EU study on Eco-Balances for Policy-making in the Domain of Packaging and Packaging Waste (ibid)* that looked at the implications of incorporating life cycle assessment (LCA) in packaging waste management.

Proposals to revise targets for the EU 1994 Directive have already been made and at the time of finalising this research write-up consultations were at advanced stages to have the new Directive approved by member states. The proposed Directive sets no overall recovery target but a recycling target. The overall recycling target has been set at 60% by 2006 from between 25-45% (DEFRA, 2001). Minimum recycling targets for the four major sectors were set at 15%. These have now been revised upwards to 70% for glass, 60% for paper and board, 50% for metal and 20% for plastic (*ibid*). McGlade (2004), notes that data provided by 15² EU member states indicated that on average packaging waste increased by 7% between 1997 and 2001. If the trend continues, packaging waste in the EU is predicted to rise again to 18.5% by 2008. This represents an increase from about 65 million tonnes in 2000 to 77 million tonnes in 2008.

McGlade's paper (*ibid*) also indicates that regardless of increasing quantities, many EU member countries met their obligations of 50% and 25% minimum recovery and recycling targets respectively as per the 1994 Directive. Germany followed by Belgium led the group with recycling rates of 76% and 71% respectively. On the other end of the scale, Ireland, followed by Greece recorded the lowest figures of 27% and 33% respectively. This probably explains why Ireland promulgated stringent laws regarding packaging waste recycling during the period 2000-2002 (see section 4.1). With such statistics, McGlade challenges the EU to re-think a way forward as the original approach seems narrow. For her, the issue should not be on merely meeting whatever targets are set, but building a culture of responsibility in managing packaging waste. The Irish experience will be reviewed further, together with the Australian experience in chapter four as selected international cases in regulating plastic shopping bags litter and waste as 'foregrounding' to the South African case.

Packaging has attracted a cocktail of regulation aimed at encouraging source reduction and increased recycling (Pearce, 1998). The German Green Dot (Dual System) of managing packaging waste is cited as one of the oldest success stories globally (Gerke & Pretz, 2004). The system, which utilises a private company to manage and recycle packaging waste on behalf of converters and retailers who identify themselves with the Green Dot was instituted after the *German Ordinance on the Avoidance of Packaging Waste* in 1991 (Levy, 2000; Fishbein, 1994). The Ordinance requires industry to re-use and/or recycle packaging materials and set deadlines in three identified packaging sectors: transport packaging - manufacturers and distributors were supposed to 'take back' all transportation packaging waste by December 1991; secondary

² The 15 countries include Ireland (which had the highest increase in 2001), France, Italy, Netherlands, Germany, Luxembourg, Denmark, United Kingdom, Spain, Belgium, Austria, Portugal, Sweden, Greece and Finland.

packaging - retailers were to install marked bins for recycling so as to allow customers to leave secondary packaging in the stores by April 1992; and primary packaging - customers could return packaging to retailers by January 1993. Industries were to be exempted if they met an alternative that met specified goals (*The Dual System*) run by a private company System Deutschland GmbH (DSD) popularly known as the Green Dot.

In the UK, the Packaging (Export) Recovery Note system is used. The system requires industry to join a quasi-voluntary network that recovers and recycles packaging waste on an accreditation system. Since its inception in 1997, the system helped the UK recover 48% of her packaging waste in 2001 up from 27% in 1997 (DEFRA, 2003). Australia has put in place a combination of voluntary and regulated measures to recover packaging waste. The country has put in place policies dealing with, especially plastic shopping bags litter and waste. Its experience is also discussed in detail in chapter four together with the Irish experience. In New Zealand (ZWNZT, 2003) the Zero Waste New Zealand Trust has already initiated lobbying for the regulation of shopping plastic bags. Other countries and states that have preoccupied themselves with addressing plastics and plastic shopping bags in particular include Jordan, China, Singapore, Taiwan, India, Hong Kong, Canada and Bangladesh, which instituted a complete ban on shopping plastic bag use in 2002. The move in Bangladesh followed heavy floods in 1998/99 that killed many people due to blocked storm water drains (*ibid*). Within the southern Africa region, Botswana, Lesotho, Namibia and Swaziland have expressed interest in following the South African initiative once it proves a success.

2.5 THEORIES OF (ENVIRONMENTAL) POLICY MAKING

Researching uncertainties and complexity associated with environmental policy processes surrounding South Africa's Plastic Bags Regulations require a comprehensive understanding of theories in (environmental) policy making. A number of theories can, thus, be identified, many of which are associated with the various stages and linkages of the policy process itself. The next section discusses five types of theories namely: decision-making, formulation, implementation, regulation and evaluation.

2.5.1 Theories of decision-making

Theories of decision-making are traditionally linked to the 'stages' model of the policy process that identifies as the starting point in policy, problem identification (agenda setting), followed by decision-making, formulation, implementation and evaluation (Makumbe, 2001). Policy decision-making models are often associated with the early stages of environmental policy-

making processes. Howlett and Ramesh (1995) identify two commonly cited models: the rational comprehensive and the disjointed incremental model as lying on the two extremes of the policy continuum.

2.5.1.1 Rational choice

The rational choice theory is an idealised model based on a collection of insights from individuals that make decisions purely on the logic of scientific reasoning (Keeley and Scoones, 2003). Such a positivist point of view means individuals entrusted with making decisions on certain environmental problems seek to find a single, objective truth on how best the problem can be solved. Politicians call on scientists to shape the problem; scientists collect evidence (data) on the problem, define it and outline the costs and benefits of a range of alternative courses of action; and politicians then select the best alternative from those presented (Harrison & Bryner, 2004b). This approach lays down procedures to be followed. Hence one starts by identifying the problem, sets a goal(s) to solve the problem, explore and lists all alternative strategies available to achieve the goal(s), conducts a detailed cost-benefit analysis of all alternatives and finally, selects the best alternative strategy (Howlett et al., 1995).

The model has been criticised for a number of reasons, among them, its failure to take into account other forms of knowledge that contribute to decision-making (Kumar, 2002) as well as its failure to take into consideration the intimacy between science, politics and social contexts in which problems are shaped and decisions made (Harrison et al., 2004a; Keeley and Scoones, 2003). Harrison and Bryner (Harrison et al., 2004b) go further and claim that there is no evidence that science and politics are discrete and that the manner in which they relate is orderly and sequential. The authors indicate that at times politics goes ahead of science and defines an environmental problem and what usually remains will be to finance a research programme to 'prove' it. In other instances politics ignores scientific reason and in many instances science has little or no effect on politics.

Although the model might still be favoured in some sectors of policy makers, it is not adequate to apply it wholly as a policy analysis tool. The critique above gave rise to an alternative decision-making model in policy processes, the incremental approach. However, the rational choice model remains a useful tool in analysing actions and decisions taken by policy makers (Bochel and Bpchel, 2004).

2.5.2.2 Disjointed incrementalism

The incremental theory, often associated with the work of Charles Lindblom (Bochel and Bochel, 2004; Howlett et al., 1995) was developed in the early 1950s. The model envisages decision-making as a political process characterised by bargaining and compromise among self-interested decision-makers. As such, the resultant decision represents what is politically feasible rather than what ought to be (the ideal). The incremental approach restricts analysis to few policy alternatives (Lane, 1990). It also promotes an interwoven analysis of policy goals and value beliefs with empirical aspects of the identified (environmental) problem. It also advocates for trials, errors and revised trials (Bochel and Bochel, 2004). Cost-benefit analysis is undertaken only to a limited and manageable number of important alternatives.

The incremental model has, however, been criticised for its failure to address any particular goal and for its undemocratic nature as it confines decision-making to negotiations within a selected group of senior policy-makers (Howlett et al., 1995). The model is also deemed to promote short-sighted policy decisions that can be costly to society in the long-term, hence the need to find right mixtures of the two models (Hill and Hupe, 2002; Lane, 1990), especially when dealing with environmental problems. Hybrid decision-making models are now commonly applied in analysing environmental policy (Sabatier et al., 1999) and these aim at removing created bias when using either of the two models discussed independently. For example, the rational choice theory would completely dissociate decision-making from agenda setting, policy formulation, implementation, and evaluation (Rist, 2000) yet in reality these are all linked.

2.5.1.3 Synthesis approaches

Bochel and Bochel (2004), point out that the most common criticism to the rational choice and incremental theories are that: the former overemphasises significant changes in policy whilst the latter suggests that any change is difficult to achieve. The rational choice theory has also been criticised for its failure to reflect the reality of decision-making and the incremental theory, for its conservatism and support for the already existing status. In this respect, synthesis models, which draw aspects from both the rational choice and incrementalism theories have emerged (Lane, 1990).

2.5.2 Policy formulation theories

The traditional policy formulation theory is the 'stages heuristic' (Hanekom, 1991; Anderson, 1984). The 'stages' model, as it came to be known (e.g., Smith, 2004; Keeley and Scoones, 2003; Dobson, 2003; Makumbe, 2001; De-Shalit, 2000; Howlett et al., 1995; Parsons, 1995),

stresses that the process of policy formulation follows systematically established sequences. These include, problem definition, goal specification, decision-making, implementation, evaluation and re-design. In this regard, policy research focused strictly on any one of the stages as discrete entities, hence the emergence of many theories and theorists identifying with certain policy stages like agenda setting, decision-making, formulation, implementation and evaluation as being revealed in this literature review chapter.

Following problems associated with the implementation gap (Hill and Hupe, 2002), new insights dawned leading to the realisation that in reality policy processes do not progress in such well-knitted fashion, as discussed earlier. Hence a new paradigm, the 'policy as process' theory emerged, particularly in the early 1990s (Sabatier et al., 1999; Lane, 1990). The policy as process theory recognises that there are policy stages, but all are networked and what happens in one affects the other, thus having some form of chain reaction impact. Hence, decision-making influences formulation, which in turn influences implementation and evaluation leading to policy makers and evaluators eventually looking back at the whole policy process. This brought out the notion of policy as resembling a continuous cyclical process (Wilson, 2002). At the same time, problems may arise during implementation that require one to go back to the goals or evaluation or any other stage in the policy cycle bringing out a web of linkages in a complex process.

A number of specific theories associated with policy formulation also emerged (Howlett et al., 1995), among them the pluralist and policy sub-systems. Pluralism has its roots in the USA (Howlett et al., 1995). In pluralism (Keeley and Scoones, 2003), different groups with policy interest and equal power influence and distribution compete over the allocation of resources and the formulation of rules for social and economic life. However, such groups are not only many and free-forming, but are also characterised by duplicative membership and lack of a representational monopoly (Howlett et al., 1995). Hence policy becomes an interpretation of the process of bargaining and competition between diverse groupings. The main problem with this theory has been the unclear role of government in the social policy formulation process, assumed to be that of a 'referee' and responding to group pressure. Pluralism has also been criticised for its failure to realise that power and the manner in which it is exercised (Bochel and Bochel, 2004; Harrison et al., 2004b) varies in groups. This led to a modification of the theory to neo-pluralism that acknowledged the existence of the many groups but with difference influences of power (Bochel and Bochel, 2004).

Howlett and Ramesh (1995), maintain that the theory of policy sub-systems (policy domains according to Sabatier and Jenkins-Smith, 1999) restricts those who have some minimal level of knowledge in the subject area to participate in policy formulation processes. Such members are allowed to comment, at least hypothetically, on the feasibility of options put forward to address a problem. As such, the need to identify key actors in the policy sub-systems, what bonds them together, how they interact and what effect their interaction has on policy has pre-occupied many social policy researchers. Some of the policy sub-systems commonly identified in environmental policy formulation include advocacy coalitions, discourse coalitions and policy networks (Hajer, 1997). Both the advocacy and discourse coalition (considered in detail in chapter 3), have been developed into fully-fledged environmental policy enquiry frameworks.

Eight basic formulations of policy networks can be distinguished (Howlett et al., 1995). These are separated by criteria using the number and location of policy-relevant interests on one side and the state/society relationship within the policy network on the other. These range from bureaucratic (cell 1) through triadic (3) to participatory (5) and issue (8) issue networks (figure 2.1). A conceptualisation of these policy networks domains assist in identifying different networks and were useful for analysing environmental policy processes surrounding the Plastic Bags Regulations in South Africa (see sections 8.3.1 to 8.3.4).

Figure 2.1: Taxonomy of policy networks

| Parameter | | Number/type of network participants | | | |
|---|-------------------|-------------------------------------|-----------------------------|---------------------------|---------------------------|
| | | State agencies | One major societal group | Two major societal groups | Three or more groups |
| State/societal relations within the network | State directed | <i>Bureaucratic</i> (1) | <i>Clientelistic</i> (2) | <i>Triadic</i> (3) | <i>Pluralistic</i> (4) |
| | Society dominated | <i>Participatory statist</i> (5) | <i>Captured</i> (6) | <i>Corporatist</i> (7) | <i>Issue</i> (8) |

Source: Modified after Howlett and Ramesh (1995: 130)

In a *bureaucratic* (1) network (the network) the major interactions among policy domain members takes place exclusively within the state (figure 3.1). On the other extreme of the continuum, an *issue* (8) network has the main interactions centred among a large number of societal actors. Between the two extremes six other networks are identified. In the *clientelistic* (2) network the state dominates the societal actor and when two societal groups face the dominating state, a *triadic* (3) network results. In a *pluralist* (4) network a large number of actors

are involved in the policy domain and although the state dominates, the actors dominate proceedings. *Participatory statist* (5) networks are characterised by dominant unorganised societal members although state actors play a major role whereas *captured* (6) networks exist when one major societal actor faces the state. Lastly, *corporatist* (7) networks result when societal actors dominate the state.

2.5.3 Implementation theories

Policy implementation research suffered for a long time as a result of somewhat naïve assumptions that policy decisions would be automatically executed through an implementation system as intended with the desired results (Hafez Awamleh, 1990). In the context of this study, Hill and Hupe (2002) and Lane's (1990) taxonomy of policy implementation theories are reviewed. The theories identify two implementation models that are on either extremes of the continuum: the top-down (also called top-bottom or forward-mapping), and the bottom-up approaches (sometimes called radical change) on the other.

2.5.3.1 Top-down

The top-down approach assumes policy is made at the 'top' and translated into a set of instructions for those that put it into practice at the 'bottom' (Keeley and Scoones, 2003). The concept 'top' in implementation is associated with managerialist orientations to achieve the set policy objectives (Bochel and Bochel, 2004) hence the reason why terms like 'operational management', 'corporate management' and 'personnel management' are included in Parsons' (1995) work on policy implementation. The concepts top-down/bottom-up are linked to the ways in which those involved in policy decision-making and its implementation exercise their power. Those in managerial and influential posts usually have the power and exercise it to 'see things' happen from 'the top' (Bochel and Bochel, 2004).

According to Hill and Hupe (2002), the founding fathers of the top-down approach are Jerry Pressman and Aaron Wildavsky who wrote a publication on *Implementation* way back in 1973. In such a scenario, implementation research would only seek to put in place 'perfect administration' as any failure in policy implementation was understood to be a result of mismatches in administration. A typical bureaucratic system is believed to consist of administrative structures based on the twin principles of hierarchy and specialisation. The hierarchy is, thus, illustrated from general to specific functions as: the top, middle and 'shop floor' management. In terms of environmental policy implementation instruments, this model favours a command and control type. The top-down model also draws fundamentals from the

rational choice theory of decision-making. In this case, a perfect administration exists where external circumstances to the implementation agency do not present crippling constraints; abundance of resources permit any required combination at various implementation stages and instruments; policy to be implemented is based on a credible and trustworthy theory of cause and effect; there is a sole implementing agency that need not depend upon others for success and if other agencies are involved, then the main agency should minimise its reliance on them (Younis & Davidson, 1990).

The top-down approach has been criticised for its failure to take into account the variety and importance of other actors (in the context of this research actants and actor/actant-networks) involved in policy implementation (Bochel and Bochel, 2004), an aspect that should be researched when taking policy processes on a continuum from problem definition to evaluation and *vice versa* (Rist, 2000).

2.5.3.2 *Bottom-up*


The existence of powerful groupings such as NGOs, industry, labour unions and informed individual citizens from the 'bottom', especially during the process of defining environmental problems, means that such voices are also heard during implementation. In addition, 'street-level' bureaucrats (those tasked to decode and implement policies) adjust such policies as they see fit during implementation at the lower tiers (Hill and Hupe, 2002). Hence these orientations to policy resulted in the recognition of the bottom-up perspective in policy implementation. In this regard, the decisions of street-level bureaucrats, the routines they establish, and the devices they invent to cope with uncertainties and work pressures, effectively become environmental policies they put into action (Van der Waldt, 2001) with the assistance of partners such as the civil society groupings and industry representatives. This approach is even clearer in modern set-ups where environmental policies are co-produced (Mickwitz, 2003; Hill and Hupe, 2002). This last aspect has led to re-thinking implementation and has resulted in synthesised models of policy implementation that also focus on the role of governance in policy.

2.5.3.3 *Synthesis models*

Synthesis models (Hill and Hupe, 2002) view implementation as an evolution, viewed from either a top-down or bottom-up perspective where policy-makers' decisions are seen as attempting to limit the power of other actors whilst the same targeted actors make decisions which evade the power of decision-makers (Younis et al., 1990). This way, more emphasis is placed on the issues of power, interests, motivations and behaviour (Keeley and Scoones, 2003).

The shift from solely using the top-down/bottom-up approaches evolved in order to address issues concerning complexity and uncertainty in respect to both the process and related aspects of control (Hill and Hupe, 2002). The synthesis models have also been necessitated by the shift from government to governance that recognises policy delivery through private organisations using market instruments and public-private partnerships, that are followed by the recognition of the importance of policy networks in delivery (table 2.1).

Table 2.1: Policy implementation and governance settings

| <i>Setting</i> | <i>Connections</i> | | | <i>Interpretations</i> |
|--|--------------------|--------------------|----------------------------|---|
| Policy - formulation | Distinctive | Framework approach | Ongoing approach |  |
| Institutional - Inter-organisational relations | Framework | Marketplace | Network | |
| Micro - orientation | Command & Control | Service | Consultative and consensus | |
| Mode of governance | Authoritative (a) | Transactional (b) | Persuasive (c) | |

Source: Modified after Hill & Hupe (2002: 186-7)

What emerges from table 2.1 is that if one looks at the implementation of policy from cell 'c' and observes in the micro-setting a *consultative and consensus* orientation, while the inter-organisational relations are characterised as depicting a *network* character and the policy formation being *ongoing*: then the mode of governance observed under such political-societal connections can be of a *persuasive* nature. The order can be reversed if one starts by analysing the official policy document, thus, depicted by the two directional arrow in the table. The next section looks at another set of theories that are closely related to implementation, i.e., theories of regulation.

2.5.4 Theories of policy regulation

Although theories of policy regulation are part of implementation, I have decided to discuss these separately for purposes clarity and also because a key interest of this research is to understand new trends relating to waste product regulation. This is also necessary because the field of policy regulation is growing rapidly. Smith (2004) says scholars present three sets of policy regulatory theories namely: economic, political incentives and public interest. The *economic theory* of regulation holds that regulations are driven by the needs of business in a way that protects the profits and competitive environment of regulated business, thus, popularly known as voluntary or self-interest regulation (Carter, 2001a). However, other scholars have

indicated that regulations are best understood as originating from the *political incentives* that operate on policy makers, hence placing emphasis on the need to determine the costs and the benefits associated with different regulations and their distribution. This way, we can establish the conditions under which government is more likely to regulate industry using policy instruments. The *public interest theory* of regulation maintains that policy makers regulate in response to broad social movements or crisis situations. In this regard, governments usually act to protect the public from undesirable business practices, and according to Smith (2004) this theory is most often used by policy makers to explain the introduction of environmental regulations.

Although each of the theories discussed hold some relevance, Smith (Smith, 2004) maintain that they all fall short in explaining the emergence of environmental regulations. As such, the most appropriate regulatory theory for environmental regulations seems to depend on the politics surrounding a particular regulation, an aspect that is linked to earlier explanations around the role of science, politics and risk and which is explored in more depth in Parts IV and V of this study.

2.5.5 Regulation instruments

Four approaches to environmental regulation can be identified from the literature. These include free-market, market-based, command and control or standards and enforcement and property rights (Smith, 2004; Beder, 2001; Carter, 2001b; DEAT, 2000i; Pearce, 1998; Howlett et al., 1995). Bowers (1997) says that the choice of an environmental policy instrument is determined by among other factors, the nature of discharge (solid, liquid or gaseous), receiving medium (air, water or land), toxicity and persistence in the environment, detection technology, whether point or non-point and socio-legal aspects. Given the scope and interest of this research, the first three approaches will each be briefly discussed in the following paragraphs.

2.5.5.1 Free-market

This approach to regulations relies on self-interest and volunteerism with very limited or no government intervention to manage common property problems (Smith, 2004). Free-market approaches are therefore neither made mandatory by law nor encouraged by monetary incentives (Mickwitz, 2003; Carter, 2001b). Instead, individuals and organisations put in place measures aimed at good environmental stewardship on their own accord. In many cases governments and other non-lobby groups end up encouraging good environmental management practice through a range of awareness raising initiatives like information campaigns that spell out environmental

benefits of say, all-inclusive recycling approaches. All-inclusive recycling campaigns have been used effectively in the UK (Evison & Read, 2001).

Business may also decide to consider its environmental footprint with a view to maximise its profit by improving production efficiency, its corporate image as well as building trust with shareholders and consumers. This has been the case with ISO 14000 certification. The ISO 14000 standards (Sturm, 1998), for example, require companies to seek certification on Environmental Management Systems, Eco-labelling and Environmental Auditing. Other systems and practices including Industrial Ecology (Erkman, 1997), Cleaner Production, Zero Waste (Pauli, 1997) and Environmental Impact Assessment (Wathem, 1988) have also gained tremendous recognition over the past decade.

Voluntary instruments have potential advantages (Carter, 2001b; Howlett et al., 1995) in that they are preferred in many societies as they tend to be flexible and cost-effective, consistent with cultural norms of individual freedom and support community ties. They may also produce constructive co-operation between the government and industry along the lines of ecological modernisation. This is viewed by Carter as a factor that can influence behaviour of both the government and industry towards good environmental management. However, self-regulation by industry presents a number of challenges. The lack of complementary regulatory mechanisms (Butter & Hallows, 2002; Carter, 2001b) such as those dealing with financial incentives and disincentives means that few companies opt for such self-regulation. Furthermore, getting the ISO 14000 certification does not necessarily mean all toxins will be eliminated from the ecosystem.

2.5.5.2 Market-based

Market-based environmental policy approaches are believed to ensure that resources are devoted only to commodities valued by the society as reflected in the individuals' willingness and ability to pay (Carter, 2001a). They also ensure that if there is meaningful competition among supplies, goods and services are supplied at the lowest possible price and are also believed to have an overall efficiency advantage as they can achieve environmental objectives and target at relatively lower cost (Smith, 2004). The use of markets face tough political opposition (Howlett et al., 1995) and governments usually resort to using market-based tools with other combinations like regulation and/ or subsidies to protect consumers, investors and workers. Common market instruments include environmental charges and taxes as well as deposit-refund and tradable permit systems (McGlade, 2004; Beder, 2001; DEAT, 1999a). Such charges are framed within

the 'polluter-pay principle' (Pearce, 1998). McGlade (2004), records that there were 15 European Union countries applying the tax or charge system on packaging waste, 13 used deposit-refund systems and 17 utilised user fees on waste disposal on landfills and/ or incineration.

However, market-based instruments have their limitations. Bureaucrats prefer to be conservative and stick to the tried and tested instruments like regulations (Carter, 2001a). Ethical and/ or environmental issues have been raised concerning the potential inequality or regressive impact of market-based instruments. For example, by charging a levy for environmentally sensitive goods, governments may be discriminating against the poor. This is due to the fact that a relatively larger portion of their real income would now be spent than that spent by higher income individuals on the same product. However, if a charge is deemed by industry to be inevitable, industry may get organised and offer to conclude a voluntary agreement as a means of preventing or delaying regulation or charge. All this will be done with a belief that government may buy in industry's position as a quicker and less costly means. If self-regulation fails, industry usually lobbies for an environmental policy instrument that better suits its self-interest (*ibid*). This is an aspect that is deliberated upon further in Parts IV of this study.

2.5.5.3 *Command and control*

Government decides what the appropriate scale of a given environmental pollutant or activity is, sets standards and establishes the manner to enforce the standards (Smith, 2004). The command and control approach is the most common as it is believed to have several advantages over other environmental policy instruments (Carter, 2001b; Howlett et al., 1995). Command and control regulations require less information during promulgation and tend to be more efficient, especially if the implementing agency has relevant information and good institutional structures in place, including enforcement. Regulations are also relatively cheaper and politically appealing in the event that the public and other core actors need to see a fast and definite action from the government. However, regulations are not without shortfalls. For example, uniform national standards ignore diverse local natural conditions and social contexts (Smith, 2004). Standards may also distort voluntary activities and may promote economic inefficiencies (Carter, 2001a) and are rigid. In many cases, governments end up with a cocktail of such regulations, a move that may result in inefficiencies in delivery (UNDP South Africa, 2003). If not monitored properly, enforcement costs may be very high due to costs associated with information dissemination, investigation and prosecution. Lastly, the environment is dynamic and this calls for a constant review of old regulations.

2.5.6 Theories of policy evaluation

Mickwitz (2003), maintains that the history of environmental policy evaluation is relatively short compared to other social policy branches, having only been significantly developed by the mid 1990s. However, a number of theories, some borrowed from public policy have been utilised. This section will consider briefly the components associated with the following evaluation models, theories and frameworks: goal-achievement/goal-free; intervention, post-positivist; and real time.

2.5.6.1 Goal-achievement and goal-free models

The oldest model of evaluation is the 'goal-achievement' whose rationale is based on assessing whether the outcomes are in line with the goals (e.g., Mickwitz, 2003; Hill and Hupe, 2002; Ostele, 2002; Hanberger, 2001). This model derives its logic from the conceptualisation of the process of policy formulation and implementation as following the stages approach (see section 2.5.2). The goal-achievement model has, however, been criticised for its positivist, rational approach that disregards side effects and unanticipated effects, failure to consider costs, failure to question the goals being evaluated and that policy changes with time (Mickwitz, 2003; Ostele, 2002). This gave birth to the 'goal-free' model of evaluation, which also has its shortcomings, as it fails to adequately address the aspect of costs (Mickwitz, 2003).

2.5.6.2 Intervention theory

Since both the goal-achievement and goal-free models could not be used to adequately evaluate different types of effects (both anticipated and unanticipated, which can further be subdivided into those within and outside the policy framework) the intervention³ theory (Mickwitz, 2003) was developed. Intervention theory aims to describe how policy is intended to be implemented and function. As such, it comprises of variables and their causal relations such as (*ibid*):

- *Actors*: which are decision-making entities like authorities, companies, NGOs and individuals and these include both the agencies implementing the policy instrument and the group(s) targeted by the policy instrument.
- *Inputs*: that are utilised by administration to produce outputs and these include personnel, finance and matters coming from the target groups such as an application for a permit.

³ Also known as programme theory by Chen, 1990 (cited in Mickwitz, 2003: 423) or policy theory after Hanberger (2001: 48)

- *Outputs*⁴: aspects that target groups are faced with, in this study, the Plastic Bags Agreement, Plastic Bags Regulations, Compulsory Specifications and the levy (see Part IV of this study).
- *Outcomes* (effects): the actions undertaken by the target groups because they are faced with the outputs and the consequences of these actions and these can be divided into: short, medium and long-term (see sections 8.7 & 8.8 for a consideration of outputs and outcomes surrounding South Africa's Plastic Bags Regulations).

2.5.6.3 Post-positivist

Hanberger (2001), points out that post-positivist theories developed due to the shortcomings of the goal-achievement model. Post-positivist theorists (Lincoln & Guba, 2003; Guba & Lincoln, 1994) disassociated themselves from rational, value-free, positivist assumptions. The philosophy behind their perspectives is that social phenomena such as environmental policy need to be scrutinised from many ways of seeing and doing (e.g., Holliday, 2002; Kumar, 2002). As such some post-positivist evaluation research tends to combine the best from positivism and hermeneutics (Hanberger, 2001). Scientific objectivism as well as the oppositional between quantitative and qualitative methods is questioned, particularly due to the fact that all methods in some sense are qualitative. As such post-positivist evaluation utilises all forms of texts and sources and does not assume that statistical methods and accounts generate more valid knowledge (*ibid*).

2.5.6.4 Real time evaluation framework

The real time evaluation (RTE) framework (Hanberger, 2001) identifies four key parameters that include the need to establish the problem situation, policy, implementation and results/consequences (table 2.2). Readers may wish to note that this framework is elaborated upon further in section 3.8.

Table 2.2: Framework for RTE of environmental policy

| <i>Problem situation</i> | <i>Policy</i> | <i>Implementation</i> | <i>Results/consequences</i> |
|--------------------------|-------------------------|--------------------------|--|
| Context | Goals | Line of action | Attained goals |
| Actors (stakeholders) | Intervention theory | Organisation, competence | Unintended results (both positive and negatives) |
| Problem definition | Policy instruments | Resources | Effects (immediate, intermediate and long-term) |
| Relevant variables | Evaluation intervention | Unexpected problems | Beneficiaries |

Source: Modified after Hanberger (2001: 48)

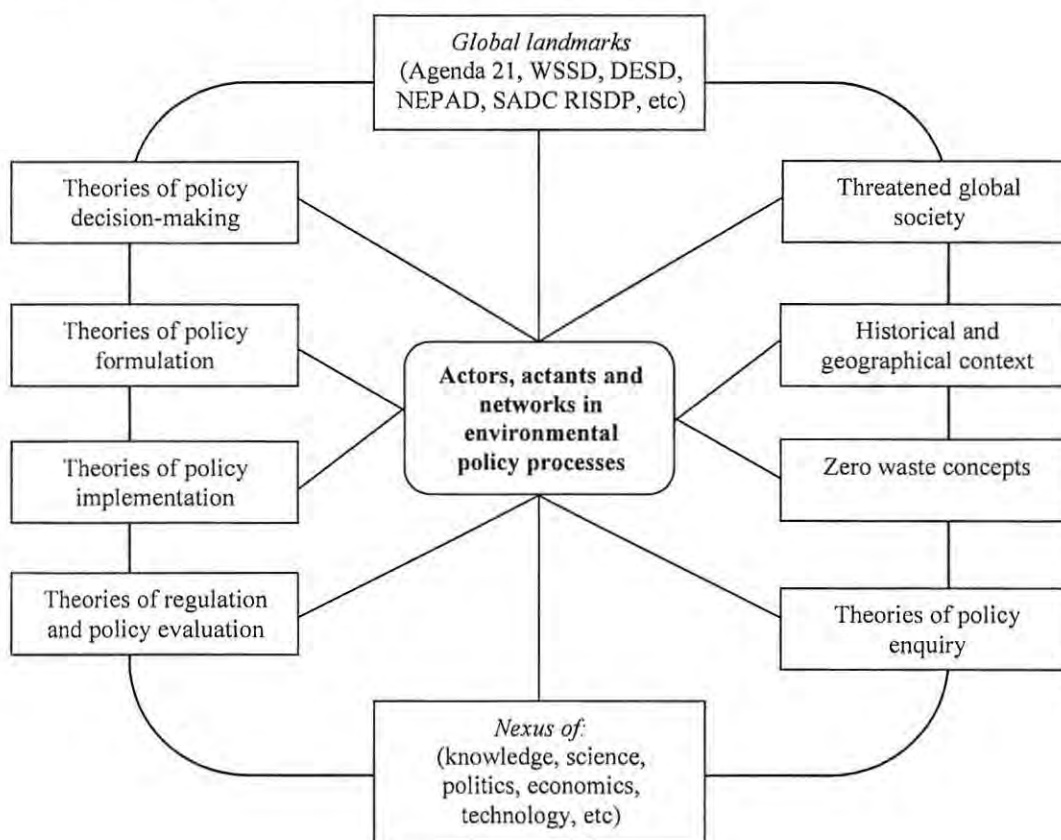
⁴ It should be noted that the word *output* in evaluation is different from our everyday application. In this case the outputs can be viewed as synonymous to policy instruments.

The author cautions to say the four stages have been developed to enhance our understanding and explanation of societal contexts, as in practice real policy processes do not follow (as in the rational goal-achievement model) the logic steps implied in the framework sequentially. Instead, the steps serve the heuristic (stages orientation) purpose of simplifying and structuring the evaluation of the policy process without making any assumptions about rationality or linearity.

2.6 EMERGING ENVIRONMENTAL POLICY ANALYSIS FRAMEWORK

This chapter reveals that research focusing on environmental policy processes analysis is characterised by high levels of complexity and uncertainty. This is shown by the diversity and changing nature of policy theories as these attempt to explain, define and evaluate policy processes. Some of these issues as well as most of the parameters discussed in this chapter are summarised in figure 2.2.

Figure 2.2: Complexity in environmental policy analysis



In an environmental policy context, the complexity is furthered by 1) the nature of threats surrounding environmental issues and (2) the socio-ecological nature of environmental problems as well as (3) the local, national, regional and international character of these threats. Policy process analysis therefore, is characterised by multiple layers of interaction and responses, as

well as high occurrence of non-linearity in relationships, knowledge and time lags (Sayer & Campbell, 2004). Such research also involves dealing with multiple stakeholders, often with different value beliefs and histories (De-Shalit, 2000) as these also come from diverse institutions and backgrounds.

In the centre of figure 2.2 are entities like actors or humans (i.e., government, civil society and individuals), actants or non-humans (i.e., documents that include regulations, texts, internet, telephones and mailing) and networks (such as coalitions between private-private, private-public, government-civil society organisations etc). Aspects pertaining to actors and actants as they relate to South Africa's Plastic Bags Regulations are considered in depth in Parts IV and V. On the left side of the figure are theories that tell of the changing terrain and discourses in the field of environmental policy. On the top of the figure are mutually constituting and changing global and regional trends that influence environmental policy and the manner in which actors, actants and networks evolve over time. Represented at the is represented the nexus of knowledge, science and other aspects that show the multi-disciplinary nature of environmental policy processes. The concept of *zero waste* is also presented as the dominant (idealistic) discourse of the preferred future in waste management (including plastic shopping bags). Resulting from this complex picture, the biggest challenge when researching environmental policy processes becomes a battle for the selection of an appropriate, holistic theory of enquiry (methodology). Such a theory has to assist the researcher in significantly addressing complexities, uncertainties and relationships that emerge as actors and actants assume identities according to prevailing strategies of interaction within networks (Ryder, 1999). In the context of this work, which focuses on a new trend in environmental policy making, namely waste product regulation, this would seem all the more important, particularly as the new Plastic Bags Regulations target both: the consumer (the external environment) and the manufacturer (the internal environment).

2.7 CONCLUSION

Researching environmental policy process surrounding South Africa's Plastic Bags Regulations calls for an in depth understanding of complexities, uncertainties, relationships and controversies that characterise environmental problems. It also requires thorough grounding in how environmental concerns (including waste) found their way onto the global, regional and national policy agendas. This required a review of literature surrounding theories of policy formulation (including decision making) and theories of policy implementation (including regulation and evaluation) as presented in this chapter. A hybrid, holistic enquiry framework is needed to address these challenges. To this end, and in line with the need to stress the relational orientation

to researching environmental policy processes, the *actor/actant-network theory* provided a useful orienting methodological framework for this purpose. The actor/actant-network theory enquiry framework and the manner in which it was applied to generate, analyse and present findings is discussed in the following methodology chapter that forms Part II of the thesis. Other commonly used enquiry frameworks including the advocacy coalition framework, environmental capacity and environmental discourse analysis are also briefly discussed to explain and justify the research design decisions that were made in guiding this study.

PART TWO
METHODOLOGICAL FRAMEWORK

PREAMBLE

The methodological framework chapter presents the actor/actant-network theory (AANT) as the preferred enquiry framework. The decision to apply AANT was reached after carefully considering three other potential methodological approaches that are commonly used in researching environmental policy. These included the advocacy coalition framework, environmental capacity theory and environmental discourse theory. The AANT was applied because it enables a relational orientation to researching complexity, uncertainty and controversies in environmental policy processes informing South Africa's Plastic Bags Regulations, thus addressing the limitations of creating binaries between actors (human) and actants (non-human) introduced under section 2.6. This relational orientation is central to the research as both actors and actants assume identities relative to prevailing strategies of interaction in the networks. In addition, AANT provided a methodology for 'following' the Plastic Bags Regulations (including its various versions) as a *focal* actant (or token or sovereign or quasi-object, quasi-subject) and the way in which the regulations circulated and transformed. As token, the regulations shaped and were being shaped by other actants as well as actors and actor/actant-networks that emerged both before and after the promulgation of the regulations in May 2000. The main data generation methods included locating key documents (actants), especially from the Internet (email and the World Wide Web), interviews (face-to-face, telephone and focus group interviews) and both direct and indirect observations. AANT also provided a process-oriented framework for data analysis and interpretation that centred on its four moments of translation that include *problematization*, *interessement*, *enrolment* and *mobilisation*. Research tools including NVivo 2.0 and Microsoft Excel were used to aid analysis.

In a pre-dominantly qualitative research oriented study like this one, a theory of enquiry guides every stage of the research process. It influences the manner in which the research design is developed (mainly the questions and methods), the implementation of the study (data generation and analysis) as well as the manner in which findings are interpreted (Janesick, 1998). The research may also result in the development of conceptual frameworks from the study (Strauss & Corbin, 1998). In this study AANT or its components provided useful lenses for generating and analysing data. As advised by Harrison and Bryner (2004b), AANT guided the generation of data that resulted in 'thick' descriptions of proceedings concerning environmental policy processes surrounding the Plastic Bags Regulations. This was in sharp contrast to using it to generate data for merely testing hypothesis.

CHAPTER THREE

RESEARCH PROCESS: METHODOLOGY AND METHODS

3.0 INTRODUCTION

Chapter three presents the research design decisions and methodology that guided the study. It starts by briefly discussing the relational orientation that guides the entire research. This is followed by a presentation of three theories of enquiry that have recently been used in researching environmental policy processes. The theories of enquiry are namely: the advocacy coalition, environmental capacity and environmental discourse analysis. The discussion on theories of enquiry revolves around their core provisions as well as limitations associated with the theories if they were selected as lead frameworks in investigating the research questions of this study. A detailed deliberation on actor/actant-network theory as the preferred enquiry framework and how its hybrid nature accommodates some of the strengths drawn from other enquiry frameworks, including the three mentioned above, follows next. The other half of the chapter focuses on the nature of data generated, methods and instruments used as well as data analysis procedures.

3.1 A RELATIONAL ORIENTATION

The language of actors (human), actants (non-human) and actor/actant-networks brings to the fore the relationships and complexities that exist around them. Latour (1993), maintains that such relationships and complexity can be unpacked by understanding the notion of what he calls *quasi-objects* that modernity fails to recognise (see Frohmann, 1995). Modernity, Latour (1993: 3) argues, presupposes a clear distinction between binaries such as nature and society, subject and object, human and non-human as well as a clear separation between “knowledge, interest, justice and power”. These are aspects that cannot be separated as they *weave* the world together creating networks as well as hybrids or quasi-objects, quasi-subjects (Brown & Lightfoot, 1999; Latour, 1993).

Quasi-objects are in between and below the two poles [nature pole and subject/society pole], at the very place around which dualism and dialectics had turned endlessly without being able to come to terms with them. Quasi-objects are much more social, much more fabricated, much more collective than the ‘hard’ parts of nature, but they are in no way arbitrary receptacles of a full-fledged society. On the other hand they are much more real, non-human and objective than those shapeless screens on which society – for unknown reasons – needed to be ‘projected’ (Latour, 1993: 55).

Frohmann (1995) argues that they are quasi-objects because they are at the same time real, social and discursive. According to Foucault (cited in Boje, 2003), quasi-objects bring together networks of institutions, which would otherwise not be linked, in a manner that constructs identity and carries relationships centred on axes of power, knowledge and ethics. Quasi-objects circulate and transform while in circulation and in so doing form relationships between the members of given groups (Boje, 2003). With regard to this study, the Plastic Bag Regulations and their various versions qualify as quasi-objects or tokens (Schultz, 1998). Therefore, both humans and non-humans are defined relationally as arguments in the network. This leads to a relational epistemology that rejects the naïve positivist view of objects as existing in themselves before any participation in eco-social and semiotic networks of interactions (Ryder, 1999). However, only humans are able to put non-humans (such as the Plastic Bags Regulations) into circulation in the network (*ibid*).

From Brown and Lightfoot's (1999) perspective, quasi-objects or sovereigns also bring in the notion of the *third* or *thirdness*. According to these authors, thirdness denotes the space between two entities. It is in such space where relationships are constituted, a medium through which an identity related to another may be taken up. The sovereigns are defined by the passages they undergo and the effects they produce in the subjects and objects surrounding them, and at times translating into quasi-subjects (*ibid*). Thirdness can also be likened to Bourdieu's (1998: 31) concept of *social space*, which "contains, in itself, the principle of a *relational* understanding of the social world. It affirms that every 'reality' it designates resides in the *mutual exteriority* of its composite elements". Hence visible actors "occupy relative positions in a space of relations which, although invisible and always difficult to show empirically, is the most real reality ... and the real principle of the behaviour of individuals and groups" (*ibid*).

Therefore, a relational orientation was preferred in researching the processes, complexities, uncertainties and controversies in environmental policy making surrounding South Africa's Plastic Bags Regulations. As discussed in chapter two, and especially under section 2.6, environmental policy processes cannot exist outside the context of *nature* and *society* (community, politics, knowledge, history, geography, technology and many more attributes) and play out as quasi-objects between the two poles. As such, relationally oriented insights from the actor/actant-network theory were drawn upon to assist in data generation, analysis and interpretation. However, before elaborating on the actor/actant-network theory the next sections briefly discuss other enquiry frameworks (the *advocacy coalition framework*, *environmental*

capacity theory and *environmental discourse analysis*) to provide a reasoned justification for the choice of AANT as preferred enquiry framework for this research.

3.2 ENQUIRY FRAMEWORKS FOR ENVIRONMENTAL POLICY RESEARCH

The *advocacy coalition framework* (Sabatier et al., 1999), *environmental capacity theory* (Murphy, 2001), *environmental discourse analysis* (Hajer, 1997) and *actor/actant-network theory* (Frohmann, 1995) or their components have been recently applied as methodological frameworks for researching environmental policy processes. Before presenting the actor/actant-network as the preferred enquiry framework I will briefly discuss the other three frameworks and present their limitations in relation to this research.

3.2.1 Advocacy Coalition Framework

The advocacy coalition framework was initially developed to understand environmental policy processes within the USA (Sabatier et al., 1999). The advocacy coalition framework has also been used extensively to study environmental policy processes in the pluralist European Union (Carter, 2001b). As such, legislators require scientific and technical knowledge (see for example the elite perspective discussed under section 2.5.1.1) concerning the extent and facets of an environmental problem, its causes, and probable impacts of various solutions (Sabatier et al., 1999). Hence an assumption is made that scientific debate can bring about a consensus on policy matters. Linking these worlds of science and environmental policy are “policy entrepreneurs”, whose aim is to push environmental policy in particular ways by mobilising knowledge and expertise (Keeley and Scoones, 2003: 54). These entrepreneurs are usually well informed and placed and, indeed invest considerable efforts in creating their own networks of influence to sustain policy domains (Sabatier et al., 1999).

An advocacy coalition is made up of individuals, including scientists, policy-makers, politicians, bureaucrats and journalists who share common value beliefs. Such belief systems are arranged into a three-tier hierarchy: (1) deep core beliefs that are broad philosophical values that apply to all policy domains, (2) policy core beliefs, which are fundamental values and strategies across that particular policy domain, for example, the seriousness of the environmental problem and the best policy approach, and (3) secondary aspects that are narrower beliefs about specific aspects of the problem and policy implementation (Carter, 2001b). Among some of the policy domains identified are: the cabinet and parliamentarians; appointed officials (“bureaucracy”); interest groups (e.g., NGOs, CBOs, donors, labour and industry); research organisations; and mass media (Sabatier et al., 1999). However, the authors also identify two other policy domains, as the



electorate and political parties, whom they maintain are rather subdued when it comes to environmental policy making (e.g., Harrison et al., 2004a; Howlett et al., 1995).

Controversies between coalitions are to be understood and explained against the background of external parameters, including relatively stable ones like constitutional structures, social structures or geographical predispositions or indeed, economic dependence of governments (Hajer, 1997). Environmental policy making becomes a function of both competition within the policy domain and events outside it. What cements the coalition is the shared value belief of individuals that they bring into the coalition although these may change over time through social learning (Sabatier et al., 1999) with language being taken as a means to achieving this.

With its origins in the USA, a number of assumptions can be drawn that work against using the advocacy coalition framework as an appropriate enquiry framework for South African environmental policy processes surrounding the Plastic Bags Regulations. Advocacy coalitions in the USA are associated with: higher literacy levels, a mature democracy, and 'adequate' resources. This gives policy domains and related individuals more power to deal with environmental policy issues and enables them to be involved throughout the process, including implementation and evaluation stages.

3.2.2 Environmental Capacity Theory

Environmental capacity theory is associated with Martin Jänicke's (1992 and 1997) work (Murphy, 2001). In explaining environmental policy outputs and outcomes, the environmental capacity theory focuses on the environmental problem and structural-institutional influences on policy makers. The theory emerges from mainstream political science, which places much trust in scientists for providing rationally constructed knowledge for policy decision-making (Keeley and Scoones, 2003). As such, good policies are viewed as a product of adequate capacities. The causes and effects of a given environmental problem are critically established and analysed so as to explain the observable trends. In other cases 'success' story environmental policies are identified and a critical analysis is done to establish what makes them successful (Murphy, 2001). As such policy analysts need to capture multiple parameters and conditions that affect policy outputs and outcomes when attempting to understand environmental policy (Parsons, 1995). To this end, successful policy outcomes arise from the flexible application of shifting combinations of multiple tools over time, rather than a continuous implementation of any single policy (Andreas, cited in Murphy, 2001). The application of certain policy instruments,

particularly command and control (see section 2.5.5.3), is seen as key to the success of achieving set goals to deal with a given environmental problem (Wilson, 2002).

Environmental capacity theory is, however, criticised for a number of reasons. Murphy (2001), maintains that it lacks engagement with spatial scale as it focuses on capacity at the expense of capacity building. Murphy (*ibid*), maintains that the theory also fails to consider explicitly tools for analysing micro-level and global influences and views environmental policy-making processes as a closed system at the national level. This makes it difficult to use the framework to understand environmental policy processes at any other level. It also lacks complexity in the way in which it considers environmental problems and politics (Hajer, 1997), particularly recent perspectives articulating the social construction of environmental problems. Hajer (*ibid*), also critiques the theory for being biased towards rational choice assumptions in policy decision-making and linear fashion of policy formulation as well as for its reliance on top-down approaches to implementation (refer to sections 2.5.1.1 & 2.5.3.1). These perspectives therefore limit its scope to address issues of complexity and uncertainty in researching environmental policy processes as discussed in chapter two section 2.6.

3.2.3 Environmental Discourse Analysis

The theory of environmental discourse analysis is commonly associated with Maarten Hajer (Murphy, 2001). Hajer (1997) popularised environmental discourse in his book entitled *'The politics of environmental discourse: Ecological modernisation and the policy process'* that focused on the 'acid rain' tensions, debates and responses in the Netherlands and the UK. In Hajer's view environmental problems are viewed as a complex and continuous struggle over the definition and the meaning of the concept 'environment'. Social constructionists are then preoccupied with how society assigns meaning to their environmental 'worlds' (Murphy, 2001).

Hajer (1997) examines the interactions in the social processes through which actors are mobilised to address a given environmental problem. Environmental discourse itself becomes a product of the interaction that takes place in practices that lie beyond traditional political realms. Dominant perceptions of a problem are constructed and political decision-making takes place within this "fragmented and contradictory discursive context" (Murphy, 2001: 8). Environmental discourse would primarily seek to understand and explain why a particular conceptualisation of an environmental problem at some point gains dominance (Hajer, 1997) and is seen as authoritative when other conceptualisations are discredited and excluded (Keeley and Scoones, 2003).

From a socio-scientific perspective, discourse cannot be regarded as being synonymous to discussion. There is need to understand the social background and effects of specific modes of language used through analysing the context in which the language is created or to whom it is directed (Hajer, 1997) and the manner in which it helps circulate power. Environmental discourse does not emanate exclusively from particular individuals and institutions; it is larger than this. Rather it is a result of the cumulative effect of many practices and even the discursive practices of identified actors are themselves reflections of other discourses (Keeley and Scoones, 2003). To this end, environmental politics becomes an argumentative struggle in which actors not only draw others into their story lines regarding an environmental problem, but also seek to re-align other actors in a defined manner. The concept of discourse coalitions is also compared to advocacy coalitions (Hajer, 1997). In discourse coalitions storylines become critical political devices that allow the overcoming of fragmentation and achieve discursive closure. This way, storylines play three pivotal functions (*ibid*):

- reduce the discursive complexity of an environmental problem
- as more and more actors start citing them, they get a ritual character and give a certain permanence to the debate (cf., Keeley and Scoones, 2003); and
- allow different actors to expand their own understanding and discursive competence of the phenomenon beyond their own discourse of expertise or experience.

The storylines allow diverse expertise and experiences (scientist, engineer, educationist, historian, politician, economist, layperson, lawyer etc) to illustrate where and how their work fits into the whole equation. Hence the plausibility of an argument put across by an actor is critical.

The environmental discourse analysis framework enables the researching of complexity and uncertainty to a large extent. However, it is more focused on actors and does not consider actor/actant-relationships (see section 3.1). Murphy (2001), also notes another drawback in using the environmental discourse analysis framework, thus, it fails to develop fully the role of institutional set-ups in policy processes even though pointers are made in this direction. In addition, the framework presents a rather limited dimension of analysis to environmental policy process that focuses more on deliberations, which in most cases are dominated by the power of scientific evidence of environmental problems and therefore storylines. To this end, discourses become one of the many components in researching environmental policy processes.

3.2.4 Limitations of the reviewed theories of enquiry

Overall, the advocacy coalition framework, environmental capacity theory and the environmental discourse analysis all have ‘blind spots’ which may limit researching environmental policy processes. In my view, they do not resemble fully developed hybrid enquiry frameworks that can be applied to unearth the tensions, debates and responses associated with complexity and uncertainties characterising environmental policy processes surrounding South Africa’s Plastic Bags Regulations. To this end, I drew critically on the actor/actant-network theory of enquiry in this research as it promised a more ‘adequate’ framework for researching complexity and uncertainty in environmental policy processes surrounding South Africa’s Plastic Bags Regulations. The next section, presents an overview on actor/actant-network theory before discussing its components and application to this research.

3.3 ACTOR/ACTANT-NETWORK THEORY AS PREFERRED HYBRID

Given the need to research complexity and uncertainties associated with environmental policy processes around South Africa’s Plastic Bags Regulations, and the limitations highlighted concerning other potential theories of enquiry, the actor/actant-network theory (Frohmann, 1995) was drawn on as a hybrid enquiry framework with potential to approach policy process analysis research for this study. Actor/actant-network theory (AANT) is also known by other terms such as the ‘actor-network theory’ (Davies, 2002; Callon, 1999a), actor-network approach (Soderbaum, 1993), ‘actant-rhizome theory’ (Smith, 2003c) or ‘sociology of translation’ (ISCID, 2004). Some of AANT components were conceptualised in the early work of Michael Callon and Bruno Latour in 1981 (Callon & Latour, 1981). From this early work, the authors identified two fundamental terms that led to the development of AANT: actor (human) and actant (non-human artefact). The decision to work with AANT in this study was made in order to enable me to effectively trace the networks (see section 3.3.1 below) as well as draw attention to both the human and non-human phenomena that are at times referred to both as *actors*.

The AANT enquiry framework or its components have been widely used to research environmental policy. It has been applied to the study of environmental policy processes in Ethiopia, Mali and Zimbabwe (Keeley and Scoones, 2003), power, politics and networks that shaped partnerships for sustainable communities in the UK (Davies, 2002), ‘waste wars’ in Ireland (Davies, 2003), recycling in Norway (Eik & Brekke, 2003), world city actor-networks (Smith, 2003c) and to trace the activities of scientists and engineers within social contexts (Smith, 2003c; Latour, 1987).

Latour (1999b) argues that the world is full of hybrid or quasi-object entities (e.g., the collapse of binaries like micro and macro spatial scales) and actor/actant-network theory (AANT) was developed to analyse situations where separation of such opposites is difficult (Callon, 1999a). They are hybrids because they are simultaneously real, discursive and socially constructed (Frohmann, 1995). A single text (for example the Plastic Bags Regulations) can “weave the real, the social and the narrated” (Fountain, 1999: 348) and AANT’s emphasis on these weavings – relationships and networks rather than discrete domains presents a cornerstone in this research.

The AANT enquiry framework collapses binaries such as nature/society, structure/agency, actor/actant, micro/macro, global/local, inside/outside/ subject/object and tradition/modernity historically associated with a particular type of social theory (e.g., Smith, 2003c; Law, 1999a; Latour, 1999b; Latour, 1987). As Keeley and Scoones (2003) maintain, these divisions eventually become blurred during the policy making processes, especially due to the complexity, uncertainty and contested nature of policy making (see section 2.1). AANT denies that purely technical, scientific or social relations are possible (Tatnall & Gilding, 1999) 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 (some of which have already been cited) including actor, actant, actor-network and the moments of translation (including processes of problematisation, intersement, enrolment and mobilisation) (cf., Atkinson & Brooks, 2003; Sidorova & Sarker, 2000; Tatnall et al., 1999; Latour, 1999a; Callon, 1999b; Law, 1999b; Callon et al., 1981). These dimensions are discussed in more depth below noting how they were applied during the study.

Latour (1987), maintains that AANT rejects an *a priori* distinction between science (truth) and politics (power). These are two parameters that drive environmental policy making. Conflict and domination are widespread in network development. Hence the emphasis when using AANT in research is on examining controversies to see how certain controversies become resolved and/ or appear as black boxes, i.e., taken for granted or not requiring further explanation (Fountain, 1999). According to Latour (1987: 131), black boxes are defined as “either a well-established fact or an unproblematic object”. It is only when certain controversies are scrutinised that the black boxes begin to open up and reveal complex webs of actor/actant-networks that are normally concealed by the black-boxing effect (Fountain, 1999; Garrety, 1997).

3.3.1 Actors, actants and actor/actant-networks

An actor/actant is holistically described by Callon and Latour (1981) as any element which bends space around itself, making other elements dependent upon it and translating their will into a language of its own. Fountain (1999: 344), goes further and indicates that “an actor or actant is not an agent in the normal sociological sense; instead actor and actant are used as semiotic terms”. These semiotic actors and actants are hybrids that create their own actor/actant-worlds. In this regard, actors and actants “become products of a more or less stable relation between various effects that together form an actor/actant-network” (*ibid*). Some of the common actors and actants include people, groups of people, texts, graphical representations and technical aspects (Sidorova et al., 2000). Additions to this list would include machines, communication networks, money and the media. According to Scharpf (1997), actors are characterised by specific capabilities, perceptions and preferences. Capabilities describe all action resources that allow them to influence an outcome in certain respects and to a certain degree. Such capabilities therefore capture aspects like physical strength, intelligence, or human and social capital; physical resources such as money; technology; and privileged access to information. Latour (1987) similarly associates the word ‘network’ with resources. In particular, resources are said to be concentrated in a few locations that he likens to knots and nodes. These knots and nodes are linked to one another, in the process transforming the scattered resources into a net, which stretches to and influences actor-worlds (Fountain, 1999).

The concept of a *network* resembles a series of linked points and as such a network is a web rather than a hierarchical structure. Hence a network changes (it is fluid), it is non-linear and therefore has various points of entry and such points can be human or non-human (*ibid*). To this end, a network is *relational* as

It can be looked at in terms of what it does and does not connect. It can be looked at in terms of its coherence (i.e., how well it meshes things together, the similarity of its points) and its heterogeneity (i.e., what points do not seem to fit, or which are contradictory) (*ibid*: 348)

From these networks, scientists weave together a range of different elements that render the notion of whether they are scientific, technical, economic, political or managerial meaningless (Latour, 1987). As such, multiple kinds of relations exist that could be “oppositional, associative, conditional, simple, complex, ordered, chaotic, etc” (Fountain, 1999: 348). The metaphor of a network permits one to map out what relations are upheld and to what extent these relations are upheld, especially when controversy emerges (*ibid*). The concepts of relations and networks are

useful in researching environmental policy processes. Hence AANT is not about traced networks but a network-tracing activity (Schultz, 1998). In this context, a network becomes the recorded movement of a phenomenon as quasi-object or token (*ibid*). As discussed under 2.6, environmental policy exists within the realms of communities, politics, science, knowledge, historical and geographical set-ups, technology and many more artefacts.

To enable a fair and same treatment of actants and actors, AANT is based upon three assumptions: *agnosticism* (analytical impartiality); *generalised symmetry* and *free association* (Latour, 1986). Generalised symmetry aims at explaining conflicting viewpoints of different actors (both human and non-human) in the same terms through the use of abstract and neutral vocabulary. Free association calls for the elimination and abandonment of all *a priori* distinctions between the technological/natural and the social (Singleton & Michael, 1993).

3.3.2 Moments of translation

As indicated earlier, translation in AANT consists of four moments (Davies, 2002): *problematization*, *interesement*, *enrolment* and *mobilisation*. These four moments may occur sequentially or otherwise. During translation actors and actants' identity and qualities are defined as negotiations take place between representatives of humans and non-humans (Ryder, 1999). Representation in this case is understood in its political dimension as a process of delegation. Translation therefore becomes a multi-dimensional interaction in which actors and actants construct common definitions and meanings and co-opt each other in the pursuit of both individual and collective objectives (*ibid*).

Problematization takes place when focal actors or actants define or frame a problem. The aspect of problematization usually requires researchers to trace back in time the history and contextual setting of the subject under research (Gaskell & Hepburn, 1998). *Interesement* is when alliances are sought and actor/actant-networks constructed (Keeley and Scoones, 2003; Davies, 2002). It is a time for consultation and promotion, yet at the same time it is characterised by opportunities for resistance. Negotiations about proper partnership structures are articulated with policy entrepreneurs (Keeley and Scoones, 2003) taking centre stage in networking and marketing 'preferred' policy futures from their actor/actant-networks (Atkinson et al., 2003). The focal actor or actant defines the roles of actors in the proposed new actor/actant-network. Callon and Latour (1981) outline how micro-actors (individuals) form alliances, enrol other actors and use actants to mobilise such alliances and secure their interests.

When the moment of *interessement* succeeds (Callon, 1986), the proposed actor/actant-network(s) are created and thus marks the first phase of completed *enrolment*. Actor/actant-network(s) have been found to act as if they are independent autonomous actors or actants (Sidorova et al., 2000). Hence the reason why they are referred to as 'actor/actant-networks'. Such actor/actant-networks will now be made up of heterogeneous networks of aligned interests bound by common discourses. New representative actors and at times actants are selected or created. The cycle around *problematization*, *interessement* and *enrolment* can then be repeated through the moment of *mobilisation* described in the next paragraph.

Once actor/actant-networks are formed, they require continued *mobilisation* as they are always unreliable and can become unstable (Tatnall et al., 1999). New actors, desertion of old ones or changes in alliances may result in the 'black boxes' of networked actors/actants rupturing and the need to re-structure their contents (Singleton et al., 1993; Latour, 1987). Therefore, it is critical to note that behind the lead actor/actant-network, hides multiple webs of interwoven sub-actor/actant-networks. As such, any changes will create a chain reaction within the actor/actant-network(s) it represents (Tatnall et al., 1999). The process of *inscription* (Atkinson et al., 2003; Atkinson, 2002), which involves 'stabilising' the actor/actant-network by committing it to a shared memory of the social-scientific and social-technological system is a core feature of the moment of *mobilisation*. Some of the strategies used during *inscription* include the creation of texts in the form of newsletters, websites, mailing lists and prescribed programmes of action (Atkinson et al., 2003). The stability of actor/actant-networks is also impacted by the extent to which they become subsequently impossible to return to a point where other possibilities exist, thus, *irreversibility* according to Walshman (cited in Atkinson, 2002).

While the moments of translation often involve negotiations among a number of actors, such actors do not always participate in such processes themselves. Instead representatives are selected to speak on behalf of actors or actor/actant-networks and at times this is done through written submissions alone. However, the represented actors or actor/actant-networks do not necessarily always abide by the agreements negotiated on their behalf and this constitutes what Sidorova et al (2000) call *betrayal*.

3.3.3 Application of actor/actant-network theory to the study

Frohmann (1995), argues that AANT embraces the notions of scientific realism, social constructivism and discourse analysis. These aspects are all captured in AANT's central concept of quasi-objects, quasi-subjects (Latour, 1993). Van House (2001), maintains that

methodologically, the AANT can take two major approaches: (1) to 'follow the actors' via interviews or ethnographic research, and (2) 'follow the non-human actants', particularly examining inscriptions. Inscriptions are core to knowledge construction (Latour, 1987). However, Fagan (2002) adds a third dimension, thus, 'to follow actor/actant-networks'. This implies therefore that the researcher can choose any one of the three phenomena as token or quasi-object of analysis (Schultz, 1998). In this study the Plastic Bags Regulations as actant, became the token of data generation and analysis. Gaskell and Hepburn (1998) maintain that the focal actant constructs an actor/actant-network and in the process simultaneously changes in response to the emerging actor/actant-network(s). This research therefore seeks to consider how the Plastic Bags Regulations constructed actor/actant-networks and how the regulations simultaneously changed in response to the emerging actor/actant-networks.

Citing from his inception work with Michael Callon in 1981, Latour (1999b) says that AANT is a methodology that places emphasis on learning from the actors and actants without imposing on them an *a priori* definition of their world-building capacities. He concludes by saying AANT is simply a way for social scientists to access sites, a method and not a theory, a way to travel from one spot to the next and from one field site to the next. Latour also maintains that if AANT is to be credited with some achievement, then it is its ability to have developed science studies that entirely bypass the question of social constructivism and the realist/relativist debate.

In terms of data generation, AANT methodology calls for purposive sampling (Williams-Jones & Graham, 2003). This is a quality closely shared with theoretical sampling in grounded theory approaches (Strauss et al., 1998). For policy research, AANT also emphasises the need to identify rich sources of primary data from consultative and public submission documents (Frohmann, 1995). This aspect was followed up in this study and several key consultative and submission documents were retrieved (see section 3.5.2).

The moments of translation or some of the components were also drawn on to analyse and interpret the documents and other data generated. Specifically, I searched for stages when *problematization* took place and assessed whether the other stages including *interessement*, *enrolment* and *mobilisation* as well as their sub-components of *obligatory passage*, *betrayal* and *inscription* took place (see section 3.3.2 above). Particular attention was paid to identifying the tensions, debates and responses arising amongst the actors, actants and actor/actant-networks as they related to environmental policy processes influencing and being influenced by the Plastic Bags Regulations.

Therefore AANT or its components were drawn upon to assist in: (1) explaining and confirming the relationships (articulated in tensions, debates and responses) that emerged as quasi-objects such as the Plastic Bags Regulations influenced interaction with other actants, actors and actor/actant-networks; and (2) conceptualising emerging issues and initial theorising regarding environmental policy processes surrounding South Africa's Plastic Bags Regulations, as a case example of waste product regulation in South Africa.

3.3.4 Critiques of actor/actant-network theory

A significant critique of the actor/actant-network theory has been the problem associated with its naming. This aspect has been deliberated upon at length by John Law (1999a) and Bruno Latour (1999b). Law (1999a: 2), points out that the act of naming suggests that AANT's "centre has been fixed, pinned down, rendered definite". According to him, this implies that AANT has been converted into a specific strategy 'that we cannot turn back'. This way, many researchers think of AANT as a 'thing' out there that can be used mainly for explaining phenomena. Law reminds us that naming is a threat to productive thinking and retards the chance of making a difference intellectually and even politically. To this end, insights from AANT should also be used to come up with new conceptual frameworks and ultimately theories. Law then calls on researchers not to identify with AANT, "not because it is 'wrong', but because labelling doesn't help" (*ibid*).

AANT, Law (1999a) claims, was never as fixed as it has tended to be through processes of scholastic reasoning in research in the last decade. AANT therefore was about *semiotics* and *performativity*. Semiotics tells us that entities take their shape and acquire their attributes as a result of the relations in which they are located (see section 3.1). This is what led to the collapsing of dualisms. However, Law maintains that there are not, in this semiotic reasoning, no divisions. Rather, it is that such distinctions are understood instead, as effects or outcomes. Performativity is closely linked to the former as semiotics are performed "in, by, and through those relations" (Law, 1999a: 4). As such, in principle everything becomes uncertain and reversible, including the methodological propositions embedded in AANT.

Writing on how AANT has become appropriated, Law (1999a) suggests that the phrase 'actor/actant-network' is a name that embodies a *tension* that lies between the centred 'actor/actant' on one side and the decentred 'network' on the other. Latour (1999b) goes further to illustrate that the term 'network' has metaphoric meanings. In his view, it is easy to be deceived by other forms of networks that exist in our everyday lives. For example, we live in

'social networks', using 'railway networks' and are surrounded by 'networks of power' (*ibid*). Latour (1999b), deliberates further on the name 'theory'. He says that he concurs with Mike Lynch who proposed that AANT, should in fact be called 'actor-rhizome ontology'. Latour (*ibid*: 19) maintains that AANT "was never a theory of what the social is made of" as it looks at quasi-objects that are found midway between the natural and the social (Latour, 1993).

Lastly, AANT is silent about when data generation should stop. To this end, complementary ideas from grounded theory approaches and mainstream qualitative research orientations were adopted in this study. From a grounded theory perspective, data for a particular category is generated through the process of theoretically (purposive) sampling until a saturation point is reached (Strauss et al., 1998; Strauss & Corbin, 1990). The saturation point is reached when issues in a particular category start recurring (Charmaz, 2000; Charmaz, 1995) of which any further generation of data will not add value to one's work (Arksey & Knight, 1999). When this takes place, then the researcher has a sign to stop generating more data.

3.4 DATA GENERATION AND ANALYSIS FRAMEWORK

Bearing in mind the need to generate data that would reveal the complexity, uncertainties and controversies (particularly the tensions, debates and responses) in environmental policy processes surrounding the Plastic Bags Regulations, a framework for this analysis was developed (table 3.1). Since environmental policy making is a living and dynamic phenomenon, data generation took place throughout the entire research period. However, this was marked by two peak sessions of fieldwork: one conducted in February 2003 and another between February to April 2004.

The framework in table 3.1 is divided into three broad areas that include: the parameter of data generation and analysis (i.e., methods and instruments, token of data generation and analysis, evaluation component and broad enquiry framework), data generation focus and data analysis framework. Details concerning how the framework was applied during the research are considered in depth in the following sections. The sections look at the nature of data that was generated, methods and instruments used as well as the manner in which analysis proceeded. The data generation methods and sources include: documents (main source), interviews and observations.

Table 3.1: Framework for data generation and analysis

| <i>Level/Parameter</i> | <i>Data generation focus</i> | <i>Data analysis framework</i> | |
|---------------------------------------|---|--|---|
| Methods and instruments | <ul style="list-style-type: none"> • Internet: library resources, including journals and media; World Wide Web and electronic mail • Interviews: face-to-face, focus group, telephone and schedules • Observations and schedules • Ideas notebook and field journal | Analysis concepts <ul style="list-style-type: none"> • Document analysis • Textual analysis • Script analysis • Photo interpretation Analysis process <ul style="list-style-type: none"> • Creswell's (2003) generic steps in qualitative enquiry data analysis • Determining <i>in-vivo</i> codes/nodes • Developing categories from the codes/nodes Tools for data analysis <ul style="list-style-type: none"> • N-Vivo 2.0 • Microsoft Excel | T e n s i o n s |
| Token of data generation and analysis | <ul style="list-style-type: none"> • Plastic Bags Regulations | Time frame <ul style="list-style-type: none"> • Prior to the formulation of relevant key policies • During formulation • Implementation and after Spatial scale <ul style="list-style-type: none"> • Micro (local) • Macro (national) • Transnational (regional-international) | D e b a t e s |
| Evaluation component | Intervention theory <ul style="list-style-type: none"> • Outputs • Outcomes | Outcomes <ul style="list-style-type: none"> • Short-term • Medium-term • Long-term (to a limited extent) | & |
| Broad enquiry framework | Actor/actant-network theory <ul style="list-style-type: none"> • Actors • Actants • Actor/actant-networks | Moments of translation <ul style="list-style-type: none"> • Problematization • Interesement • Enrolment • Mobilisation Incorporating <ul style="list-style-type: none"> • Creswell's (2003) generic steps in qualitative enquiry data analysis, determining <i>in-vivo</i> codes/nodes, and developing categories from the codes/nodes | R e s p o n s e s |

3.5 DATA FROM DOCUMENTS

Documents were key sources of data in this study. Several key reference documents were gathered, particularly through the use of the Internet (World Wide Web and electronic email). The documents included those used for policy discussion, consultancy reports, white papers, policies, government memoranda, acts, e-mails, media articles, press releases, letters and submissions (see section 3.5.2 below). Also included were records in the form of meeting minutes and official press statements or communiqués. Creswell (2003: 187), highlights a number of advantages associated with using data from documents, among them the fact that they enable:

A researcher to obtain the language and words of participants, can be accessed at a time convenient to the researcher – an unobtrusive source of information, represents data that are thoughtful, in that participants have given attention to compiling them and as written evidence, it saves the researcher the time and expense of transcribing.

Strauss and Corbin (1998), also note additional benefits associated with data from documents and document analysis. These can be summarised as: verification of other data sources, validity and directing other data generation (the notion of theoretical sampling). Validation through document analysis took place as data from these sources provided explanations as to why new findings either differed or supported the existing theories and/ or literature.

However, Creswell (2003) warns against the pitfalls of documents as sources of data, including restricted access, incompleteness, accuracy and authenticity (Arksey et al., 1999; see Clarke, 1999). Most key documents were readily available and complete. However, to address shortfalls concerning authenticity, all policy documents, acts and regulations were retrieved from either the official government websites (see section 3.5.1 below) or the respective offices. In addition, through the lenses drawn from applying AANT, the social, economic, environmental and political contexts that influenced the production of some documents were investigated. This way, documents became more interesting for what they excluded as well as what they contained (Clarke, 1999).

An effort was made to link up with relevant actors and actor/actant-networks to triangulate some data from documents through interviews, observations, emails and other documents dealing with the same or similar subjects. In addition, validation of findings took place through generating similar data sets at various scales such as the local, sectoral and national scales. This was particularly so with figures pertaining to plastic shopping bags demand and job losses. Regular updates from e-mails, peer debriefing during conferences and related presentations were done as advised (Creswell, 2003). Access to private and 'seemingly sensitive' documents was negotiated and suspicious cases regarding accuracy were cross checked by generating primary data during fieldwork. A typical case was the varying figures on the drop in demand for plastic bags after the implementation of the regulations.

3.5.1 The Internet (World Wide Web and electronic mail)

The role of the Internet as a fully flagged research tool and source of data in applied research is now recognised (Hewson, Yule, Laurent, & Vogel, 2003). The authors distinguish between primary and secondary Internet research. The former, they claim, makes use of the Internet to

recruit participants, administer materials and collect responses, whilst the latter confines the researcher to use the Internet mainly to access information already available online.

Apart from browsing library databases and journals online, I used the Internet to regularly follow debates and download official policy documents from the government sites. From these official websites links were traced, especially to the relevant environment departments, especially the Department of Environmental Affairs and Tourism in South Africa. Other South African government departments that dealt with components of environmental policy surrounding the plastic bag litter and waste including the Departments of Trade and Industry, Statistics, Revenue Services, Water Affairs and Forestry as well as Provincial and Local Government were visited. A comprehensive list of Internet sites visited regularly and those that provided rich sources of, particularly primary data, is given in appendix 3.1. The list also covers sites from Ireland and Australia that provided information on international developments in plastic shopping bags litter and waste management presented in Part III of this study.

Hewson et al. (2003) highlight some of the major advantages of using the Internet for research, among them, savings on time and financial resources as well as its ability to handle large volumes of documents. From this research experience, the Internet proved a valuable method for generating historical data from as far back as 1994. The Internet was also used extensively to locate respondents' networks and set appointments. Media articles were particularly helpful, as they would always cite names of respondents and their affiliations. A number of mailing lists were subscribed to and these kept me abreast of what was taking place around my research area. Among the top three mailing lists subscribed to include the European Environmental Press, Plasticsnet and Wastewise (appendix 3.1).

However, as researcher I needed to be aware of validity threats in terms of data generated from the Internet such as authenticity and reliability. To address such validity threats, Hewson et al (2003: 12) advise, "It is important always to keep in mind that data are not knowledge" and as such it is crucial to judge the validity of the sampled data and their sources as well as the web page itself. To this end Hewson et al. (*ibid*) advise that if suspicious of the validity of material posted on the Internet, one has to trace the links to the author's home page as this may reveal the biographical details on education, affiliation and body of work. This was not a major issue in this research as most documents were retrieved from official government or organisations' websites. The authors go further to advise that data accuracy and information may be confirmed by following up on cited sources or with those already gathered. Data generated from various

sources was triangulated to perform this confirmation function, and in most cases data sets proved to be accurate and correlated well, especially those from minutes, letters, press statements and consultation documents. Interview and email data also helped to clarify certain positions that were noted as vague in selected documents. Another aspect that I remained alert to was the issue of plagiarism. All the material retrieved from the Internet was acknowledged accordingly.

3.5.2 Policy and discussion documents

A number of key policy, discussion and consultancy documents were sampled. The documents were retrieved to describe in more depth international developments in plastic shopping bags litter and waste management in Ireland and Australia, and more specifically to provide useful insights regarding the tensions, debates and responses from the South African focus area (table 3.2). The documents were further divided into those qualifying to be used as secondary data and those that comprised primary data.

The necessary environmental policy language and key issues around plastic shopping bags litter and waste as well as environmental policy reforms and articulation were considered in these documents, particularly as informed by AANT's four moments of translation (see section 3.3.2) and in relation to the data generation and analysis framework presented earlier in table 3.1. The tensions, debates and responses surrounding South Africa's Plastic Bags Regulations were thus analysed bearing in mind the complexity, controversies and uncertainty surrounding environmental policy making as summarised earlier under section 2.6.

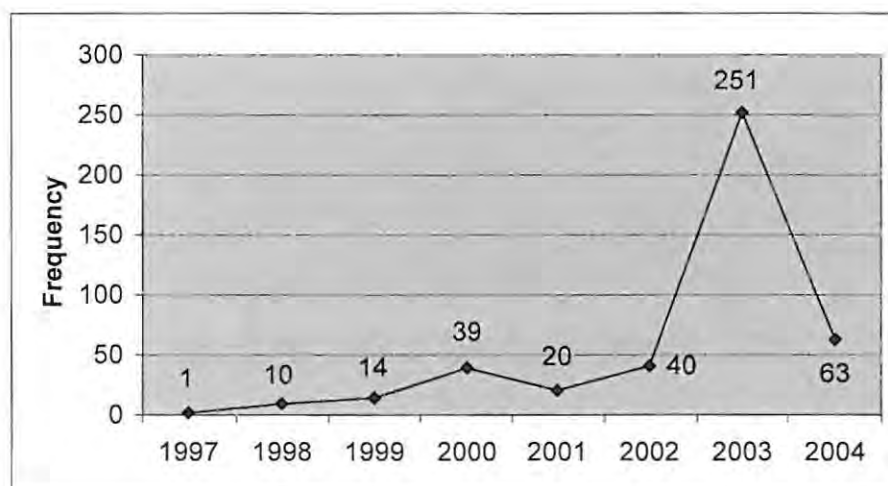
Table 3.2: Key secondary and primary data documents

| <i>Focus</i> | <i>Secondary data documents</i> | <i>Primary data documents</i> |
|--------------|---|---|
| Ireland | <ul style="list-style-type: none"> • Recycling Strategy (1994) • Waste Management and Amendment Act (1996 and 2001) • Changing Our Ways (1998) • Millennium Report on Irish Environment (2000) • Prevention and Recycling Waste (2002) • Regulations on Plastic Bag Levy (2001) • National Waste Prevention Programme (2002) • Waste Management (Packaging) Regulations (2003) • Waste Management: Taking Stock and Moving Forward (2004) | <ul style="list-style-type: none"> • Series of press statements from the Department of Environment, Heritage and Local Government • Consultancy report on public opinion concerning the introduction of the plastic bag levy |
| Australia | <ul style="list-style-type: none"> • National Environment Protection Council Act (1994) • Code of Practice for Supermarket Carry Bags (1997) • National Packaging Covenant (1999) • National Environment Protection Measure on Used Packaging (1999) • Plastic Bag (Minimisation of Usage) Education Fund Bill 2002 • Plastic Bag Levy (Assessment and Collection) Bill 2002 | <ul style="list-style-type: none"> • Various versions of the National Code of Practice for the Management of Plastic Carry Bags up to 2003 • Nolan-ITU Consultancy report on the Analysis of Levies and Environmental Impacts (2002) • Roy Morgan Survey on Public Attitudes on Plastic Bags (2003) • Submissions on 2002 plastic bags bills • Evaluation on National Packaging Covenant by Local Government Associations (2004) • Senate Report on Submissions to Plastic Bags Bills (2003) |
| South Africa | <ul style="list-style-type: none"> • Environmental Conservation and Amendment Acts (1989 and 2004) • National Environmental Management and Amendment Acts (1998 and 2004) • National Waste Management Strategy and Action Plans (1999) • White Paper on Integrated Pollution and Waste Management and related starter documents (2000) • Polokwane Declaration (2001) • Plastic Carrier Bags and Plastics Flat Bags Regulations (2003) • Compulsory Specifications for Plastic Carrier Bags & Plastics Flat Bags Regulations (2003) • Revenue Laws (Amendment) Act (2003) | <ul style="list-style-type: none"> • Draft Plastic Bags Regulations (2000) • Report on Plastics Recycling in South Africa by the Plastics Federation of South Africa (November 2000) • Nedlac Report on Socio-economic Impacts of the Proposed Plastic Bags Regulations (2001) • Plastic Bags Regulations (11/01) • Discussion document on Towards Eliminating Plastic Bags from the Environment: A Plastics Industry Initiative (20 March 2002) • Plastic Bags Regulations (2002) • Plastic Bags Agreement (2002) • Discussion document on Towards Eliminating Plastic Bags from the Environment: Buyisa-e-Bag (23/05/03) • Annual General Meeting Minutes for the Plastic Recycling Employers Organisation (3/2/04) • Press Information 03/5867/3 from Packaging and Industrial Films Association in UK (29/5/03) |

3.5.3 Plastic bags media articles online (1994-2004)

Media articles were searched and downloaded from over 20 media houses online (see appendix 3.1). The search phrase that captured most (if not all) the plastic shopping bags articles was 'plastic bags'. Up to 438 articles dealing specifically with the Plastic Bags Regulations and related issues concerning plastic shopping bags litter and waste management were retrieved in total. The time frame with which articles could be retrieved covered the years from 1997 to 2004. The trend in reporting by the local South African media is presented in graph 3.1. The figures increased from a single article recorded in 1997 to as high as 251 that were reported during the peak period of 2003, the year in which the Plastic Bags Regulations entered into force before easing at 63 cases reported in 2004.

Graph 3.1: Plastic bags media articles online 1997-2004



As emerging from graph 3.1 these media articles were used to follow up key tensions, debates and responses surrounding certain peaks (e.g., 2000, 2002, 2003 and 2004) and included a tracing and analysis of documents that were cited by the media (table 3.3). In addition, parts of the data were used to frame interview and email questions as well as planning for field observations.

Table 3.3: Key documents gathered using media reports

| <i>Reporting period</i> | <i>Key document sourced</i> |
|-------------------------|---|
| September 1999 | <ul style="list-style-type: none"> • Then Minister of environmental Affairs and Tourism policy statement on intended ban on use of plastic shopping bags |
| May 2000 | <ul style="list-style-type: none"> • Promulgation and gazetting of draft Plastic Bags Regulations |
| May-August 2000 | <ul style="list-style-type: none"> • Submissions on the proposed draft Plastic Bags Regulations |
| October 2000 | <ul style="list-style-type: none"> • DEAT Report on the Proposed Plastic Bags Regulations • Minutes of the Public Hearing on the proposed Plastic Bag Regulations by the Parliamentary Portfolio Committee on Environmental Affairs • Matter referred to the National Economic Development and Labour Council (Nedlac) for further input |
| March 2001 | <ul style="list-style-type: none"> • Nedlac Socio-economic Impacts Report on the Proposed Plastic Bag Regulations |
| March 2002 | <ul style="list-style-type: none"> • Discussion document on Towards Eliminating Plastic Bags from the Environment: A Plastics Industry Initiative |
| May 2002 | <ul style="list-style-type: none"> • Finalised Plastic Bags Regulations |
| September 2002 | <ul style="list-style-type: none"> • Plastic Bags Agreement between DEAT, organised industry and organised labour |
| May 2003 | <ul style="list-style-type: none"> • May 2002 Plastic Bags Regulations repealed • May 2003 Plastic Carrier Bags and Plastics Flat Bags Regulations |
| June 2003 | <ul style="list-style-type: none"> • Compulsory Specifications for Plastic Carrier Bags & Plastics Flat Bags Regulations gazetted |
| August 2003 | <ul style="list-style-type: none"> • Compulsory Specifications for Plastic Carrier Bags & Plastics Flat Bags Regulations finalised |
| December 2003 | <ul style="list-style-type: none"> • Revenue Laws (Amendment) Act |
| January 2004 | <ul style="list-style-type: none"> • Environmental Conservation Amendment Act • National Environmental Management Amendment Act |

3.6 INTERVIEWS

Face-to-face, focus group and telephone interviews were used in the study (Arksey et al., 1999). Interview questions and probes were framed so as to address the broad data generation and analysis parameters discussed under section 3.4. The interview questions took the form of structured, semi-structured and unstructured questions, depending on the issue being probed and the nature of the interview (Smith, 1995). The discussions in this section dwell on how validity threats (Maxwell, 1996; Maxwell, 1992) such as issues around the ethics associated with interviewing were addressed. As such, issues of informed consent, privacy, confidentiality, anonymity, accuracy and data security had to be addressed appropriately. In this regard respondents were made aware of the purpose of the research and how the data generated were to be used. Where recording was done, this was done in agreement with the respondents as advised by several authors (e.g., Christians, 2003; Arksey et al., 1999; Frankfort-Nachmias & Nachmias, 1996; Patton, 1990). Although the meaning of informed consent is contested, Frankfort-Nachmias & Nachmias (1996), hint that this should capture aspects such as competence, voluntarism, and full information. A schedule of organisations that granted interviews is provided in appendix 3.2.

3.6.1 Face-to-face interviews

Appointments for interviews were made well in advance and the scheduled questions and themes forwarded, in most of the cases by email. During interviewing, I tried to quickly establish rapport with respondents and avoided dominating the conversations, especially by asking leading questions (Henwood & Pidgeon, 1997). Twenty-four face-to-face interviews were granted from various organisations (appendix 3.2). Interviews were conducted for two purposes: (1) in depth exploration to understand the key issues in waste management in South Africa at the time of conceptualising the study; and (2) to triangulate for confirmation and completeness (Arksey et al., 1999). Only interviews that I judged to have rich data were fully transcribed with the rest having partial transcriptions.

3.6.2 Focus group interviews

Focus group interviewing followed Vaughn et al.'s (1996) framework and this was supplemented by insights from Bloor et al. (2001) and Stewart and Shamdasani (1990). Vaughn et al. (1996), note that in conducting focus group interviewing, the researcher should be aware that this has to be informal and targeted at a specific group whose points of view are needed to address a specific topic. In this research, Masithandane Women's Group was sampled to establish how this community-based organisation (CBO) was involved in the policy processes resulting in the

implementation of the Plastic Bags Regulations. As researcher, I needed evidence from (1) the 'lowest' level (grass roots) in terms of policy formulation and implementation and (2) how Masithandane's plastic shopping bag weaving venture was affected by the new regulations since it had been placed on the national agenda in DEAT's Plastic Bag Agreement publication of September 2002. Obtaining perceptions and attitudes of key stakeholders regarding new policies is singled out as one of the five major areas in which focus group interviews are most appropriate (Vaughn, Schumm, & Sinagub, 1996).

Other points noted when conducting the focus group interview were the size of the group. From the literature, this should be between 6 to 12 respondents who should be relatively homogenous (Vaughn et al., 1996; Stewart & Shamdasani, 1990). Other authors put the size at five to six (Bloor, Frankland, Thomas, & Robson, 2001). Another aspect concerns the moderator (*ibid*). This was addressed by having a research assistant who asked pre-prepared questions and translated them into the local Xhosa language while I played the role of moderator.

Vaughn et al.'s (1996) 12 point checklist for implementing focus group interviews was also considered in which the selection of a convenient venue and length of discussions are included. The venue for the focus group was at Masithandane's premises and seven women participated. The length of discussion was one hour forty-five minutes and fell within the recommended period of time that should be between one and a half to two hours (Bloor et al., 2001; Vaughn et al., 1996).

3.6.3 Telephone interviews

Telephone interviews were used to generate precise data (Robinson & Reed, 1998) from industry, mostly raw material producers, plastic shopping bag producers, recyclers and collectors (appendix 3.2). Twenty-eight companies were sampled and the criteria for the purposive sampling included the scale of production, accessibility, geographical spread as well as prior contact and relationship⁵.

Bearing in mind the high costs and limited interviewing time (Cohen, Manion, & Morrison, 2000; Neuman, 2000), a brief questionnaire schedule with specific closed and semi-structured questions was used either by making it available to respondents before hand or as my guide during conversations. The nature of data generated from material producers and plastic shopping

⁵ The Nampak Group sponsored this research and as such it formed part of all the samples.

bags manufacturers covered units produced before and after the Plastic Bags Regulations, staff complement before and after the regulations, involvement in the policy making process and any other general comments. Data from recyclers and collectors also probed for staff complement and involvement during the policy making process. However, additional questions probed whether the companies were recycling/collecting plastic shopping bags before or after the regulations as well as the quantities they recycled/collected.

3.7 OBSERVATIONS

Both direct (participant) and indirect (non-participant) observations were done (e.g., Silverman, 2001; Angrosino & Mays de Perez, 2000; Denzin, 1978). A number of limitations to using observations in research, including ethics were addressed. As advised by Mann and Steward (2000), access to phenomena under investigation was sought well in advance. This involved requesting permission to visit the Makana Municipal areas (including residential and waste storage and disposal sites), accessing retail outlets as well as capturing phenomena on camera, (including people) and visiting selected plastic bags producing and recycling companies. Whenever people were to be captured on camera, they were informed and only photographed if they agreed. Observations generated three forms of data: a sample audit on plastic litter and waste management at a local level (Makana Municipality) both before and after the Plastic Bags Regulations; plastic bag demand and new patterns of carry facilities; and enforcement, public education and awareness. These sub-categories are discussed further below.

3.7.1 Makana Municipality plastic bag litter and waste management

To assess the extent of plastic bag litter and waste, an environmental management audit for Makana Municipality in the Eastern Cape Province was done. The audit involved observing trends in waste generation, storage, transportation, treatment and disposal. The activity took me to the three typical post-apartheid urban set-ups that included the townships (predominantly black), coloured area and 'whites' only suburbs (see section 1.2.3). Since the audit was based on direct field observations, scenes of interest, particularly litter hot spots were captured on camera and field notes written to note the experience (see plates 6.1a-c in section 6.7.5). Two audits were done, one before the new laws and another a year after. The aim was to note if there was a difference after the implementation of the new laws.

3.7.2 Plastic bag demand and new pattern of carry facilities

On 9 May 2003, the whole day was devoted to assessing the new forms of carry facilities as well as to assess new plastic shopping bags demand at the retail outlet level. Follow-up indirect

observations on plastic bag demand were made by selecting two major retail outlets and through monitoring monthly average consumption figures at the purchase points. This activity was done prior to the new laws and after, and stretched for a period of a year in total. Phenomena of interest were also captured on camera.

3.7.3 Enforcement, public education and awareness

The first port of call to check compliance was to audit if shops had switched to using the new plastic shopping bags on 9 May 2003. A whole day was devoted to inspection rounds in retail outlets in Grahamstown, a city forming part of Makana Municipality. Prior to this, two major producers (one for plastic shopping bags and another that recycled HDPE) had been visited in February 2003 in Johannesburg. Apart from checking compliance, the other data generated concerned whether the new plastic shopping bag could be recycled after all.

To check compliance regarding the provisions of the new plastic shopping bags, I embarked on a *Collect-a-New Bag initiative*. A number of new plastic shopping bags were either bought or collected from retail outlets and peers. Compliance of the new plastic shopping bags was checked against the Plastic Bags Agreement of September 2002 and the Compulsory Specifications of June 2003. The two policy instruments stipulated that plastic shopping bags be labelled (have a bar code, health or environment message, name of producer and country of origin, size of bag, polymer grade, specific printing and ink and recycling logo) and also have a wall thickness of 24 microns minimum.

Other issues of compliance checked included whether retail outlets were: (1) selling the new plastic shopping bags, and if so, (2) whether they were selling plastic bags as per the new laws. In addition, observations also checked whether the retail chains had raised awareness amongst their till operators to ask customers whether they needed to use a plastic shopping bag to carry their groceries and other goods as stipulated by the Plastic Bag Agreement, as well as methods used to educate and raise awareness amongst the customers. Likewise, phenomena of interest such as the use of retail radio, TV and posters were captured on camera (see plates 7.1a&b in section 7.4).

3.8 DATA ON POLICY OUTPUTS AND OUTCOMES

Following the advice from Mickwitz (2003), insights from the intervention theory framework were drawn upon and integrated into AANT. This enabled the determination of both the anticipated and unanticipated effects of policy instruments (see section 2.5.6.2). It also guided

the research in terms of generating and analysing data on policy outputs, outcomes and casual links (see table 3.1 under section 3.4). Mickwitz (*ibid*) also advises that the intervention theory or some of its components can be applied without generating primary data by comparing its logic to intervention theories of other possible instruments and research findings from other instances. My study capitalised on the Irish and Australian developments (see chapter four) to determine the logic in some elements, such as estimations of job losses in South Africa and levels of plastic bags removal from the environment. In essence, the research design decision to consider the two international cases of plastic shopping bags litter and waste management in Ireland and Australia in much more depth was based on the decision to draw on the intervention theory as a complementary analysis framework. This evaluative component complemented the process analysis guided by AANT as discussed in section 3.3.

Intervention theory (Hanberger, 2001), provides a methodology for real time evaluation (RTE). RTE refers to progressive forms of policy evaluation that trace the entire policy process (from decision-making to evaluating policy evaluation itself). Hence the methodology realises the fact that policy goals or instruments may change and new actors (and from the ANNT concept, actants and actor-networks) enter the policy process and therefore complemented and extended AANT as drawn on in this study. Another critical aspect taken into consideration along RTE lines is the fact that various levels of government are actors in the policy process and were treated on equal terms with other actors (reflecting agnosticism as discusses in AANT).

In line with Hanberger's (2001) advice, I searched for both active actors (those who try to influence policy at different stages) and passive actors (those usually affected by the policy, but who do not actively participate in the process). The interest of passive actors was constantly checked. Additional advice rendered by Hanberger (*ibid*) concerns the points at which the policy evaluator would intervene, which he maintains should be done provided one has been commissioned to do so and with the overall intention to promote learning within the policy process. Although this work was not commissioned to particularly address the selected research topic, its broad goals meant that I had to intervene whenever necessary so as to promote learning within the policy process. This resulted in relevant advice being transmitted to various stakeholders as appropriate, including during data generation and analysis phases, conferences and journal articles (appendices 9.1 & 9.2) and annual reports to the sponsor, Nampak.

Data concerning environmental policy outputs and outcomes (see section 2.5.6.2) around the Plastic Bags Regulations were generated. In terms of outputs, this meant generating data

'following' the policy instruments that included the Plastic Bag Agreement, instruments governing the plastic bag levy, the Plastic Bags Regulations and the Specifications. In terms of policy outcomes data were generated for both the anticipated and unanticipated outcomes resulting from implementing the policy instruments. The nature of data was further classified into that of a short, medium and long-term nature (table 3.4) and analysed drawing on this temporal framework to highlight further tensions, debates and responses as well as identifying outcomes as indicated above.

Table 3.4: Data for researching policy outcomes

| <i>Horizon</i> | <i>Anticipated outcomes</i> |
|----------------|--|
| Short-term | <ul style="list-style-type: none"> • Production of thicker plastic shopping bags • Retail outlets selling new plastic shopping bags at prescribed prices • Reduced food prices • Plastic shopping bags re-use • No job losses • Education and awareness raising by retailers • Reduced demand of plastic shopping bags • Use of alternatives to plastic shopping bags • Consensus between the tripartite parties to the Plastic Bags Agreement • Punishment to offenders, be it producers or retailers |
| Medium-term | <ul style="list-style-type: none"> • Continued re-use of thicker bags • Payment of levy by industry to the South African Revenue Services • Establishment of the Buyisa-e-Bag Section 21 Company and associated activities such as job creation, recycling of new plastic shopping bags, education and awareness raising, cleaning of hot spots, etc) • Improved storm water drainage system and reduced flooding • Improved tourist volumes and increase in the number of beaches achieving International Blue Flag status • Reduced plastic shopping bags from the environment • Reduced costs associated with local authority clean-ups and general waste management • Reduced livestock deaths |
| Long-term | <ul style="list-style-type: none"> • Ultimate potential of most medium term outcomes achieved • Zero plastic shopping bags in the environment • No plastic shopping bags induced flooding • Job losses from the plastic shopping bags value chain • More tourist flocking to South Africa with more beaches achieving International Blue Flag status • Improved livelihoods through income poverty reduction, improved nutrition, healthy natural environments etc • Informed citizenry in terms of sustainability issues and high levels of awareness leading to good practices in overall waste management |

3.9 DATA ANALYSIS AND INSTRUMENTS

A two phase approach to analysis of data was used: (1) preliminary and (2) in-depth. To this effect, a six stage generic framework for analysing data from qualitative enquiry by Creswell (2003) provided useful insights as to how data analysis could be approached. The generic framework was adapted and integrated into AANT's moments of translation as outlined under

section 3.3.3, 3.4 and table 3.1. This decision was reached following Creswell's (*ibid*) advice that the six stage generic framework can be used when analysing qualitative data sets provided researchers blend it into their specific research design. Creswell also outlines how the six stage generic framework can be integrated into other methodological orientations namely: (1) *grounded theory*, in which a systematic approach is used, (2) *case study* and *ethnographic* research, where it is used for detailed description of a setting followed by analysis of data to generate themes and (3) in *phenomenological* research, where the framework is used to analyse significant statements. In this work, and in relation to AANT enquiry framework (which stresses the need to trace emerging *actors*, *actants* and *actor/actant-networks* with special focus on tensions, debates and responses during the formulation and implementation of South Africa's Plastic Bags Regulations), the six stage generic framework was used with a bias towards a grounded theory orientation (see section 3.9.2).

Creswell's (2003: 190-195) generic framework outlines six stages that can be summarised as follows:

- Stage 1: Organisation and preparation of data for analysis
- Stage 2: Reading through and making general sense of data
- Stage 3: Start in-depth analysis through an established coding system
- Stage 4: Build categories and themes from the codes
- Stage 5: Develop framework to advance the description of categories and themes
- Stage 6: Interpret or make meaning of the data

The first two stages constitute what I considered the *preliminary* data analysis stages and the last four, *in-depth* analysis. Although cross cutting in nature, the last stage constituted the conceptualisation or theory building stage. In addition, two software packages namely: *NVivo 2.0* and *Microsoft Windows Excel* were used to assist in the handling and analysis of data sets. The NVivo 2.0 package was used to facilitate the re-arrangement and analysis of qualitative data sets while graphs and charts were produced using Microsoft Windows Excel. Details concerning both the preliminary and in-depth data analysis of data sets are presented in the following sections.

3.9.1 Preliminary data analysis

All data generated was subjected to ongoing preliminary analysis with a key focus on tracing tensions, debates and responses across the analysis framework as shown in the data analysis column in table 3.1 (see section 3.4). Taped interviews with rich data were transcribed and data from various sources sorted and arranged accordingly (see Creswell, 2003). General categories

of data sources and data included policy documents (acts, policies, white papers, regulations, agreements and specifications), interview data, emails, media articles, minutes and letters, reports and conference papers. Media articles were printed out, read, entered into a Microsoft Windows Excel database and sorted according to dates in ascending order. The purpose for doing this was to prepare analysis in terms of historical perspective as well as the three time frames established under 3.4 namely prior to, during and after the Plastic Bags Regulations. This also allowed me to plot graphs showing frequency of articles and identify peak reporting periods so as to trace issues highlighted during those phases (see graph 3.1 in section 3.5.3). I also read through all other data sets in order to “obtain a general sense of the information and to reflect on its overall meaning” (Creswell, 2003: 191). This opened spaces of engagement to answer questions pertaining to issues such as general ideas of respondents, tone of ideas, general impression of the “overall depth, credibility and use of information” (*ibid*). At this stage notes were made in margins on printed data as well as highlighting key emerging ideas and possible *in vivo* codes (see section 3.9.2 below). Media articles were bound into two volumes of more than 150 pages each. Preparation was also made to analyse data using NVivo 2.0. This meant converting all electronic data into text format and removing tables and pictures not compatible with the software. Electronic media articles were further re-arranged according to the sources into single text files, for example, all articles from the Sunday Times, DEAT, Daily Dispatch, Herald etc. Similarly, data from transcribed interviews were re-arranged into a single file.

A number of codes and categories around key environmental policy process issues impacting or that were being impacted by the Plastic Bags Regulations emerged and these were used during in-depth data analysis (see section 3.9.2 below). As such, each time a set of interviews, emails, documents and observations were analysed, new perspectives surfaced and old ones were solidified. The need for triangulation was also established and the necessary sources and contacts followed up. Gaps in particular categories of data emerged and additional data would be generated to make such findings credible.

3.9.2 In-depth data analysis

All the 438 media articles, transcribed interviews (appendix 3.2) and other electronic data were formatted into Rich Text Format (RTF) for NVivo 2.0 depth analysis and these were integrated into a total of 27 NVivo 2.0 document files with some files extending to as long as 72 pages of data. In addition, interviews were coded as follows: *Interview FF1-24* (for face-to-face interviews), *Interview FG* (for the only focus group) and *Interview TI-31* (for telephone interviews). Emails were also coded likewise as *Email 1-15*. Once in RTF, the data from each

document file was systematically coded mainly drawing codes (nodes according to NVivo 2.0 language) from the data sets. This type of coding is termed *in vivo* (Alvesson & Skoldberg, 2000) and it was done either on a line-by-line or at least paragraph-by-paragraph basis (*ibid*). Such data analysis opened up new perspectives on the data sets and provided focus for further data collection (Charmaz, 2000; Strauss et al., 1998).

At first open coding was exercised as this, according to Charmaz (2000; 1995) restrained me from the temptation of imposing own beliefs on the data and from the AANT perspective, trace the actors, actants and actor/actant-networks (see section 3.4). The initial open codes (free nodes according to NVivo 2.0 language) that emerged are shown in appendix 3.3 and 82 such codes emerged during the entire analysis. Among the top 20 codes that emerged were: figures, job losses, enforcement, alternatives to plastic bags, food prices, awareness raising, environmental benefits, local authorities, severe conflicts with government, consumers and poverty, industry during regulation, international cases, public against plastic bags regulations, 'plastic bags war', jobs created and Buyisa-e-Bag, why regulate plastic bags, submissions on regulations 2000, co-operative approach, degradable plastic bags and plastic bag hotline.

Other features of NVivo 2.0 that were utilised include its ability to generate descriptive statistics. For example, frequency counts of codes were done to come up with the most and least pressing issues around the coded data as already indicated by the ranking done above. In addition NVivo 2.0 facilities to generate all the data falling under a specific code was used. In this regard, 82 *Node Coding Reports* were generated and printed, the longest of which had 16 pages. A thorough process of reading though and manually highlighting all new points regarding a particular code from the Node Coding Reports as well as electronic editing into full data presentation and discussion categories followed this. A two-paged extract from one of the Node Coding Reports for *Figures* is presented in appendix 3.4.

The codes were used to describe emerging phenomena as these were re-synthesised into specific categories and themes such as *lobbying, enforcement, alternative carry facilities, education and awareness, jobs and demand for plastic bags, environmental policy reforms, environmental and social impact* and many more that form the basis of the rich descriptions provided in chapters five to eight. This is an aspect that is more evident in Creswell's (2003) fourth stage, which complemented AANT's moments of translation in data analysis (see section 3.3.1). These categories and themes (*ibid*: 194) provided the basis for establishing the "major findings" and displayed "multiple" dimensions of the study, especially regarding the tensions, debates and

responses surrounding the Plastic Bags Regulations. They were also “supported by diverse quotations and specific evidence” and additional layers of analysis were integrated by interconnecting them “into a storyline” (*ibid*) and development of these into conceptual (theoretical) frameworks (see Creswell, 2003; Arksey et al., 1999; Strauss et al., 1998). Narrative passages were used “to convey the findings of the analysis” (Creswell, 2003: 194) including discussions of chronological events such as how the Plastic Bags Regulations as quasi-objects or token progressed from their first version of 19 May 2000, through the repealed version of 9 May 2002 to the new version of 9 May 2003. Appropriate visuals, figures and tables were used as “adjuncts to the discussions”, aspects that are outlined in Creswell’s (*ibid*) fifth stage of qualitative data analysis procedures (see section 3.9). In this regard, Windows Microsoft Excel package was used for entering figures and for storing and retrieving them for analysis. This was followed by the computation of descriptive statistics presented in tables, bar graphs, histograms and line graphs.

3.9 CREDIBILITY OF THE FINDINGS

This section aims at summarising steps that were undertaken throughout the research process to ensure that appropriate levels of validity were achieved. Creswell (2003: 195), maintains that researchers, particularly those engaged in predominantly qualitative studies like this one need to “convey the steps” taken to “check for the accuracy and credibility of their findings” – the notion of validity (Arksey et al., 1999). Creswell (2003: 195) also emphasises that validity should not be taken as a “companion of reliability (examining stability or consistency of responses) or generalisability (the external validity of applying results to new settings, people or samples)”. In qualitative research, the accuracy and credibility of findings need to be considered from the standpoint of the researcher, participants and readers of the work. To this end, a number of validity indicators most of which have already been discussed under sections 3.5 to 3.8 were adapted from Creswell (2003: 196-7) and Arksey and Knight (1999: 49-55). Different data sources were *triangulated* by scrutinising evidence from these sources and constructing coherent justification for codes and categories. *Rich, thick descriptions* of data sets were used to articulate findings in the form of narratives and where necessary *discrepant information* was revealed. In addition, *prolonged time* in the field was permitted and this, according to Creswell (2003: 196) allows the researcher to develop depth understanding of issues under study. New data sets were generated up to a few weeks before submitting the final work. *Peer debriefing* was also embarked upon with, especially the literature review and methodology chapters having been sent out for this purpose. Validity was also enhanced by observing good practice (Arksey et al., 1999) interviewing and dealing with ethical issues during the research process (see section 3.6).

Credibility was also addressed by adhering to guidelines provided by AANT. Throughout the research efforts were made to be aware of the fact that AANT methodology required that actors, actants and actor/actant-networks emerging from the formulation and implementation processes of the Plastic Bags Regulations should be *traced* (see section 3.3.1). In addition, drawing from AANT's three assumptions of *agnosticism*, *generalised symmetry* and *free association*, both *actants* and *actors* were supposed to be accorded *fair and same* treatment (see section 3.3.1). These aspects are deliberated upon further under section 9.3.1 that reflects on the research process with specific reference to the methodological framework.

3.10 CONCLUSION

Chapter three presented the research design decisions made including reasons why a relational orientation was preferred in studying environmental policy processes surrounding South Africa's Plastic Bags Regulations. Selected theories of enquiry in environmental policy were considered, among them, the advocacy coalition framework, environmental capacity and environmental discourse analysis. Limitations associated with these three enquiry frameworks were presented before insights from the actor/actant-network theory (AANT) were deliberated upon. AANT was presented as the preferred enquiry framework due to the insights it provided in tracing the actors, actants and actor/actant-networks emerging from environmental policy processes surrounding South Africa's Plastic Bags Regulations. The chapter also presented a data generation and analysis framework that outlined four parameters (methods and instruments, token of data generation and analysis, evaluation component and AANT as broad enquiry framework). Justification for drawing on AANT's four moments of translation (problematization, intersement, enrolment and mobilisation) to analyse the emerging tensions, debates and responses surrounding South Africa's Plastic Bags Regulations was presented. Crosswell's six stages generic framework for analysing qualitative data, as well as the intervention theory framework were used to complement AANT's moments of translations in the process of data analysis. Data generation from documents was discussed and this formed the primary data generation method for this work. Other methods and instruments discussed included interviews (face-to-face, focus group and telephone) and observations. A discussion on data analysis and related software packages (NVivo 2.0 and Windows Microsoft Excel) was provided. The chapter concluded by looking at how validity (credibility) of findings was enhanced.

Part III focuses on the Irish and Australian experiences as detailed accounts of international developments in regulating plastic shopping bags litter and waste. The main purpose of this literature-oriented review is to provide foregrounding for the analysis of the South African case.

PART THREE

INTERNATIONAL PERSPECTIVES ON MANAGING PLASTIC SHOPPING BAGS WASTE

PREAMBLE

Part III is a continuation of the literature review and adds to the good practice international examples of packaging (including plastics) waste management introduced in section 2.4.5. To this end the Irish and Australian experiences, which represent significant international landmarks and trends in plastic shopping bags litter and waste regulation are presented. The two countries were purposefully sampled due to the potential insights and value they added to this research, particularly, processes surrounding and lessons learnt from plastic shopping bag litter and waste management policy formulation and implementation. Such insights provided significant information to strengthen data interpretation surrounding South Africa's Plastic Bags Regulations.

Ireland was selected due to the fact that it became the first country to enact distinctive legislation targeted at regulating plastic shopping bags litter and waste as well as imposing a plastic shopping bag levy, the PlasTax. As such, many countries working towards eliminating plastic litter and waste from the environment usually make reference to this landmark. The Irish story was also selected due to its successful formulation and implementation of a pre-dominantly top-down orientation to policy processes (refer to section 2.5.3.1) surrounding the PlasTax. Part III also addresses the first research objective, namely "to analyse selected international environmental policy processes surrounding plastic shopping bags litter and waste regulation and how these influenced developments in South Africa" (see section 1.9.3).

The Australian experience was selected due to its comprehensive orientation to environmental policies put in place to deal with the plastic shopping bags litter and waste, as well as its detailed public consultation processes during the rejected plastic bags bills of 2002. Key interests emerged from the Commonwealth, State and Territory governments, local governments, NGOs (especially Clean Up Australia and PlanetArk), industry, business and individuals. However, at the end of the day industry and business interests prevailed resulting in the adoption of a voluntary Code of Practice for the Management of Retail Carry Bags in 2003, a case that reflects self-regulation (free market) as outlined under section 2.5.5.1.

CHAPTER FOUR

INTERNATIONAL DEVELOPMENTS IN MANAGING PLASTIC SHOPPING BAGS WASTE: IRISH AND AUSTRALIAN EXPERIENCES

4.0 INTRODUCTION

The Irish environmental and waste management policy processes resulting in the introduction of the PlasTax on plastic shopping bags can be classified into three distinctive phases. The phases are characterised by (a) weak environmental and waste management policies and policy processes (period before 1990), (b) a rigorous environmental and waste management policy reform programme (1990-2000), and (c) ongoing implementation and adjustment of the policies and policy processes surrounding the PlasTax, education and awareness (2001 onwards). The rational models of decision-making and the top-down orientation to implementation also dominate the Irish experience (see sections 2.5.1.1 & 2.5.3.1). As for Australia, the visible policy processes leading to the promulgation and ultimate rejection of the two plastic bags bills of 2002 provide insights into the nature of tensions, debates and responses around the subject under discussion (waste product regulation). The fact that a voluntary Code of Practice for the Management of Retail Carry Bags was adopted in 2003 is indicative of how key interests such as industry and business can prevail in environmental policy making. Narratives emerging from policy processes surrounding both the Irish and Australian global landmarks and trends will now be considered in depth and sequentially in the following sections.

4.1 LEGAL FRAMEWORK FOR MANAGING PACKAGING WASTE IN IRELAND

As indicated above, the Irish experience concerning the management of plastic shopping bags litter and waste can be summarised as comprising three phases: (a) period before 1990, (b) 1990-2000 period, and (c) 2001 onwards. These periods will now be briefly deliberated upon below.

4.1.1 The period before 1990

Waste management prior to the 1990s was not considered a top priority in terms of aspects pertaining to environmental management in Ireland (EPA, 2000a). To this effect, only one single major act, the Litter Act of 1982 was in place. The disposal of municipal solid waste was mainly by landfill and dumping with limited private sector involvement in issues relating to waste and packaging waste management (DEHLG, 1994). Local authorities played their traditional role of issuing waste disposal permits and enforcements to industries disposing of their industrial waste although this was also weak.

4.1.2 The 1990-2000 period

Due to the growing need to sustain waste management in the country, pressure from environmental lobby groups and changing global trends in waste management, the Irish government realised the need to put in place a comprehensive legal and policy framework to achieve sustainable waste management (DEHLG, 1998b). To spearhead the reform the Irish Environmental Protection Agency (EPA) was established in 1992 through an act of parliament and its major functions were stipulated as providing a system of integrated pollution control and waste management (*ibid*). As the main actor, the EPA had to investigate the generation, recovery, reprocessing and disposal of all kinds of wastes with a specific emphasis on ways of minimising packaging wastes that included plastic, paper and board, metal and glass. This led to the establishment of a recycling strategy in 1994, which set an overall target to divert 20% of municipal solid waste going to landfills (DEHLG, 1994). By then recycling levels in the country stood at 7.4% as of 1993. The recycling strategy also established priority areas that included packaging, newsprint and organic matter that could go to compost (DELG, 2004b). A 30% target was agreed upon for packaging waste and this had to be achieved through expanding recycling facilities and incorporating the principle of extended producer responsibility (DEHLG, 1994).

4.1.2.1 Waste Management Act

In 1996 the Waste Management Act was enacted (DEHLG, 1998b). The Act spelt out three main objectives that included the need to:

- Stipulate institutional set-up and relationship between local authorities, Government (through the Minister of Environment, Heritage and Local Government) and the Environmental Protection Agency.
- Establish regulatory powers designed to improve waste prevention, minimisation, recovery and recycling.
- Set-up a comprehensive regulatory framework for implementing higher and effective environmental management, particularly in relation to the European Union Packaging and Packaging Waste Directive of 1994 (see section 2.4.5).

The Waste Management Act of 1996 empowers the EPA to manage hazardous wastes, monitor licensing of major waste recovery and recycling projects as well as waste disposal at landfills. The EPA is also given a mandate to develop and upgrade a national waste management database and the authorisation of waste imports (DEHLG, 1998b). Major local authorities are given responsibility for the development and review of municipal solid waste management plans, authorisation and control of commercial waste collection, monitoring local movements regarding waste exports as well as issuing permits for small scale waste recovery and disposal. The

Minister for Environment and Local Government is given jurisdiction over the overall waste policy direction and making of regulations as deemed necessary. Also enshrined in the Waste Management Act is the obligation to undertake extensive public consultation and seek input in relation to waste management at all levels of government.

4.1.2.2 Changing Irish ways in waste management

In 1998 the Irish Government put in place a pivotal waste management policy entitled *Changing Our Ways* (DEHLG, 1998a). The policy emphasises integrated waste management by all concerned stakeholders. This policy was directed at local authorities and provided guidelines for a harmonised framework aimed at developing strategic waste management plans. *Changing Our Ways* set a number of long-term (15-year) targets among them:

- the need to divert half of the overall household waste from landfill,
- a minimum 65% reduction in biodegradable waste going to landfills,
- develop environmentally friendly waste recovery and recycling facilities,
- effect the polluter-pays principle,
- recycle 35% of municipal solid waste, and
- an 80% reduction in methane emissions from landfill sites to which plastic waste are believed to contribute.

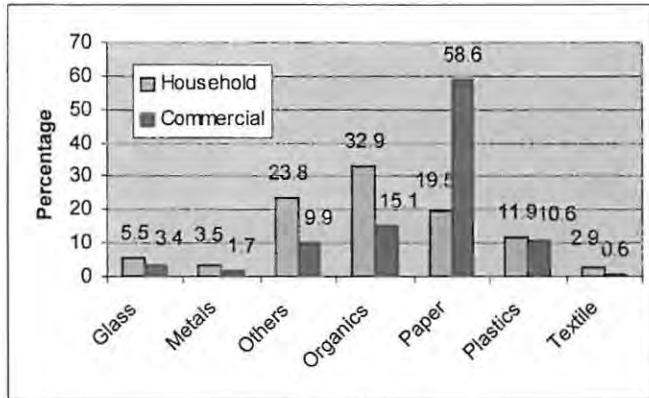
The policy also encouraged the establishment of public private partnerships in managing waste. *Changing Our Ways* also set waste management within the internationally recognised hierarchy aimed at promoting prevention, minimisation, re-use, recycling, waste to energy and disposal by landfill as the last option (DELG, 2004b). Various waste management systems for, especially packaging and other recyclable materials are documented including the use of multiple bins, 'bring' facilities and kerbside infrastructure. Factors impacting negatively on collection systems are discussed and these include population densities, materials targeted, finance, infrastructure and the extent of public participation. New alternative thermal and biological technologies were identified for consideration by different local authorities. The role of education and awareness raising was assigned to local authorities and active communication strategies like the media, leaflets, meetings with residents and volunteer organisations, schools and youth presentations as well as setting up public recovery centres were used.

4.1.2.3 Ireland's litter and waste audit

In its Millennium Report on the Irish Environment the EPA (2000a) identified waste and litter as the second highest priority among the top five problems in the country. Litter, particularly plastic, was a major problem on beachfronts and city environments (EPA, 2000b). The report also identified waste charges as potential economic instruments for use in fighting the problem

(see section 2.5.5.2). The report also established that municipal solid waste quantities continued growing with a more than 100% increase during the decade marked between 1984 and 1994. An estimated 91% of generated municipal solid waste went to landfills in 1998 with an overall recovery rate of packaging waste standing at 14.8% in 1998. The estimated composition of municipal solid waste (household and commercial) in 2000 is shown in graph 4.1.

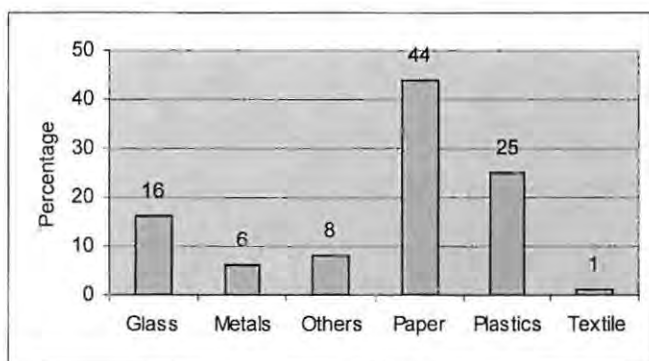
Graph 4.1: Composition of municipal solid waste to landfill



Source: Figures obtained from EPA (2000b: 57)

The recovery rate for municipal solid waste increased from 7.8% in 1995 to about 9% in 1998. However, the recovery rate for household waste decreased from 4.3% to about 3.2% during the same period. As of 2000 the country did not have adequate incineration capacity to reprocess recovered packaging waste. This implied that the European Union targets (section 2.4.5) had to be met through recycling alone. Total packaging waste was estimated at 680,000 tonnes in 1998 (EPA, 2000a) and the detailed breakdown of the tonnage is shown in graph 4.2.

Graph 4.2: Breakdown of the 680,000 tonnes



Source: Figures obtained from EPA (2000b: 59)

Of the packaging waste recovered from the 680,000 tonnes, plastic had the lowest recovery rate estimated at only 1.2% while glass had the highest at about 25.3% (analysis not part of graph 4.2). This presents an example of the broader global challenge regarding the recovery and recycling of plastic packaging waste.

4.1.3 The period 2001 and after

In 2001 the Waste Management Act of 1996 was amended (Republic of Ireland, 2001) so as to make it mandatory for every local authority to have a waste management plan. This followed a slow process by local authorities to put in place such waste management plans as prescribed by the 1998 policy. The Minister for Environment and Local Government promulgated Regulations (S.I. N0. 390 of 2001) stipulating 14 September 2001 as the deadline for having all waste management plans in place. The amended Act made provision for (DELG, 2001):

- charging a levy of 19 euro cents (15 pence) on the supply by retailers of plastic shopping bags and the possibility to charge similar levies for other waste products in future,
- a levy on landfill waste initially pegged at 19 euro (15 pounds) per tonne,
- the establishment of an 'Environment Fund' of which the proceeds would be used to finance environmental initiatives such as waste management, education and awareness raising, and
- an increase in the 'on-the-spot' litter fine to 100 pounds and provision for future changes in the amount.

Another policy, *Prevention and Recycling Waste* was developed in 2002 (DELG, 2004b). By then, many local authorities had put in place tangible programmes to recover and recycle packaging waste. In the capital city of Dublin that accommodates about 150,000 households, over 1,300 'bring' banks had been set-up compared to 400 in 1994 (a 225% increase) resulting in overall packaging waste recycling at the national level increasing from 14% in 1995 to 25% in 2001. However, the government was still working with producers to achieve the European Union 50% recovery rate of packaging waste by 2005. An undertaking was also made to comprehensively review the 1997 Packaging Waste Regulations and the need to establish within the EPA a Producer Responsibility Unit.

4.1.2.1 Irish Plastic Shopping Bag Levy

Plastic shopping bags were identified as a visible and persistent form of litter pollution that impacted negatively on ecosystems and habitats, including wildlife and marine life. This resulted in the commissioning of a study to determine the use of shopping plastic bags and their effects on the environment (DEHLG, 1998c) by the Minister of Environment, Heritage and Local

Government in 1998. The study revealed that an estimated 1.2 billion (about 14,000 tonnes) shopping plastic bags were circulated annually in Ireland, with 21% of these imported from the European Union and south-east Asian countries. This amounted to about 324 shopping plastic bags being consumed per person annually from a total population of about 3.7 million people then (ZWNZT, 2003). A total of four companies employing 177 persons were involved in manufacturing these bags locally. The study also revealed that the greater percentages of the bags were landfilled with a significant proportion entering the litter stream. In addition, efforts by retailers to address the litter problem over the years were acknowledged and a record made of their total failure to achieve the desired outcome, thus, the reduction of shopping plastic litter from the environment. The lack of recovery and recycling infrastructure was also highlighted.

A number of policy instruments were identified and costs and benefits associated with each one of them assessed. Finally, a levy was deemed the most appropriate in comparison to alternatives that were presented and the recommendation was reached based on compliance and administration costs, environmental impacts and effects on employment. Of the various types of levy systems, the point of sale-based approach was preferred as it adhered closely to the polluter-pays principle adopted in several government policy documents (DEHLG, 1998a; DEHLG, 1998b; DEHLG, 1994). The report recommended that a levy of between 4.5 and 15 euro cents per shopping plastic bag be paid by supermarkets or suppliers. The Minister, however, decided that the shopper (consumers) should pay 15 euro cents per plastic bag.

Another study was conducted to determine the general public's opinion on the new levy (DELG, 2004b). The findings showed that there was almost unanimous support for it. As indicated earlier, this followed the amendment of the 1996 Waste Management Act in 2001 to include provisions for a levy on plastic shopping bags and the establishment of an Environment Fund. Following the public consultations the Department of Environment, Heritage and Local Government set up a series of meetings with major stakeholders, among them, the retailers and distributors. The meetings aimed at finding an agreed best way forward regarding the collection and publicising of the Plastic Bag Levy.

The Plastic Bag Levy regulation gives responsibility to collect the levy to the Revenue Commissioners. The law was passed on 20 December 2001 following two months of comprehensive consultations with major stakeholders and only became effective two and a half months later on 4 March 2002. This period was allocated to allow retailers to put in place the necessary mechanisms (including staff training) to implement the law. This also gave

government space to raise awareness as appropriate. A television public awareness campaign was instituted starting 11 February on all Irish TV stations and showed for a full month. The advert featured a dog surrounded by plastic bag litter. Posters of the same dog were placed in public places such as bus stops and shopping complexes. This was complemented by the distribution of 4 million (at least a leaflet for every person) indoor posters and information leaflets to all retailers so as to help them in providing information on the levy to the customers. The same leaflets were also made available through all local authorities and the Department of Environment and Local Government. Revenue Commissioners who were to be responsible for the collection of the levy from retailers also issued separate information to retailers regarding their obligations. In addition, a LoCall number (1890-200191) was established by the Department of Environment, Heritage and Local Government to attend to public queries.

The leaflet, entitled “What is the plastic shopping bag levy?”, explained the implementation dates, reasons for the levy, uses of the levy and alternatives available to those that did not want to buy the plastic shopping bags. It also explained the anticipated results and indicted that there would be less litter and a better environment for Irish citizens. The reason for the levy was given as “to get people to make more environmentally friendly choices by using fewer plastic bags – a major cause of litter in Ireland” (DELG, 2002: 1-2). The leaflet also gave information to the public concerning the types of plastic shopping bags that were not to be impacted by the new regulation and contacts for further information that included the LoCall number, a *10 Steps* website as well as contacts for the local authorities. The Irish Government emphasises *10 Steps* of good environmental management. As such, the Department of the Environment and Local Government has a dedicated website <http://www.10steps.ie/10steps.html> where the public can get information on good environmental practices, including managing plastic shopping bag litter and waste. Four out of the 10 Steps with direct bearing on the management of plastic shopping bags litter and waste are presented in table 4.1.

Non-compliance with the law is reported to local authorities. According to the Regulations, non-compliance attracts a fine of up to €1,905 (R15,711 as of 1st March 2004) or imprisonment of up to one year or both or, on conviction and indictment, a maximum fine of €12.7 million (R104.736 million) or imprisonment of up to 10 years or both. Within the first four months, over a billion plastic bags (representing between 90-95% less than prior consumption) had been removed from circulation with the Revenue Commissioners reporting total earnings of €3.5 million from about 3,000 retail outlets countrywide (DELG, 2003d).

Table 4.1: Four steps to prevent plastic bags litter and waste.

| <i>Step</i> | <i>Content</i> |
|--|--|
| 1. Shop for the Environment | Avoid over packaged products. Buy products in recyclable packaging and buy products made from recycled materials. Look out for the EU Eco-Label which is the guarantee that a product has a reduced impact on the environment. |
| 2. Get into Recycling | Most homes are located within reach of a bottle or can bank. Separate your bottles, cans and other recyclable items such as clothes and get into recycling. |
| 3. Say No to Plastic Bags | Plastic bags are the most visible item of litter on our streets and in the countryside. When you buy a newspaper or a bar of chocolate, tell the shop assistant you don't need a bag. Buy some reusable bags for the supermarket shopping. |
| 5. Don't Litter and Don't Tolerate Those that Do | Most of us claim it's our number one environmental problem, yet half of us admit to doing it. |

Source: Compiled from <http://www.10steps.ie/10steps.html> (26 September 2004)

A year after the introduction of the PlasTax, about 9.6 million euro had been generated for the Environment Fund (DELG, 2004a) with a net of 8 million euro after deductions related to administration costs. The trend is reported to be continuing steadily with a 90% reduction in total consumption prevailing. Already, local authorities (DELG, 2003a; DELG, 2003b) have started benefiting from the Environment Fund with budgets used for enforcement of the waste laws allocated to Waterford (€300,000), Dublin (€1.8 million) and Donegal (€200,000).

4.1.2.2 National Waste Prevention Programme of 2002

The EPA in 2002 established the National Waste Prevention Programme. This programme is responsible for education and awareness raising, technical, training and financial assistance mechanisms (DELG, 2003c). The programme resulted in the establishment of a Core Prevention Team and the Steering Group under it that works with key stakeholders. The Steering Group comprises representatives from Enterprise Ireland, EPA, Clean Technology Centre, Local Authority Associations, Government Departments (Heritage and Local Government, Agriculture, Food and Rural Development and Trade and Employment), Irish Business and Employers Federation, Small Firms Association, Chamber of Commerce, National Sustainable Development Partnership and Environmental NGOs. The National Waste Prevention Programme also established the Recycling Consultative Forum made up of representatives from practitioners, regulators and NGOs.

In 2002, the Waste Management (Packaging) Regulations (DELG, 2003e) were instituted. The regulations are directly linked to the 2001 Waste Management and Amendment Act and a direct response to the European Union Directive on Packaging and Packaging Waste. From the Irish Packaging Regulations of 2003, packaging waste products are classified into three groups covering sales (primary packaging), grouped (secondary packaging) and transport (tertiary packaging). Obligations are set for producers including the need to supply information on weight and post-consumer recovery. Major producers are required to be registered and certified with local authorities given the mandate to enforce, especially, the compilation of packaging information by keeping a register.

The Packaging Regulations define major producers as those businesses with an annual turnover exceeding 1.27 million euro and placing more than 25 tonnes of packaging on the Irish market. Such producers may decide to take back their waste themselves or sign up with the approved compliance scheme, thus, Repak Ltd that carries it out on their behalf. Repak Ltd was established in 1997 to spearhead packaging waste recovery and recycling. Producers signing up with Repak Ltd pay a fee based on the material specific tonnage of packaging they sell. Repak Ltd also supports recovery and recycling initiatives for glass through 'bring' banks and metals from the domestic sector, on source household separation programmes and recovery of packaging waste from commercial and industrial sectors. This is an arrangement similar to the Green Dot system operating in Germany (as discussed under 2.4.5).

4.1.2.3 Utilisation of the Environment Fund

In 2003, €26 million was allocated as capital grants for recycling initiatives in the country (DELG, 2004b), especially 'bring banks' and civic amenity sites, transfer stations and materials recovery and biological treatment infrastructure. An estimated 71 local authority recycling projects involving the establishment of about 580 new 'bring bank' sites (and upgrades), 25 new and 5 expanded civic amenity sites, 9 compositing facilities and one new materials recovery facility have already benefited from €22 million of the €26 million. Another €5 million was provided to local authorities to offset rising operational costs of existing recycling facilities. In addition, over €20 million was reserved for other activities including a programme to improve enforcement and a national waste awareness campaign (*ibid*).

As of December 2003, some 564,000 households (42% of Ireland's total) were separating any recyclables at source. This figure is in sharp contrast to only 70,000 households doing the same in 1998. This trend has witnessed an increase in packaging waste recovered for recycling.

Although calls are being made to move towards 'zero waste', the Irish government has, however, identified an integrated approach to waste management as the preferred future (DELG, 2004b). In this respect, a 21 point plan and strategy has been put in place to guide waste management from 2004 onwards. Some of the key points include:

- waste management planning as a core activity of local authorities,
- the intensification of the enforcement of packaging regulations through the establishment of a network of enforcement officers,
- €2 million set aside as start-up grant for the National Waste Prevention Programme focusing on improved data generation,
- €1 million seed funding for the establishment of the Market Development Group to drive a Market Development Programme for recyclable materials,
- a broadly-based Recycling Consultative Forum to be in place by December 2004,
- a decision on economic instruments to deal with chewing gum, fast food packaging and ATM receipts to be made by mid 2004 following recommendations from public consultations,
- landfill levy of €15 per tonne to be kept under regular review,
- by January 2005 the weight/volume charge system for waste to be implemented, and
- more 'Race Against Waste' campaigns to be launched following the success of the one undertaken in October 2003.

4.2 REFLECTING ON THE IRISH EXPERIENCE

Davies (2003: 77), maintains that "arguments about waste management in Ireland are so deeply contested that they have been conceptualised as cultural wars". This has been so because of differing views regarding the processes that would provide a sustainable waste management strategy and the level with which the so-called wars should be resolved. Much of the research on waste management is regarded as having focused on "technical aspects, institutional arrangements and top end of government structures as crucial significant sites" for negotiations concerning waste management (*ibid*). Waste management activities are concentrated on the macro rather than micro level of interaction between actors, actants and actor/actant-networks (see section 3.3.1). As such, the role of what she calls the "lay-publics" (*ibid*: 86) in waste management had not been given adequate attention within the Irish policy context. Davies goes further to explain her position concerning her choice to use the word 'publics' instead of the common term public. She says the term publics reflects that the so-called public is not made up of an homogenous group of people as society is structured along the lines of age, gender, ethnic and social-economic variables. Inattention to the publics is said to be problematic given that the Irish Government is committed (though rhetorically) to public participation in waste management and policy.

According to Davies (2003), engineering consultants drafted all waste management plans and mentions among them, Fehily, Timoney & Company, Tobin Environmental Services Ltd and O'Sullivan and Co. Ltd. This orientation is said to be a result of the government's perception that public health risks associated with incineration and landfills can be addressed through "science, engineering and technology" (*ibid*: 82). These consultants are viewed as key decision-influencers in waste management debates and as such play a central role in defining the strategic visions for waste management. This resulted in a deadlock between the views of consultants and local authorities, with the result that by 2000, only six out of the 28 had waste management plans in place. As such, the 1996 Waste Management Act had to be amended to force all local authorities to have such waste management plans by September 2001 as discussed earlier. This process circumvented local democracy as the Minister thought the waste management planning process was 'over-democratised'.

The aspect of public participation, like in many other legal documents internationally, is well articulated in the 2001 Act (Republic of Ireland, 2001). The Act stipulates that the public should be given a minimum period of two months upon which they can voice their concerns about the development of draft waste management plans. However, a closer examination of the processes of public participation revealed that this revolves around media announcements of plan development and information leaflets distributed to interested parties and selected sections of the public (Davies, 2003).

Ireland's approach to public participation in waste management is said to have adopted an "information-deficit model" (Davies, 2003: 87). In this model, public participation is viewed predominantly as a way of 'correcting' public perceptions so as to make them align with those expressed by the 'experts' through a process of active information provision (education). Hence the public is only presented the technical-scientific 'facts' (Keeley and Scoones, 2003) of the matter under debate, thus, reflecting a one-way and top-down, political approach to waste management policy processes (see section 2.5.3.1). The information-deficit model assumes that the public's inaction in waste management, for example recycling or negativity towards its regulations, result from ignorance and wrong values. To facilitate the 'right process' for publics to express their values in waste management policy processes, the 'civic' model of participation is advocated for (Davies, 2003). The model calls for the creation of more open and discursive debates on waste management policy. This then facilitates a mutual exchange of information that repositions the public in policy processes and acknowledges 'lived' experiences as relevant to effective waste management policy. However, the effectiveness of the civic model in waste

management policy processes depends much on the development of social capacity, empowerment and citizenship coupled with information provision and the development of a knowledge base about waste issues. This has implications for environmental education processes in the public sphere.

Despite the critiques raised by Davies (*ibid*) as regards shopping plastic bag litter and waste, the Irish experience appears to be a success story that reflects a combination of a number of focused initiatives. These include among them, total political commitment, clear policies, comprehensive environmental law and policy reform, defined institutional roles and set-up (especially the roles of government, Environmental Protection Agency, local authorities and individual consumers), compliance by local authorities regarding putting in place integrated waste management plans and the involvement of major stakeholders, including the public, NGOs, CBOs, industry and business. In fact, the Government still believes after working with industry for over a decade in trying to manage packaging and other wastes sustainably, industry should now take the lead and put in place tangible self-regulatory measures to deal with the recovery and recycling of packaging waste through the producer responsibility initiative. This is what the Irish Government views as the preferred 'alternative approach' to command and control for the future (DELG, 2004b).

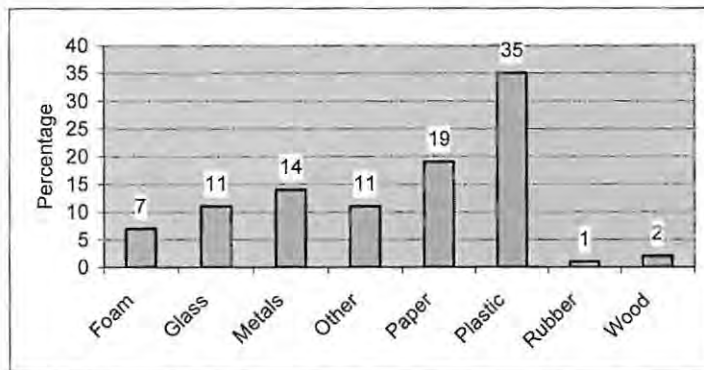
4.3 AUSTRALIA'S PLASTIC WASTE PROBLEM

Since 1992 survey data revealed that plastic packaging remains the main source of, especially land and water pollution in Australian environments having contributed on average 35% of collected waste during clean ups (Clean Up Australia, 2002). As a result, the *Bag Yourself a Better Environment*, a national shopping plastic bag action and awareness raising campaign has been instituted. In 2003 the month of March was dedicated to the campaign and a number of stakeholders, including the Australia Retailers Association and more than 180 local authorities were involved (Clean Up Australia, 2004a). Alternatives to plastic bags were promoted and in-store recycling bins installed. Clean Up Australia has also prepared a brochure with 10 tips for retailers regarding the need to reduce plastic bags consumption and replace them with environmentally friendly alternatives. The alternatives include calico and string bags, baskets or boxes. Graph 4.3 shows the breakdown of waste streams compiled from clean up survey data for the period 1992-2002.

Other recommendations produced in the '10 tips' for managing plastic shopping bag waste include the need to train packers to load bags efficiently with a goal of eight items per bag

depending on size and weight of products. Retailers are encouraged to train packers to ask customers buying small quantities if they needed a plastic bag.

Graph 4.3: Litter composition 1992-2002



Source: Figures obtained from Clean Up Australia (2002: 1)

Clean Up Australia also encourages retailers to join voluntary schemes like the Waste Reduction and Accreditation Programme and the National Packaging Covenant. Tips for customers are also provided and promote the reduction and replacement of plastic shopping bags by carrying small items on their hands, taking stock of plastic bags consumed weekly with the view to halve the figures and having more items packed in each plastic bag. Shoppers are also advised to locate local supermarkets offering recycling facilities and other related initiatives.

In the 2003 Rubbish Report, plastic waste constituted 36%, which was still the highest (Clean Up Australia, 2003). In this regard, the 2004 'Clean Up Australia Day' set as one of its core objectives the need to continue raising awareness on shopping plastic bags through the message *Say NO to Plastic Bags* (Clean Up Australia, 2004a). To achieve this, active communicative strategies such as the use of stickers and banners were employed. The *Say NO to Plastic Bags* campaign's (Clean Up Australia, 2004b) main goal is to inspire customer and retailer action to refuse, reduce, re-use and recycle plastic bags throughout the whole year. The campaign is organised around national radio and TV advertising, supporting publicity a drive to increase retailer active involvement, a series of materials to support small retailers with in-store promotions and staff training as well as support for local authority initiatives. To this effect, a Retailer Kit has been developed to support this process (*ibid*).

4.4 RESPONSES TO THE PROBLEM OF PLASTIC WASTES

The responses to the problem of plastics and other packaging waste in Australia can be traced to as early as the 1991 National Packaging Guidelines that led to the establishment of both the National Packaging Covenant and the Environment Protection (Used Packaging) Measure in 1999. After this period, efforts were aimed at specifically addressing plastic shopping bags litter and waste, leading to the promulgation of two plastic bags bills and the Plastic Bags Working Group in 2002. These and other responses surrounding the management of plastic shopping bags litter and waste in the country are now considered in the following sections.

4.4.1 The National Packaging Covenant

The Australian and New Zealand Environment and Conservation Council (ANZECC) endorsed the National Packaging Guidelines targeted at managing packaging waste and paper products in 1991. Furthermore, both the National Waste Minimisation and Recycling Strategy and the National Kerbside Recycling Strategy were endorsed in 1992 (ANZECC, 1999). This policy process resulted in the signing of the National Material Specific Waste Reduction Agreement in the same year, which expired in 1995. Following the expiry of the agreement ANZECC ministers resolved in June 1997 to endorse the development of a national packaging agreement that would recognise earlier efforts including the 1990 Intergovernmental Agreement on the Environment and the National Strategy for Ecologically Sustainable Development (*ibid*).

The Agreement realised the need to place the ‘environment’ on Australia’s national policy agenda and stipulated among other fundamentals the need for cooperation and defined roles of respective governments that included Australian Commonwealth, States and Territory Governments and representatives of local governments. The Agreement also called for effective integration of economic and environmental considerations in decision-making. This aspect became a big issue during submissions following the publishing of the plastic bag bills of 2002 as industry and business felt that this has been violated. Other principles called for the need to guide all policy-making processes with the precautionary principle, polluter pays and cradle-to-grave assessment of costs of commodities. A National Environment Protection Measure (standards) and an associated regulatory body (the National Environment Protection Authority) were to be established. The said regulatory body was later established as the National Environment Protection Council in 1994 through the National Environment Protection Act (Australia Commonwealth Government, 2002a). The Act gives the National Environmental Protection Council powers to formulate national environmental protection measures.

To follow up on the management of packaging waste, ANZECC Standing Committee on Environment Protection was given the mandate to commence negotiations encompassing local government and all stakeholders to draft a national packaging agreement. The major actors involved in the negotiations included representatives from the Australian Local Government Association, Australia Food and Grocery Council, Australia Supermarket Institute, the Beverage Industry Environment Council, the Packaging Council of Australia and the Plastics and Chemicals Industries Association. What is of major interest in terms of environmental policy making processes is the wide range of key stakeholders involved in the process that resulted in the formulation of the National Packaging Covenant (the Covenant) that came into effect on 27 August 1999 with a five-year life span (ANZECC, 1999). The Covenant was developed to implement government's plan to reduce by half, waste going to landfill by 2000. The Covenant provided a strategy to manage used packaging and paper products through the establishment of a collaborative approach between those in the value chain and spheres of government. Other initiatives included instituting kerbside recycling infrastructure network, a framework for the effective life cycle management of packaging and paper products as well as adhering to the principles of product stewardship and shared responsibility.

The idea of product stewardship is captured as covering aspects such as design, production, distribution, disposal, research, market development, education, labelling and manufacturing as well as retailing (ANZECC, 1999). Producers are called upon to consider environmental effects of products, including their potential for re-use and recycling. With regard to education, the Covenant requires that a reliable information database be established to assist consumers in making informed purchasing choices when considering environmentally friendly products. Product labelling was considered essential as this encourages appropriate recycling and/ or disposal (*ibid*).

The signatories to the Covenant (industry and business, national, state and territory governments and local governments) agreed to specific responsibilities. Industry pledged support regarding the continuous improvement of packaging waste recovery, reprocessing and recycling. This was to be done through a programme that would invest more in kerbside collection facilities throughout the country. The national, state and territory governments committed themselves to facilitating product stewardship through legislation, market development, practicing product stewardship in own operations, community education and awareness raising and kerbside collection services. The local governments pledged to support and initiate best practices in the delivery of kerbside collection systems. With regard to monitoring and reviewing of the

Covenant, two bodies were established: the Covenant Council (overseer) and the Kerbside Recycling Group (reporting to the Covenant Council). These bodies also meet biannually to review progress in regard to stipulations from the Covenant (ANZECC, 1999). By November 2002 there were 600 signatories to the Covenant, with up to AU\$ 35 million having been raised over the years for recycling infrastructure (ARA, 2003a).

4.4.2 The Environment Protection (Used Packaging) Measure

As lead environment agency, the National Environment Protection Council (NEPC, 1999) enacted the National Environment Protection (Used Packaging) Measure (NEPM) (NEPC, 1999). The NEPM was promulgated under Article 14 (1)(f) of the National Environment Protection Council Act of 1994 (Australia Commonwealth Government, 2002a) and entered into force on 2 July 1999 over a five year life span. The national goal of NEPM is to reduce environmental degradation resulting from the disposal of used packaging and to conserve virgin materials. This is to be achieved by encouraging re-use and recycling as well as complementing the National Packaging Covenant discussed earlier. The NEPM also distinguishes what it terms a 'brand owner'. A 'brand owner' is defined (NEPC, 1999: 2) as:

- a) a person who is the owner or licensee in Australia of a trademark under which a product is sold or otherwise distributed in Australia, whether the trademark is registered or not,
- b) in the case of a product which has been imported, the first person to sell that product in Australia, and
- c) in respect of in-store packaging, the supplier of the packaging to the store.

Brand owners are required to furnish the National Environment Protection Council Service Corporation with data on the types and quantities they use as well as collection and reprocessing of that packaging (EPA South Australia, 2001). Brand owners are supposed to provide data on the number of units of packaging as well as the total weight of material used and recovered; recovered material re-used and recycled both within and outside the country; and the total weight of recovered material used for energy and that disposed on landfill. In addition, brand owners must calculate recovery rates. Such records are supposed to be kept for a period of five years. Clear definitions concerning brand owners and the demarcation of their roles present solid platforms for streamlining policy implementation difficulties.

Local authorities operating kerbside recycling services had their roles spelt out too. They are supposed to provide the National Environment Protection Council Service Corporation with information pertaining to: the number of residential and non-residential premises in their

boundaries and those covered by kerbside services, participation rates and fees charged, as well as the total weight of each recyclable material recovered and the total weight of each recyclable material sent to the landfills. Kerbside collection system is explained as any roadside collection of all domestic solid waste separated at source for recycling (NEPC, 1999). Other terms of interest contained in the NEPM include the 'packaging value chain' and 'product stewardship' (*ibid*). The former denotes the linkages between packaging material suppliers, manufacturers, wholesalers, retailers and consumers of the packaged products. The latter, focuses on the ethic of shared responsibility through the life cycle of packaging products including environmental impacts up to disposal. After the passing of NEPM, a number of State and Territory governments drafted subsidiary regulations forcing industry within their jurisdictions to comply.

4.4.3 Key tensions

The institution of two, somewhat oppositional initiatives for managing the same packaging waste in Australia (the Covenant and the NEPM) reveals embedded tensions between government on one hand and industry and business on the other. The Australian Commonwealth Government needed to regulate the industry and business' voluntary initiative as industry and business views concerning their lack of support to NEPM were well documented. For example, as early as 1998 the Australian Chamber of Commerce and Industry (ACCI) called upon government to withdraw the parallel proposal establishing NEPM (ACCI, 2003b).

The main argument was that NEPM would place a potential regulatory burden on small to medium scale business (ACCI, 2003b). Instead, the ACCI encouraged government to adopt the voluntary scheme presented by the Covenant. The National Environment Protection Council Service Corporation initiated the NEPM in September 1998 with limited involvement from industry as the government felt that the Covenant would not adequately address concerns around packaging waste if not supported by regulatory measures that force brand owners to be responsible for the ultimate disposal of their packaging waste. This idea was also seconded by local governments and selected industries. However, the ACCI felt that the Covenant initiative had not been given enough time for implementation, hence the resistance and indication that the body would continue lobbying the responsible ministry against NEPM provisions. This view and lobbying continued unabated and was reflected by the successful re-negotiations by industry and business around the continued implementation of the Covenant and the rejection by Senate of the plastic bag bills in November 2003.

4.4.4 Managing plastic bags litter and waste

In 2002, the Australian Commonwealth Government commissioned a Plastic Bags Working Group (Working Group) to “identify options for eliminating the environmental impact of non-degradable plastic shopping bags; and take into account the development and intent of the National Packaging Covenant” (NPBWG, 2002: 7). During its first meeting in Melbourne on 24 October 2002 the Working Group formed three sub-groups to focus on: the issue of the National Code of Practice for the Management of Plastic Retail Carry Bags, voluntary levy and other policy options, as well as product options and consumer awareness. The Working Group identified four major areas of concern regarding the plastic shopping bags. The areas of concern included other ongoing initiatives, littering and associated indiscriminate waste disposal and consumer behaviour; resource consumption issues like reduction, re-use and recycling; plastic degradability; and social aspects including, community education, awareness and consumer perceptions (NPBWG, 2002). Running concurrent to this initiative was a national survey commissioned to Nolan-ITU (Pty) Ltd by Environment Australia to research the *Analysis of Levies and Environmental Impacts* (Nolan-ITU, 2002). Findings regarding the issues of concern identified by the Working Group and the Nolan-ITU study are presented in the following sections.

4.4.4.1 Existing policies and practices for managing plastic bags litter and waste

The Working Group noted that a number of policies and practices associated with the direct management of plastic shopping bags existed (NPBWG, 2002). At the Commonwealth Government level, the Protection of the Sea (Prevention of Pollution from Ships) Act of 1983 prohibits discarding plastics into the sea. In 1997 the Australian Retailers Association (then Australia Supermarket Institute) and EcoRecycle Victoria had instituted the Code of Practice for Supermarket Carry Bags (ARA, 2003a; NPBWG, 2002). The original signatories were Coles, Franklins and Woolworth. As of 2001, the Code covered 317 stores operating only in Victoria. Signatories agreed to implement eight actions aimed at reducing, re-using and recycling plastic shopping bags as well as monitoring and reporting progress on usage and recycling annually. Some of the activities towards achieving the set goal included the provisions of alternatives, education and awareness raising, staff training and increasing in-store collection facilities. However, a mere 4% reduction in plastic shopping bags consumption was realised as of December 2000 (Nolan-ITU, 2002) with only 30,624 re-usable bags having been sold over the four-year period. Since then, the Australian Retailers Association has been working towards expanding the Code nationally, an opportunity that was presented by the 2002 plastic bag bills. In March 1999, the Australia Capital Territory tabled the Private Members Bill proposing that

retailers charge consumers a levy on plastic shopping bags (NPBWG, 2002). The Commonwealth Government did not support it as it was perceived that the levy would place additional costs to business.

4.4.4.2 Numbers associated with plastic shopping bags in Australia

The Nolan-ITU study reported that Australians used about 6.9 billion plastic shopping bags annually, thus just under a bag per person per day (DEH, 2002; Nolan-ITU, 2002). This figure represents about 2% (36,850 tonnes) of total plastics produced in the country. About 6 billion of the plastic shopping bags were HDPE groceries shopping type, with the remaining 900 million being of LDPE boutique type. Of this amount, an estimated 53% were from supermarkets, 13% from other food and liquor outlets, 15% from general merchandise, 5% from fast foods, convenience stores and service stations and 14% from other retailers (*ibid*). The survey also showed that up to 67% of HDPE and 25% LDPE bags were imported with the remaining proportions produced locally by two main companies, Detmark Poly Bags in Victoria and S-Pak Australia (Pty) Ltd in Queensland. Overall, the majority of plastic bags consumed in the country were imported. Qenos based in Melbourne is the sole local producer of the raw materials. The realised total employment was estimated at 400 full-time equivalents.

A study on 'Environment Friendly Shopping Bags Consumer Concept Evaluation' by Quantum Market Research in August 2002 (NPBWG, 2002) showed that 75% of respondents re-used plastic shopping bags as 'free' bin liners. The Nolan-ITU puts the figure at 60% (Nolan-ITU, 2002). Up to 340 million kitchen bin liners were consumed by the country annually (DEH, 2002). Given that some households were using plastic shopping bags for this purpose, the report from the Department of Environment and Heritage concluded that if the demand for kitchen bin liners was to increase as predicted by 77% as experienced in Ireland, this would only translate into an additional 300 million extra liners each year. Such an equation would lead to an overall reduction in the demand of plastic shopping bags by about 5.9 billion, an 85% reduction. Other downstream uses were recorded to include use as waste bags, lunch bags and general carry bags. The Nolan-ITU report (Nolan-ITU, 2002) established that an estimated 60% of plastic bags were re-used before landfilling, 36% landfilled, 3% recycled and 1% became litter with plastic shopping bags comprising about 2% of the total litter stream. Overall, about 6.67 billion (36,700 tonnes) out of the 6.9 billion plastic shopping bags ended up on landfills annually and equates to 0.2% of total solid waste landfilled in Australia (*ibid*).

4.4.4.3 Impacts on marine, wildlife, livestock and other resources

Nolan-ITU report (Nolan-ITU, 2002) also highlighted the problems of marine entanglement, suffocation and ingestion caused by plastic shopping bags litter and waste. In addition the Working Group (NPBWG, 2002) found out that the 1995 'State of the Marine Environment Report' of Australia had reported that plastic shopping bags contributed significantly in 80% of all maritime pollution originating from the mainland. The Working Group also noted that there was little evidence pointing to the effect that litter from shipping was a significant issue. Although no data were available on the exact number of plastic shopping bags that end up in the marine environment, the Working Group estimated that up to 70% of marine debris comprised non-degradable plastics. Land-based plastic shopping bag litter was not considered a major problem although the Working Group noted that there were reports of cattle deaths due to plastic shopping bags consumption (*ibid*). Plastic shopping bags were also judged to be unsightly, have the potential to block gutters and drains resulting in storm water problems, especially flooding and transportation of plastic litter to ocean fronts (Nolan-ITU, 2002).

4.4.4.4 Plastic shopping bags as litter

Plastic shopping bags litter in Australia was put into two categories: that deliberately thrown away; and/ or inadvertent (Nolan-ITU, 2002). Three main sources of such activities were identified as homes, bins at shopping centres, and landfill sites. Plastic shopping bags lend themselves to inadvertent litter because of their lightness and easy ability to 'balloon' with wind. Such wind blown litter is caught on fences and trees. Concerning the source of plastic shopping bags litter on landfills, the Nolan-ITU research identified operations associated with unloading rather than compaction and burial of the waste. A study by Keep Australia Beautiful of Victoria City found that 47% of litter at and around landfill sites contained plastic (*ibid*) with a greater portion being plastic shopping bags. As a measure, plastic litter at and around landfills in Australia is managed with litter fences and by litter patrol operations around such perimeter fences. The Nolan-ITU study (2002) also investigated aspects around degradable bags and indicated that these were likely to have the same litter problem, especially if they took long to decompose or cause an additional problem as it could be difficult to pick up the decomposing, unsightly small pieces and particulates.

Consumer behaviour was singled out as the most significant cause for plastic shopping bags litter. Australians were estimated to throw away between 30 and 50 million plastic shopping bags annually compared to 20 and 30 million inadvertently littered during waste disposal (Nolan-ITU, 2002). The study could not distinguish who exactly did the littering across gender, age or on

social-economic basis. Three reasons identified as to why people litter included laziness, perception that litter is not an important environmental concern and excitement during special events like New Year's Eve. Recreational areas like beaches, coastal sites, waterways, national parks, major visitor spots and sporting venues as well as urban areas and roadways were identified as areas where people tend to litter most. As most littering happens within a five-meter radius from bins, the Nolan-ITU study concluded that the lack of appropriate disposal facilities might not be the problem. In addition, people were inclined to continue littering in already littered areas. The Working Group (NPBWG, 2002) then recommended that a strong education and awareness strategy be developed towards influencing consumer behaviour against littering.

4.4.4.5 Options for dealing with plastic shopping bags

A full environmental and economic impact analysis of five possible scenarios to address the plastic bag problem was undertaken. The analysis ranked the scenarios according to percentage net benefits as follows (Nolan-ITU, 2002): Scenario 1A – 5 cents legislated levy with expanded Code of Practice (70%), Scenario 1B – 25 cents legislated levy with expanded Code of Practice (60%), Scenario 2 – Voluntary levy as part of expanded legislated levy with expanded Code of Practice (40%), Scenario 3 – Expanded legislated levy with expanded Code of Practice (10%), and Scenario 4 – Revised Code of Practice without recycling targets (less than 10%).

4.4.4.6 Recommendations from the Working Group

Based on several studies and its own work as discussed above, the Working Group identified four main areas of concern pertaining to plastic shopping bags: consumer behaviour that results in littering and associated indiscriminate waste disposal; need to reduce, re-use and recycle plastic bag waste; plastic degradability issues relating to littering and resource use; and social issues like community education and awareness raising.

The Working Group then recommended that retailers expand the National Code of Practice for the Management of Retail Carry Bags. This was done in 2002 under the auspices of the National Packaging Covenant Council although no recycling targets were set. On 23 December 2002, the Environment Minister challenged the National Code of Practice to include recycling targets of (EPHC, 2003):

- 50% recycling rate for high density polyethylene plastic shopping bags
- 90% participation rate of major retail chains and
- 25% participation of small retailers.

4.4.5 Australia's plastic bag bills of 2002

In December 2002, the Australian Commonwealth Government promulgated both the Plastic Bag (Minimisation of Usage) Education Fund Bill 2002 (Australia Commonwealth Government, 2002b) and the Plastic Bag (Assessment and Collection) Levy Bill 2002 (Australia Commonwealth Government, 2002c). The former bill stipulated that expenditure from the levy must be used for educating Australians about the damage and pollution caused to the environment by plastic shopping bags as well as the damage and danger to wildlife and marine life. The latter bill provided for the assessment and collection of a levy on the use of plastic shopping bags at retail points of sale. It also stipulated procedures regarding itemising the levy on till slips upon which the retailer will forward the levy to the Commissioner of Taxation. Retailers were also obliged to keep completed records of regulated plastic bags for a period not less than six years. From my assessment, the provisions of the bills closely resembled the Irish experience.

4.4.5.1 Submissions concerning the plastic bag bills

Following the promulgation of the plastic bag bills Planet Ark commissioned Roy Morgan to conduct a national survey into public attitudes towards plastic shopping bags litter and waste. This later formed part of its submissions when, on 26 March 2003 the Senate Committee responsible for the environment published the bills inviting comments within two months. The national survey indicated that 79% of Australians supported the idea of a levy, especially if it was introduced based on the Irish experience (Planet Ark, 2003). The research also confirmed that the levy had the ability to influence and change public behaviour towards minimisation and re-use. The survey also showed that 62% of those sampled had never recycled a plastic shopping bag in retail outlets. This was despite the fact that for many years retailers including Woolworth, Coles and Safeways had installed plastic shopping bags recycling facilities in nearly all their outlets. An estimated 3% of plastic shopping bags were being recycled according to the survey (*ibid*).

The Roy Morgan survey was extensively cited in many submissions, particularly, those from individuals supporting the proposed bills. A total of 222 out of the 274 submissions were from individuals and overall, 95.8% of the submissions supported the bills (Australia Commonwealth Government, 2003). Some of the reasons given by the individuals and other organisations in support of the bills included the need to curb negative impacts on marine, wildlife and livestock, contamination of kerbside recycling bins and recycled resin, damage to the environment and

ecosystems, aesthetic poverty, clogging of storm water drains (resulting in flooding), need for extended producer responsibility and influence on consumer behaviour, the success story of the Irish experience as well as filthy beaches and negative impact on tourism. However, all the submissions from industry and business flatly rejected the bills (see for example, PCIA, 2003; NPCC, 2003; ACCI, 2003a; ARA, 2003b). Some of the points raised included the cost of administration, need to strengthen existing initiatives such as the National Packaging Covenant and Code of Practice, burden from government regulation, loss of employment, need to reconfigure checkouts and trolleys, plant closures and loss of equipment as well as capital investment, difficulties for small retailers, increased shoplifting and a need to increase security.

The Australian Retailers Association, whose membership amounted to 50,000 rejected the bills indicating that the 25 cents levy per bag would cost consumers up to AU\$1.5 billion annually (ARA, 2003b). State and Territory Governments were challenged to introduce more kerbside collection facilities and strictly enforce waste management and public littering laws. The Australian Chamber of Commerce and Industry whose membership stood at 350,000 shared the same view (ACCI, 2003a). The Chamber of Commerce and Industry accused the Commonwealth Government of a too hasty response based on misinformed media⁶ and public debate. The Plastic and Chemicals Industry Association opposed the bills and considered them inappropriate (PCIA, 2003). It felt that levies would not solve the problems associated with the plastic shopping bags, but people and agreed cooperation were needed instead. The issue of job losses was also raised and a 70% drop in demand for plastic bags was said to translate into 250 out of 400 (62.5%) full time job losses in the value chain (Nolan-ITU, 2002).

4.4.5.2 Plastic bag bills rejected

In November 2003, the Senate Environment, Communications, Information Technology and the Arts Legislation Committee (Australia Commonwealth Government, 2003) rejected both the Plastic Bag Levy (Assessment and Collection) Bill 2002 and the Plastic Bag (Minimisation of Usage) Education Fund Bill 2002. The Committee had invited submissions on the bills via a series of adverts in *The Australian* between 26 March and 4 June 2003. It also wrote direct to a number of organisations inviting submissions and public hearings were conducted in Sydney on 15 August and in Melbourne on 19 September 2003.

⁶ The Plastic Bags Working Group recorded that the Irish PlasTax received wide coverage in Australian national media including the Daily Telegraph, Adelaide Advertiser, West Australian, Herald Sun, Sunday Herald Sun, Canberra Times, The Age, Sunday Telegraph, Courier, Hobart Mercury, Sunday Mail, Sydney Morning Herald, Australian Financial Review and many regional papers as well as radio and TV.

In as much as the Commonwealth Government was working on finalising the plastic bag bills to incorporate comments following the study by Nolan-ITU and the enquiry by the Working Group, the Australian Retailers Association and other interested parties worked frantically parallel to this initiative. The Australian Retailers Association re-worked the Code but maintained most of the concepts from the old 1997 Code and attempted to address aspects around re-use and recycling targets as raised by government. The new Code of Practice also pledged to phase out lightweight single use shopping bags containing HDPE by 2007, an initiative supported by government. However, the revised Code of Practice submitted to the Minister on 23 May 2003 just mentioned one target of an 85% reduction in plastic shopping bags consumption by 2007 (ARA, 2003a) starting January 2003, an aspect that was not accepted by the Minister leading to further revision of the Code of Practice. On the first of August 2003 the Environment Protection and Heritage Council (EPHC, 2003: 1-2) issued a press statement on the conditions under which the revised Code would be accepted, thus, on condition that:

- baseline data on current levels of use and recycling be provided by all signatories to the Code of Practice,
- a transparent auditing standard and process be put in place,
- regular bi-annual reports on implementation are issued and made public by the Minister,
- retailers provide a transparent, fair and market choice between light-weight single use carry bags and multiple-use bags, and
- the Australia Retailers Association enlist the signatories of as many small independent retailers as possible.

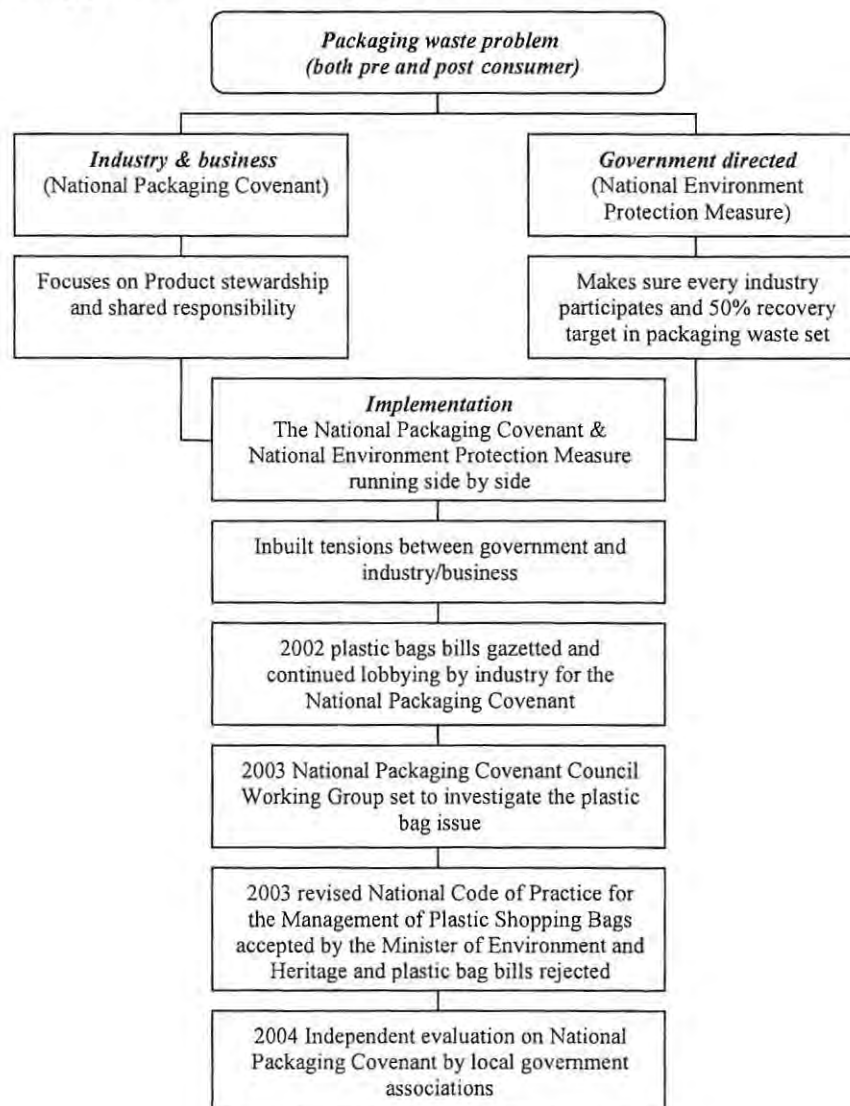
The Code of Practice was revised once more in October 2003 and now stipulates the following (ARA, 2003a: 2-3):

- 25% reduction in plastic bags issued by December 2004,
- 50% reduction in plastic bags issued by December 2005,
- 15% increase on in-store collection to reach a 30% combined in-store and kerbside collection by December 2005,
- Introduction of recycled content plastic bags and work to extend the targeted rate to phase out, over time, HDPE plastic bags made of non-recyclable plastic,
- Support the Environment Protection and Heritage Council target of an audited 75% reduction in plastic shopping bag litter by December 2005 through working with the Clean Up Australia initiative,
- Ensure availability in stores of multiple use bags and making available comprehensive customer information on these bags,
- Objectively audit the effectiveness of the Code and target a participation rate of 90% of the supermarkets and chain members by December 2003 as these account for up to half of the lightweight HDPE plastic shopping bags,
- Campaign strongly to enlist as many smaller retailers to adopt the Code with achieving a 25% participation rate by December 2004, and that

- All those signing the Code would not be impacted by regulatory measures introduced relating to re-use and recycling of plastic shopping bags.

The new developments around the Code of Practice (due for review in December 2005) resulted in an agreement being reached to extend the period under which the Covenant has to operate (NEPC, 2004). Key recommendations from the review stipulated that the existing Covenant/NEPM arrangement be retained for a minimum of three years, subject to substantially improving the measurable quantitative outcomes. Both the Covenant and NEPM life spans were extended on an interim basis to 30 April and 14 July 2005 respectively. The developments around the Covenant and NEPM as well as the subsequent plastic shopping bag bills and the Code of Practice is summarised in figure 4.1.

Figure 4.1: Policy processes surrounding the Covenant and NEPM



Following reservations on the effectiveness of the Covenant, the Local Government Association of Queensland, Australia Local Government Association and Municipal Association of Victoria instituted an independent evaluation of the Covenant in 2004 (Meinhardt Infrastructure & Environment (Pty) Ltd, 2004). The local governments alleged that the Covenant had failed to make industry and business take enough downstream responsibility for packaging waste as industry and business did not adequately subsidise kerbside schemes. The local governments also complained of over-representation of industry and business in the National Packaging Covenant Council and the National Working Group, a move they claim operates against their initiatives and will (*ibid*).

4.4.5.3 Power of industry and business

The power of industry and business and the manner in which it was exercised in the Australian plastic bag debate was summarised by an email from the Assistant Director for the Environmental Stewardship Team in the Department of the Environment and Heritage. Part of the email response reads:

The Plastic Bag Levy Bills were not passed into legislation. ... Currently in Australia, governments are working with retailers and other sectors to voluntarily reduce plastic bag use. The main initiative is the Retailers' Code of Practice ... Negotiations are also underway between governments and retailers to phase-out plastic bags by the end of 2008. So far a set of principles had been agreed for an agreement that will come into force after the end of 2005 (Email 14, 2004-08-10).

An analysis of the 274 submissions made in regard to the plastic shopping bags bills is presented in table 4.1.

Table 5.1: Submissions in response to the plastic bags bills or 2002

| <i>Status of submission</i> | <i>Frequency</i> | <i>Percentage</i> |
|-----------------------------|------------------|-------------------|
| In agreement | 250 | 91.2 |
| Opposed | 11 | 4.0 |
| Neutral | 13 | 4.8 |
| <i>Total</i> | <i>274</i> | <i>100</i> |

It remains puzzling how a 95.8% (if neutral submissions are excluded from the sample) was overpowered by the few submissions against the bills amounting to only 4.2%. This could have been due to the fact that the majority of submissions in support of the bills were from those with the weakest link with the government, thus, the individuals. In fact these amounted to 222 out of the 274 submissions received and the remaining 55 were submitted by organisations. Out of

these 55, those lobbying for, and with a powerful influence included Clean Up Australia, Planet Ark, Local Government Association of NSW and Shires Association of NSW, Marine Wildlife Queensland, Parks and Wildlife Service as well as Environment Victoria. This was overpowered by submissions from industry and business led by the Australian Retailers Association, National Packaging Covenant Council, Australian Chamber of Commerce and Industry and the Plastics and Chemicals Industry Association. The consultant reports from Nolan-ITU Ltd (2002) also played a major role in influencing the final decision (see sections 4.4.4 and 4.4.5.1).

One of the possible explanations from the Committee report as to why the bills were thrown out is that, “many submissions were single lines of text ... Very few submissions specifically addressed provisions in the bills” (Australia Commonwealth Government, 2003: 6). Another potential explanation from the Senate Committee is the acknowledgement that plastic bag waste constituted an ‘insignificant’ 2% of the total waste stream in the country. Industry and business had been pushing for a voluntary measure that resulted in the revised Code of Practice being accepted by government in August 2003. The power to re-group and lobby government by those with resources such as industry and business is evident as one of the key aspects in policy processes surrounding the plastic shopping bags debate in Australia.

However, the Senate Committee (Australia Commonwealth Government, 2003) clarified two issues raised in the submissions: (1) the role of paper bags, and (2) that of biodegradable plastic shopping bags. The Committee indicated that it was mindful of the Nolan-ITU’s (2002) findings that:

Little or negative gain was found to be derived from the shift from single use bags to other single use bags such as biodegradable bags and paper bags, with potential litter gains offset by negative resource use, energy and greenhouse outcomes (*ibid*: 21).

The committee also noted that the use of biodegradable plastic shopping bags would result in contamination within the normal recycling system as such bags would lead to poor quality recycled resin. In addition, biodegradable bags would add to the visual problems of litter by increasing the pieces of degrading bags in the environment that are also difficult to clean up. Lastly, biodegradable bags were blamed for promoting a culture of carelessness amongst Australians, as people were likely to litter knowing that the bag would decompose. This would go against the core value of trying to build a responsible citizenry and a prototype approach to managing litter and other waste in the country (*ibid*).

4.4.5.4 Implementation of the code of practice

On 4 August 2004 the Department of Environment and Heritage reported that about half a billion plastic shopping bags had been prevented from entering Australian environments (DEH, 2004). This followed the mid-2004 interim progress report published by the Australian Retailers Association covering the period January to June 2004 that looked at progress made by major retail supermarkets towards meeting the provisions of the October 2003 Code of Practice (ARA, 2004; ARA, 2003a). These results represent an estimated 7.3% of the baseline plastic shopping bags consumed in Australia annually, meaning if the same rate is maintained, only 14.6% removal would be achieved within the first six months.

4.5 CONCLUSION

Environmental policy processes informing the Irish PlasTax (Plastic Bag Levy) provided insights regarding the different environmental policy reforms that took place including the amendment of the 1996 Waste Management Act to make provision for the establishment of the Plastic Bag Levy and the Environment Fund in 2001. Other issues raised included the manner in which public consultation and education was undertaken as well as how the proceeds from the Plastax were utilised. The issue of the Green Bag as an alternative environmentally friendly carry facility also came out distinctively. Overall, the Irish experience revealed how a predominantly top-down approach to environmental policy making appears to be a success story in that country, leading to high levels of waste reduction (90-95%) and increased recycling (up to 42%).

Central to Australia's environmental policy processes towards eliminating plastic shopping bags litter and waste were two pieces of legislation: a self-regulated National Packaging Covenant and the Government engineered National Environment Protection (Used Packaging) Measure both of 1999. Another landmark was the manner in which both the Plastic Bag (Minimisation of Usage) Education Fund Bill and the Plastic Bag Levy (Assessment and Collection) Bill of 2002 were rejected in favour of the National Code of Practice for the Management of Plastic Retail Carry Bags. The Australian experience provides insights regarding the policy processes that divided the key policy actors into two camps: Commonwealth, State and Territory Governments and environmental NGOs and other lobby groups on one hand (in support of the plastic bags bills) and industry and business on the other (opposing the bills). Tensions emerged on what could constitute the best strategy to eliminate plastic bags litter and waste from the environment with those in favour supporting the command and control approach whilst those opposed preferring voluntary measures. Debates were raised concerning possibilities of job losses, alternatives such

as paper and biodegradable bags as well as loss of business and equipment if the two bills were enacted. This approach (based on voluntary measures and education) appears to have had a much lower impact on reducing plastic shopping bag litter and waste (7.3% recorded in the first six months). Both the insights from the Irish and Australian experiences were drawn upon in researching environmental policy processes surrounding the South African Plastic Bags Regulations, which is the focus of the next part of this research.

PART FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

PREAMBLE

Part Four (made up of chapters five to seven) is devoted to the presentation, analysis and discussion of data generated to address research goals spelt out to understand and explain environmental policy processes surrounding South Africa's Plastic Bags Regulations. Emphasis is placed on addressing, particularly the last second and core objective to this study namely: the identification of "actors, actants and actor/actant-networks that shaped and were being transformed by South Africa's Plastic Bags Regulations and explain the tensions, debates and responses arising in the policy processes".

Chapter five presents background environmental legislation as well as key actors that were involved leading to the promulgation of the Plastic Bags Regulations in South Africa. Chapter six deliberates on the tensions, debates and responses during the formulation phase of the Plastic Bags Regulations and within the realms of the actor/actant-network theory as the enquiry framework, tries to 'follow' such tensions, debates and responses as they were informed by key interests represented by the actants, actors and actor/actant-networks. A number of actors and actor/actant-networks emerged and these included Organised Government (led by the Department of Environmental Affairs and Tourism), Organised Industry (led by the Plastic Federation of South Africa) and Organised Labour (led by the Congress of South African Trade Unions). Other actors and actor/actant-networks (although subdued by those mentioned above) that emerged during the *formulation phase* included local authorities, community-based groups and non-governmental organisations. Chapter seven follows the same data presentation, analysis and discussion approach used in chapter six and presents largely the same actors, actants and actor/networks as those presented in chapter six. However, the chapter focuses on the *implementation phase*. It should be noted that the separation of the policy formulation and implementation phases was done to enhance analysis only as in reality these are intimately related. They inform each other.

Overall, data is presented as a narrative account, highlighting emerging tensions, debates and responses during the process of tracing actors, actants and actor-actant-networks. This approach was found to be the most plausible way of addressing one of the difficulties associated with AANT, which is to describe relations empirically. The narrative style used in this part also enabled me to address other validity concerns in AANT such as agnosticism, generalised symmetry and free association discussed in section 3.3.1.

CHAPTER FIVE

ENVIRONMENTAL POLICIES, POLICY REFORMS AND PRACTICES PRIOR TO THE PLASTIC BAGS REGULATIONS

5.0 INTRODUCTION

The processes leading to the promulgation of the Plastic Bags Regulations may not be well grasped without a brief look into South Africa's prior waste management policy and institutional reforms. The time frame 'prior' in this chapter refers to events leading to then Minister of Environmental Affairs and Tourism, Valli Moosa declaring plastic bags an environmental risk in 1999 and the ultimate publishing of the first draft of the Plastic Bags Regulations on 19 May 2000 (see section 1.5). For the purposes of this study, such reforms have been traced as far back as the Environmental Conservation Act 73 of 1989. The policy documents reviewed here were selected based on their relevance in profiling the historical context to this research and include among them: the Environment Conservation Act 73 of 1989, the Constitution (Act No.108 of 1996), the National Environmental Management Act No.107 of 1998, the Environmental Management Policy of 1999, the National Waste Management Strategy and Action Plans of 1999 and the White Paper on Integrated Pollution and Waste Management of 2000. The provisions of these documents are interrogated in the following sections in relation to the manner in which they shaped policy around the plastic shopping bag in South Africa.

5.1 ENVIRONMENT CONSERVATION ACT

The Environment Conservation Act 73 of 1989 (RSA, 1989) provides the framework for controlling environmental pollution. In this Act waste is described as any substance that could be gaseous, liquid or solid or any mixture thereof that may be designated by the Minister of Environmental Affairs and Tourism as an undesirable or superfluous by-product, emission, residue or remainder of any process or activity. No specific mention of packaging and/ or plastic waste is made; rather, it is implied under the solid waste category.

5.1.1 Dealing with litter and waste pollution

Details regarding the control of environmental pollution are outlined under Part IV of the Act with Section 19, 19A and 20 making provisions for the prohibition and removal of litter as well as the management of waste. Any kind of littering is prohibited and the local authority or other appointed bodies are given the mandate to remove or cause the removal of such litter. The management of waste under Section 20 is restricted to its disposal, particularly, in relation to

potential risks associated with water resources contamination. Hence the powers for issuing permits to operate disposal sites are vested with the Minister of Water Affairs as opposed to the Minister of Environmental Affairs and Tourism.

5.1.2 Provisions for waste management regulations

Part VI makes provision for the formulation of waste management regulations. Under Sections 24 and 24A the Minister of Environmental Affairs and Tourism is given the jurisdiction to make regulations with regard to waste management and littering. Section 24(d) stipulates that regulations may be issued so as to reduce waste through: (i) modifications in the design and marketing of products, (ii) modifications to manufacturing processes, and (iii) the use of alternative products. Similarly Section 24(e) permits regulations to be made concerning the utilisation of waste by way of recovery, reuse or processing of waste. Regulations regarding littering (Section 24A) are formulated, especially for the purposes of cleaning up and removal. Section 24(d) is critical for this research in that the Plastic Bags Regulations were promulgated under its auspices.

5.1.3 Offences and penalties

The Act makes provision for dealing with offences (Part VII). Those contravening the provisions of litter abatement and waste management are guilty of an offence and are liable on conviction to a fine or imprisonment or both. Section 29(3) mentions an unspecified fine and a maximum period of three months imprisonment or both for those found guilty of littering. However, under section 29(5) persons convicted of any offence to which a penalty is not stipulated like in the litter case should be fined up to R2,000 and jailed for a period not exceeding six months. Under Section 29(4) those found guilty in terms of waste disposal provisions (Section 20) are supposed to be fined up to R100,000 or imprisoned for up to 10 years or both. The R100,000 fine and 10 years jail term mentioned above is directly connected to the first draft of the Plastic Bags Regulations gazetted on 19 May 2000 in which these penalties were also stipulated (RSA, 2000). This shows how documents can be misinterpreted as such penalties were specifically for those trespassing waste disposal site regulations and not those producing, in the context of this study, the plastic shopping bags.

5.1.4 Procedures for publishing waste management regulations

Part VIII of the Act deals with General Provisions, among them procedures of publishing draft regulations (Section 32). Both the Minister of Environmental Affairs and Tourism and Minister of Water Affairs as well as local authorities are obliged to publicise a draft notice in a gazette

stipulating the text of the proposed regulations and a request that interested and/ or affected parties submit comments within a minimum period of 30 days. However, once the comments have been received and the period of notice expired, amendments may be done and responsible authorities are not obliged to place another notice in the gazette until the final notice is issued. This provision presented major challenges in terms of the Plastic Bags Regulations as organised labour and organised industry felt that their concerns had not been adequately addressed when the final Plastic Bags Regulations were published as alluded to earlier. This resulted in another round of negotiations with government (represented by the Department of Environmental Affairs and Tourism) leading to what is popularly known as the Plastic Bags Agreement of September 2002 (see section 6.10).

5.2 THE CONSTITUTION (ACT NO.108 OF 1996)

Virtually most (if not all) environmental and waste management policy documents make reference to the 1996 Constitution of South Africa. The Constitution enshrines two key fundamentals regarding waste management in the country: the Bill of Rights and the legal basis for distributing powers to different spheres of government. Section 24 (RSA, 1996b: 10-11) stipulates that:

Everyone has the right (a) to an environment that is not harmful to their health or well-being; and (b) to have the environment protected, for the benefit of present and future generations through reasonable legislative and other measures that (i) prevent pollution and ecological degradation, (ii) promote conservation, and (iii) secure ecological sustainable development and the use of natural resources while promoting justifiable economic and social development.

As per Schedule 4(a) the national and provincial governments are given powers to make and execute laws about among other things: the environment, health services, trade and tourism, nature conservation and pollution control (DEAT, 1999a). Schedules 4(b) and 5(b) specify aspects with which the local governments have concurrent responsibilities. In terms of waste management, such responsibilities include cleansing; refuse removal, landfills and dumps, and solid waste disposal. Under Section 195 (1) public administration is challenged to be accountable, transparent, respond to people's needs and encourage participation in government. The Constitution gives the Provincial Premiers powers to appoint members of an Executive Council (MEC) and allocate responsibility, some of which may be environmental. The role of MECs for Environment is also re-emphasised in the National Environmental Management Act of 1998 discussed next.

5.3 NATIONAL ENVIRONMENTAL MANAGEMENT ACT

The National Environmental Management Act (NEMA) No. 107 of 1998 serves as the general legal framework within which environmental management and implementation plans are formulated (RSA, 1998b). It governs the implementation of any other laws and policies concerned with the protection or management of the environment in South Africa, including waste. Butter and Hallows (2002) maintain that NEMA was put in place after a serious process of multi-sectoral consultation, i.e., through the Consultative National Environmental Policy Process (CONNEPP). From the provisions of Section 2(2) of NEMA, environmental management must place people and their needs first and serve their interests equitably within the biophysical, developmental, cultural and social dimensions (RSA, 1998b). Other principles harnessed are that development must be socially, environmentally and economically sustainable.

5.3.1 Sustainable development

Among other aspects, Section 2 (4)(a, c & f) considers development to be sustainable if: it prevents, minimises and/or remedies the disturbance of ecosystems, loss of biodiversity, pollution and degradation of the environment; waste is avoided, minimised, reused or recycled and ultimately disposed of in a responsible way; negative impacts on the environment and on people's rights are anticipated and prevented, minimised and remedied; environmental justice is pursued so that negative impacts are not unfairly distributed in a manner that discriminates against vulnerable and disadvantaged persons; and if participation of all interested and affected parties in environmental governance is promoted. The need to avoid, minimise and treat waste is characteristic of the government's intention to shift South Africa's waste management systems. This also complements the fundamental reason for the promulgation of the Plastic Bags Regulations. Under Section 28(1) anyone who causes significant pollution or degradation of the environment must take responsibility to prevent such from happening, a move aligned to the polluter pays principle.

5.3.2 Environmental management institutions

Chapter Two (Sections 3-10) of NEMA establishes two core institutions responsible for environmental management: the National Environmental Advisory Forum (the Forum) and the Committee for Environmental Co-ordination, which in turn can establish various sub-committees. It also recognises the Members of the Executive Council responsible for the environment established by Provincial Premiers as per the provisions of the Constitution.

The Forum informs the Minister of Environmental Affairs and Tourism (the Minister) of the views of stakeholders regarding the application of NEMA principles as well as any other environmental management and governance aspects. The Forum may also consult with the Director-General of the Department of Environmental Affairs and Tourism and draw to the attention of the Minister any other matters needing to be addressed in relation to good environmental stewardship. The Forum is made up of between 12-15 people appointed by the Minister, who must deliberately make sure that women, youth and other disadvantaged persons are represented.

The Committee for Environmental Co-ordination (the Committee) has an objective to promote the integration and co-ordination of environmental functions by the relevant organs of the government. As such the Committee is made up of Director-Generals from key departments like Water Affairs and Forestry, Minerals and Energy, Land Affairs, Constitutional Development, Housing, Agriculture, Health and any other Director-General that may be appointed by the Minister. Other persons that may have the required expertise as well as sub-committees may be co-opted and/ or created as and when necessary.

5.3.3 Environmental management co-operation agreements

Probably the most critical chapter within NEMA in terms of this research is Chapter 8 that deals with 'Environmental Management Co-operation Agreements'. This is so because one such agreement, the Plastic Bags Agreement, as mentioned earlier was reached between the Minister of Environmental Affairs and Tourism (through DEAT) and concerned parties. Section 35 allows the Minister, MECs and local authorities to conclude environmental management agreements with persons or communities for the purposes of promoting compliance with the principles laid down in NEMA. The provision of such co-operation agreements may be further solidified by regulations that stipulate targets and periods of monitoring and review as agreed by the parties, of which failure to comply becomes an offence. As part of efforts to implement the environmental management framework presented by NEMA, the Environmental Management Policy was put in place in 1999 (DEAT, 1999a) and issues pertaining to waste management were addressed.

5.4 ENVIRONMENTAL MANAGEMENT POLICY OF 1999

Waste generation and pollution levels in South Africa were reported as relatively high (DEAT, 1999a) and this impacts negatively on land and water resources. At the time (1999) waste disposal practices were considered unsatisfactory with waste producers being allowed to pass on

the costs of poor waste management to the environment and society. This was due to the fact that there were no proper regulations in place at that time. As such, the government took a position to regulate waste management as the preferred future for South Africa. Another aspect raised in the policy document concerns the relationship between the poor and associated bad practices of waste management within their vicinity. Within the South African context (whose apartheid past cannot be ignored), poor communities are victims of unsustainable practices of waste management as many of them live within and/ or near industrial zones and waste disposal sites (see section 1.2.3). Aggravating the situation is the fact that there were no incentives to encourage waste producers to consider cleaner production processes and thereby minimise waste generation. Although noticeable public and commercial recycling initiatives existed for most packaging material and oil, DEAT noted that government policy did not systematically encourage minimisation, reuse and recycling of such (*ibid*). Local authorities too, were not doing enough to promote household recycling, particularly, separation at source.

5.4.1 Participation and issues around environmental (in)justice

The issue of participation remains central to waste management. Apartheid excluded many citizens from environmental decision-making (see section 1.2.3). To this effect, there has been very little formal public participation in waste governance. As such the process leading to the production of the Environmental Management Policy, CONNEPP, is hailed as a true reflection of stakeholder participation in policy development (DEAT, 1999a). Participation in waste management policy processes in a typical South African context pays special attention to involving those formerly disadvantaged (including women), youth, religious and environmental organisations, civics, unions and service NGOs. Given this position, participation should create democratic space allowing partnerships in development, the prioritisation of the right to know, accountability as well as the freedom of debate and association within waste management policy subsystems.

When considering issues around environmental (in)justice, the Environment Management Policy (DEAT, 1999a) makes it clear that the government must address the needs and rights of all communities, sectors and individuals. This is a principle adapted from the NEMA of 1998. This implies that policy and institutional framing should redress past and present irregularities concerning waste management practices. It also implies that all citizens, especially those marginalised, get a fair representation and participate in waste governance.

5.4.2 Guiding principles

The Environmental Management Policy spells out 23 fundamental principles for good environmental stewardship that are also repeatedly cited in policies that followed it including the National Waste Management Strategy and Action Plans (DEAT, 1999d) and the White Paper on Integrated Pollution and Waste Management (DEAT, 2000i). Principles of importance to this study (DEAT, 1999a) include: capacity building and education, cradle to grave, environmental justice, good governance, participation (as discussed), prevention, polluter pays and waste avoidance and minimisation. Some of these principles are briefly explained in the following paragraph and those explained elsewhere are left out.

Capacity is described as the ability to do something and is deemed a close function of education. When educated, one is said to have acquired knowledge, developed skills and understanding. This should, however, be complemented by having adequate access to resources. To this end, the government is charged with the responsibility to create opportunities that develop citizens' understanding and skills needed to address waste management aspects. This empowers citizens to participate in achieving sustainable waste management practices. The cradle to grave (product life cycle) principle stipulates that those responsible for producing products should also be responsible for the negative environmental, health and safety impacts caused by generated wastes.

5.5 NATIONAL WASTE MANAGEMENT STRATEGY

The first attempt to have direct policy aimed at waste management was the establishment of the National Waste Management Strategy and Action Plans (NWMS) in 1999. The NWMS ended up being integrated into the White Paper on Integrated Pollution and Waste Management (DEAT, 2000i) whose first draft was published in 1998. The NWMS document comes in two parts that present first, the Strategy and second, the action plans aimed at achieving the government's 2010 vision for integrated waste management in South Africa (DEAT, 1999d). The document emerged following the CONNEPP that involved many stakeholders including the local, provincial and national governments (through the Ministerial Technical Workgroup for Pollution and Waste), NGOs, community-based organisations (CBOs), labour, industry, business and the mining sector.

5.5.1 Institutions and legislative provisions

The NWMS establishes a four tier institutional framework: the National Government (with DEAT as lead agent), Provincial Government, Local Government and Civil Society. Some of the roles assigned to the National Government through DEAT include:

- Central organisation and planning,
- Prioritising waste streams requiring minimisation/recycling and set targets,
- Introducing relevant legislation and economic instruments,
- Ensuring appropriate inter-ministerial, departmental and provincial coordination,
- Ensuring appropriate monitoring and enforcements, and
- Budgeting for training and awareness programmes around waste management.

Furthermore, DEAT is supposed to take advice from the National Environmental Advisory Forum established under the NEMA.

The Provincial and Local Governments are given mandates to make and execute waste management laws and by-laws that enhance the National Government's position to promote minimisation and recycling initiatives. Provincial Governments are supposed to set provincial norms and standards regarding waste management and assist local governments in effecting such. In addition, both the Provincial and Local Governments are supposed to actively promote the conclusion of voluntary partnerships for recycling with industry, especially the introduction of clubs. Other duties include the setting up and generation of data for the national waste information system, which is not yet in place to date. Local governments are also given jurisdiction over cleansing as well as refuse removal and disposal. Civil society is recognised and this group is made up of the private sector (industry and business organisations), NGOs, CBOs, trade unions, universities and research institutions as well as individuals from the public. The NWMS also makes it mandatory that representatives from civic society groups sit on the National Environmental Advisory Forum.

5.5.2 Legislation and policy reforms

The NWMS document identifies the need to apply economic instruments so as to generate funding for waste management purposes. Two instruments were proposed: a tax for raising revenue and user charges from the implementation of the polluter pays principle. The polluter pays principle aspect is evident in the current system where a plastic shopping bag levy is charged directly to consumers at the point of purchase. The NWMS leaves further investigations into the application of such economic instruments in the hands of DEAT in collaboration with the Department of Finance and the Department of Trade and Industry.

The DEAT is also tasked to continue embarking on the waste policy reform process to facilitate the smooth implementation of the NWMS. To a large extent this has been achieved as a number of key legislation with bearings on waste management, and particularly, plastic shopping bags have been amended. These include the 1989 Environmental Conservation Act that had to be amended to harmonise the powers of the Minister of Environmental Affairs and Tourism and the Minister of Water Affairs and Forestry. The Environmental Conservation Amendment Act of 2004 (RSA, 2004b) now gives the Minister of Environmental Affairs and Tourism powers to pronounce green levies on waste products such as plastic bags and other waste products. Another act that was amended is the NEMA. The National Environmental Management Amendment Act 2004 (RSA, 2004a) now includes a whole chapter establishing an inspectorate. Compliance and enforcement problems were singled out by the NWMS as requiring urgent attention. Once more, details surrounding these amendments and their implications for waste product regulation are discussed in chapter eight.

5.5.3 Birth of a new paradigm in waste management

The major goal of the NWMS is to reduce the generation and associated negative environmental and health impacts of wastes, giving effect to the Bill of Rights enshrined in the Constitution. The NWMS translated into action government policy on waste that was outlined in the Draft White Paper on Integrated Pollution and Waste Management published in 1998. Integrated pollution and waste management aimed at promoting coordinated waste management was singled out as one of the core drawbacks of good waste management practices in South Africa (DEAT, 1999a). This implied that waste management approaches were viewed as cutting across the whole spectrum of a waste product life cycle with concerted efforts to allow a waste-free South Africa. To this end, the NWMS marked the birth of a new orientation to waste management that moved away from waste management through impact management and remediation to an orientation based on promoting avoidance (prevention), minimisation (re-use) and recycling (DEAT, 1999b). It then sets a formal waste management hierarchy that prioritises cleaner production followed by recycling, treatment and disposal as outlined in chapter one. However, given the inadequately developed waste management system in the country, short-term remedial measures that promoted improved collection, treatment and acceptable disposal methods were also put in place.

Concerning recycling initiatives, the NWMS's preferred future is set as separation at source as this is believed to enhance the quality of recyclable material. However, priority recycling

initiatives and targets are ranked as: tyres; oils, batteries and organic solvents; feasibility study of methods of recycling general wastes (including plastics) and appropriate legislation; feasibility study of the application of economic and regulatory incentives; and investigation into recycling mine and power station wastes. From the foregone priority list, it is implied that plastic waste comes third.

5.5.4 Key actors

A number of actors can be identified from the NWMS. The financial support, for example, was rendered from the Danish Co-operation for Environment and Development (DANCED) that had three representatives in the policy process. The reason for mentioning the financial support is deliberate as the provision of financial resources or lack of it may have serious implications for the manner and levels at which, particularly the disadvantaged communities and the poor engage in policy processes. It also has implications for the so-called 'technical' experts or consultants who get involved in the whole policy process. In this case, a total of 24 consultants were involved: eight from the Danish Consultant Team and 16 from the local consulting team. Given the power associated with consultants in environmental policy issues (section 4.2) one may not rule out the influence of such in the final products regarding waste management such as the policy under review here.

The other actors included the Committee of Ministers and Members of the Executive Councils (MINMEC) for Environment and Nature Conservation from all the 10 Provinces in South Africa, and a Project Steering Committee. The Deputy Minister in the Ministry of Environmental Affairs and Tourism chaired the Project Steering Committee. The rest of the Committee include members from DEAT (6) DWAF (3), industry and business (1), labour (1), NGOs (2), mining (1), CBOs (1), South Africa Local Government Association (2), DANCED (3), Provincial DEAT Offices (6) and private consultants (1). What is most striking is the representation of women that amount to 12.

5.5.5 Long-term goal and priority areas

To achieve the long-term goal of the NWMS, more than 50 major integrated pollution and waste management initiatives were to be initiated and implemented throughout the country. The document also calls for institutional changes and new legislation that would promote proper waste management mechanisms. As such, the NWMS established seven major areas (predominantly from earlier legislation) upon which strategies were to be developed for implementation. The areas include: capacity-building, education, awareness and communication,

general waste collection, implementing instruments, integrated waste management planning, waste treatment and disposal, waste information system, and waste minimisation and recycling.

5.5.6 Definition and taxonomy of waste

Borrowing from the provisions of the Environmental Conservation Act, the NWMS came up with an expanded definition of waste. Waste is defined (DEAT, 1999b: 10) as:

An undesirable or superfluous by-product, emission or residue of any process or activity that has been discarded, accumulated or been stored for the purpose of discarding or processing. Waste products may be gaseous, liquid or solid or any combination thereof and may originate from domestic, commercial or industrial activities, and include sewage sludge, radioactive waste, building rubble, as well as mining, metallurgical and power generation.

The document goes further to classify waste into either general or hazardous. From the two groups, waste is further divided according to its source of origin into: domestic, commercial or industrial. General waste, which is of relevance to this study, is further sub-divided into paper, metals, glass, plastic, organic and inert materials. Organic and inert material includes builders rubble.

5.5.7 Waste minimisation and recycling initiatives

The need to initiate the recycling of general waste is evident from the NWMS. The DEAT is supposed to identify and coordinate ongoing recycling initiatives and in consultation with stakeholders investigate the most appropriate way for promoting and implementing recycling including soliciting proposals from the private sector. The NWMS also sets performance evaluation criteria to measure achievements in terms of recycling. For example, recycling of general wastes would be deemed successful if: such waste was prevented and minimised, there was direct and visible reduction in the impact of waste on public health and the environment; improve the quality of life of all South Africans with an emphasis on previously disadvantaged communities, implementation instruments are already in place and it creates jobs.

5.5.8 Guidelines on recycling solid wastes

As advocated for by the National Waste Management Strategy (DEAT, 1999d), the Guidelines on Recycling of Solid Waste (the Guidelines) were finally put in place in 2002 (DEAT, 2002a) with funding from DANCED. Additional funding was supplied by local associations that included Sappi War on Waste, Mainline Solid Waste Handling Equipment Supplies, The Glass Recycling Association, Nampak Paper Recycling, EnvironServ Waste Management, Institute of

Waste Management South Africa and the Plastic Federation of South Africa. The reason for mentioning these sponsors is deliberate as some of them like Nampak and the Plastic Federation of South Africa featured prominently during the formulation and implementation of the Plastic Bags Regulations. June Lombard, Mtshali Sipamla & Associates and the Association of Clean Communities Trust were subcontracted by DEAT to develop the Guidelines. DEAT also had eight officials (three from the Environmental Capacity Building Unit and five from the Waste Management and Community Programme Directorate) involved. Lombard and Associates Environment Protection and Waste Management Consultants and DEAT were heavily consulted during this study to get their perceptions concerning insights surrounding the actors, actants and actor/actant-networks around the Plastic Bags Regulations.

The Guidelines mention the need to achieve the goals for zero waste that were adopted in the Polokwane Declaration of 2001 (see section 5.6.5 below) and targets the involvement of local authorities. Waste is defined and the relevance of recycling to South Africa elaborated upon as well. Further information is provided on what type of solid wastes (can)not be recycled including plastics. Section 6 details recycling options including the involvement of: charities, community groups and schools; kerbside collection; sorting from mixed waste streams and salvaging from landfill sites. Ideas from this document have been adopted and incorporated in the organised industry Buyisa-e-Bag business plan for recycling plastic shopping bags (see section 6.8). Section 7 covers issues relating to finding sustainable markets for recycled material and steps involved in recycling various packaging and other solid waste products.

5.6 INTEGRATED POLLUTION AND WASTE MANAGEMENT

Aspects pertaining to integrated pollution and waste management are dealt with in the White Paper on Integrated Pollution and Waste Management (the White Paper) of 2000 (DEAT, 2000i). Since most of the provisions of the White Paper were covered under the NWMS, this section concentrates on additional issues only. The White Paper is subsidiary to the Environmental Management Policy reviewed earlier. It currently stands out as the key reference document for integrated pollution and waste management in South Africa.

5.6.1 Reference to international policies

The White Paper makes reference to the provisions of the Earth Summit and Agenda 21. In fact, DEAT claims it is part of South Africa's efforts to meet the goals of Agenda 21 (DEAT, 2000i). The document spells out that the reintegration of South Africa into the global economy, and international and sub-regional political fora makes it vital to improve its pollution control and

waste management systems. As such, the White Paper integrates 26 multilateral environmental agreements of which the South African Government had acceded to or ratified 19 of them. Some of the agreements of direct relevance to this study include the: Convention on the International Maritime Organisation (1948) that deals with matters around marine pollution, Convention of the Conservation of the Living Resources of the Southeast Atlantic (1969), Convention on Wetlands of International Importance (The Ramsar Convention) of 1971, Convention for the Prevention of Marine Pollution from Land-based sources (1974), Multilateral Agreement on the Control of Pollution of Water Resources in the Southern African Region (1985), Vienna Convention for the Protection of the Ozone Layer of 1985, Montreal Protocol on Substances that Deplete the Ozone Layer (1987), Convention on Climate Change (1992) and the Convention on Biological Diversity (1992).

5.6.2 Key issues

Key issues are framed around water, air and land as well as pollution and waste. Poor location and/ or inadequate management of waste disposal sites is once more singled out as the major drawback in terms of land pollution. Other concerns are shaped around risks associated with illegal dumping and poor town planning. The White Paper also identifies waste management as a neglected (low priority) area by the government with insufficient resources, especially finance and expertise being allocated towards addressing the problem. This has resulted in many of the problems highlighted earlier such as fragmented legislation, ineffective enforcement and insufficient empowerment of citizens. The document then outlines seven strategic goals and objectives aiming at: effective institutional framework and legislation; pollution prevention, waste minimisation, impact management and remediation; holistic and integrated planning; participation and partnerships in integrated pollution and waste management governance; empowerment and education in integrated pollution and waste management; information management; and international cooperation.

One of the short-term deliverables outlined is the need to develop a means of promoting waste minimisation and recycling. In terms of governance, the document locates itself within South Africa's Constitution, Environmental Management Policy and the Environment Management Act. The White Paper then proceeds to relate the roles of the National Government, Provincial Governments, Local Governments and Civil Society. It also stipulates the need for regulatory instruments, capacity building, research and development as well as business, industry and the general public in waste management. The White Paper reiterates government's *new thinking* in relation to pollution and waste management that prioritises waste *prevention*. The policy also

highlights the need to do away with fragmentation, duplication and lack of co-ordination in waste management. Another aspect that comes out clearly in the document is the acknowledgement of the roles of the private sector and civil society in waste management partnerships. Partnerships between government and the private sector are recognised as prerequisites for sustainable and effective pollution and waste management.

As per the provisions of NEMA, the White Paper also identifies several sub-committees. These sub-committees include among them: Integrated Pollution and Waste Management, Biodiversity and Climate Change. These committees feed into the Committee for Environmental Co-ordination that is directly below the National Environmental Advisory Forum and the Minister of Environmental Affairs and Tourism. The White Paper also establishes similar sub-committees to advise Members of the Executive Council responsible for the environment at Provincial levels. As discussed under section 6.10, the Plastic Bag Working Group (Committee) was established to regularise processes surrounding the development of the Plastic Bags Regulations, under this framework.

5.6.3 Roles of civil society

Given that members of society contribute to waste generation and should be part of the solution to the problem of waste and pollution, the roles of civil society are spelt out (DEAT, 2000i). Those sections of civil society identified as significant include business and industry, organised labour, CBOs, NGOS and the general public. Business and industry is expected to work with DEAT to achieve locally and internationally acceptable levels of waste management. Since workers are usually in direct contact with waste related problems, the White Paper makes provision for the full recognition of organised labour as stakeholders. The DEAT is therefore supposed to facilitate full access to information that would allow informed participation from organised labour including “whistle-blowing”. The same roles are accorded to CBOs. The role of NGOs is also recognised as long-term partners, particularly in financing initiatives for driving environmental awareness and capacity building at grassroots level. The public is supposed to participate in waste policy processes with consensus-based approaches and negotiated rule-making. As such, DEAT is tasked to build their capacity and raise awareness regarding integrated pollution and waste management initiatives.

5.6.4 Policy processes around the White Paper

The actors, actants, actor/actant-networks and policy processes involved during the formulation of the White Paper are worth further discussions. This helps to lay a platform for comparing the

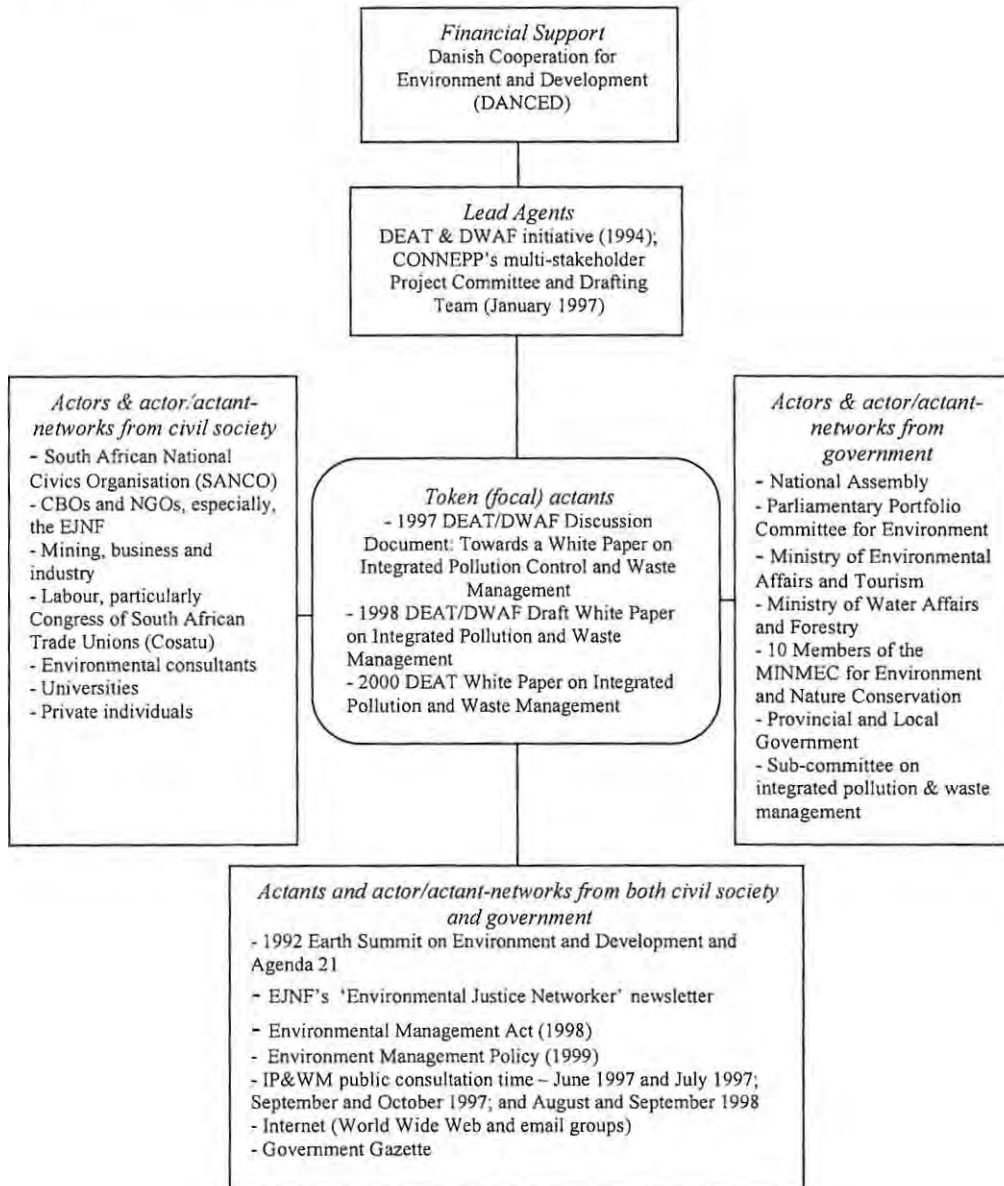
processes surrounding the formulation and implementation of the Plastic Bags Regulations reported in chapters six and seven. Both the DEAT and the Department of Water Affairs and Forestry initiated the process following CONNEPP provisions in 1997. The public participation approach and details leading to the finalisation of the White Paper were laid down in the discussion document of May 1997 (DEAT & DWAF, 1997) entitled “Towards a White Paper on Integrated Pollution Control and Waste Management”. The discussion document laid down the following activities associated with CONNEPP:

- ◆ Ministerial Provincial Workshops – June and July 1997
- ◆ Direct comment to DEAT (Deadline 25 July 1997) – June and July 1997
- ◆ Parliamentary Committee discussion of White Paper – September and October 1997
- ◆ Public comment on White Paper to DEAT – September and October 1997

Following a successful consultative process at both the national and provincial levels, a draft White Paper on Integrated Pollution Control and Waste Management was gazetted for further public scrutiny on 19 August 1998 inviting written submissions by or before 21 September 1998 (DEAT & DWAF, 1998). This resulted in the 2000 White Paper, which was gazetted on 17 March (RSA, 2000). Figure 5.1 summarises major actors, actants and actor/actant-networks involved in the process (see also appendix 9.2).

It is important to note that a multi-sectoral Project Committee under the chair of the Deputy Minister of DEAT was set-up. The Project Committee was made up of representatives from government, CBOs, NGOs, labour, business, industry, local authority and the financing organisation DANCED. This led to the production of the discussion document mentioned earlier that was circulated and discussed through a broad public participation process in the provinces of South Africa. This was made possible through direct comments from labour, non-governmental organisations, community-based organisations, business and industry, mining and individual members of civil society. The comments were noted and relevant amendments made before the White Paper was adopted.

Figure 5.1: Actors, actants and actor/actant-networks



Of particular interest and some concern is the dominance of the so-called scientific and technical experts (see section 2.5) during the drafting of the discussion document and the final White Paper. The drafting team comprised a Dr. Herman Wiechers of Stewart Scott Incorporated/Bohlweki Environmental as lead consultant. Three other consultants helped him namely: Mr. Errol Cerff from Environmental Risk Services (Pty) Ltd., Mr. Michael Goldblatt of the University of Witwatersrand and Mr. Jan Glazewski of the University of Cape Town. Six other specialists (five from consulting firms and one from the University of Cape Town) assisted the Drafting Team. Overall, the enlarged Drafting Team of 10 specialists had one female representative only.

5.6.5 The Polokwane Declaration (on zero waste)

As one of the steps towards realising the provisions of the White Paper on IP&WM, in 2001 Government, industry and labour ratified the Polokwane Declaration, according to which South Africa has to achieve zero waste status in all sectors by 2022 (DEAT 2002:2-3). The Declaration calls for engagement in many action areas such as prioritisation of waste management; implementation of the National Waste Management Strategy; development and implementation of legislative and regulatory frameworks to promote waste avoidance, prevention, reduction, re-use and recycling; provision and establishment of effective collection and disposal facilities; introduction of mandatory waste audit processes; development and provision of the public education resources necessary to allow participation in the waste elimination process on an informed basis; and the promotion of cleaner production.

5.7 LOBBYING, COMMUNITY RECYCLING AND PLASTIC SHOPPING BAGS

There seems not to have been intensive lobbying for or against regulating the use of plastic shopping bags by various actors prior to the Draft Plastic Bag Regulations until they were promulgated in May 2000. However, there were isolated media reports that this study managed to retrieve most of which talked of general clean up campaigns and awareness raising. This conclusion was reached following intensive desktop internet based research tracing more than 20 websites that continued reporting on the policy processes following their publication in 2000 including lead government websites for DEAT and the Department of Water Affairs and Forestry (see section 3.5.3).

5.7.1 Awareness raising

On 24 June 1999, the Cape Argus reported on the Western Cape initiative to clean up its coast. Polluted beaches such as Three Anchor Bay were reported to be choked with plastic bags, bottles and other rubbish (Larkin, 1999). The coastal clean up campaign was the second of its kind following the September 1998 initiative. The coastal clean up was flagged as part of an international effort to get rid of coastal pollution that started in the USA in 1986 and had spread to more than 78 countries globally. According to Larkin, the 1998 Western Cape Coastal Clean Up attracted more than 5,700 individuals that included school children, parents, environmental NGOs and CBOs as well as business groups. An estimated 30 tonnes of waste that included plastics, metals and glass was collected during the 1998 campaign (*ibid*). The report also quoted Mr. John Kieser of the Marine and Coastal Management as lamenting over the filthiness of a popular tourist attraction, Robben Island. Robben Island is where former South African President Mandela was imprisoned for 27 years. Mr. Kieser also noted that there was plastic everywhere

around on the Island and that the fishing boats and activities around it could not be blamed as the plastic waste originated from Cape Town.

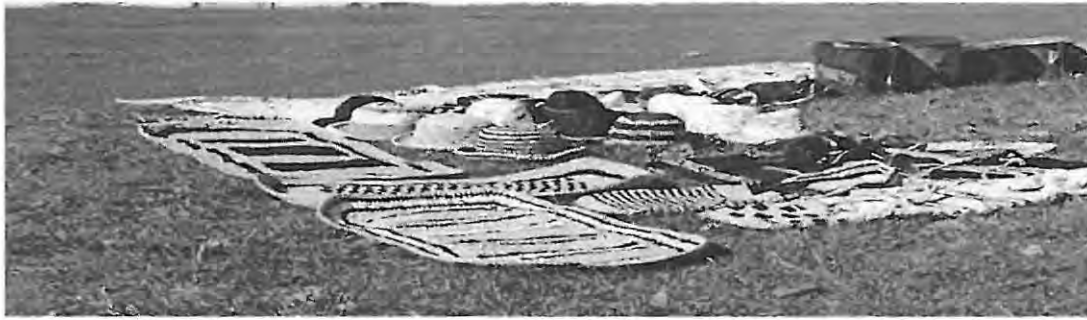
In June 2000, an NGO called Plastic People launched an anti-plastic shopping bags campaign that coincided with the June 5 World Environment Day. The exhibition went on for two weeks and on display were a range of alternatives to shopping plastic bags. Figures supplied by Plastic People showed that retail giants Pick'n Pay used about 759 million plastic shopping bags annually, Shoprite-Checkers, 842 million and Spar about one billion (Dreyer, 2000). Drawing on the Nedlac base figures of 8 billion plastic shopping bags consumed in South Africa annually (Nedlac, 2001), the three retail outlets used about 32.5% of total plastic bags. However, as early as 1995 there was an initiative to cut plastic shopping bags consumption through the introduction of a levy. The pilot project was run in Cape Town. Data supplied by the FitzPatrick Institute of the University of Cape Town indicated that there was an 80% reduction in plastic shopping bags use when consumers were charged between 5 cents and 10 cents per plastic shopping bag (Dreyer, 2000).

5.7.2 Community recycling of plastic shopping bags

The Daily Dispatch of 26 March 1998 and the Sunday Times of 22 September 2002 produced two reports of interest with regard to community recycling of shopping plastic bags. The report from the Daily Dispatch (Kopp, 1998) talks of the Masithandane Women's Group initiative from Grahamstown within the Eastern Cape Province while the Sunday Times recorded a project from Obanjani, an area near Mtunzini in the KwaZulu-Natal Province (Horner, 2002).

The Masithandane⁷ Women's Group, whose membership then stood at about 100, exported various hand made crafts (using recycled plastic bags) to as far as the UK, USA and Canada. From the focus group interview conducted for this research in May 2003 it was evident that the Group started in 1992 with a membership of 10 (Interview FG, 2004-01-30). One of the founder members (Mrs Nobebe) was still around and formed part of the focus group interview. The Group is comprised mainly of pensioners and as of May 2003 there were 21 active members. On average each member supported 6.62 direct dependents with the number of dependents per group member varying from as low as 2 to as high as 14 (*ibid*). Plate 5.1a&b display some of the hand made crafts that the self-help women of Masithandane produce.

⁷ Is translated to *lets love one another* in local Xhosa language.



5.1a (Rhodes University main entrance)



5.1b(Rhodes University main entrance)

Further investigations into the success of Masithandane Women Group during fieldwork in February 2004 revealed another story behind the success story. A complex actor/actant-network developed around managing the plastic shopping bags litter and waste forming a triangle between the Grahamstown Feeding Association, Masithandane and local communities (Interview FF16, 2004-02-03). In its quest to promote public education and raise environmental awareness through a community nutrition project, the Grahamstown Feeding Association took a decision to clean-up plastic litter and waste in the Makana Municipal area. Data generated from an interview with the Association's chair shows that since 1999, the Grahamstown Feeding Association has been running a 'plastic-bags-for-soup' initiative. The initiative involves those from disadvantaged backgrounds, especially those from the townships and street children who are required to bring 10 plastic shopping bags in exchange for a cup of soup and three slices of bread. This is served at one of the three soup kitchens located at the City Hall, Sun City and Joza and operates daily. The project got financial assistance from the local residents, particularly Rhodes University staff members who donate monthly towards the purchasing of nutritious low cost soups and sliced brown bread from local retail outlets. One major donor, however, supported the initial opening and operation of one of the original soup kitchens.

The collected plastic shopping bags were then supplied free of charge to Masithandane Women Group leading to a very sustainable plastic shopping bags recycling network (Interview FF16, 2004-02-03). The crafts made also have a ready local market from participants who attend the National Arts Festival in July each year from all over the country and overseas as well as tourists visiting the hot spot of Port Alfred about 60 km from Grahamstown (Interview FG, 2004-01-30). Rhodes University also offers a sustained market as it hosts thousands of students and staff annually. The bags are a popular conference item (for example 600 crafted bags were purchased for the Environmental Education Association of Southern Africa conference hosted at Rhodes University in 1999. At one stage, an estimated 60,000 plastic bags were being collected daily through this initiative (Interview FF16, 2004-02-03). Details on plastic bags consumption and crafts made are presented in table 5.1.

Table 5.1: Crafts and plastic bag consumption rates

| <i>Product</i> | <i>No. of bags per product</i> | <i>Size of bags (lt)</i> | <i>Price (ZAR)</i> | <i>Average sales normal month per person</i> | <i>Average sales peak months</i> |
|----------------|--------------------------------|--------------------------|--------------------|--|---|
| Hats | 50-60 | 12lt* | 15-20 | R400 | R1,200 (July – National Arts Festival) |
| Floor mats | 60-200 | 12lt | 35-80 | | |
| Bags | 60-80 | 12lt | 15-20 | | |
| Table mats | 20-40 | 12lt | 10-25 | | |
| Cushions | 70-150 | 12lt | 20-30 | | |
| Fruit basket | 70-100 | 12lt | 15-25 | | |

* The refuse bag has been converted to its 12-liter equivalence

However, in April 2002 the Masithandane Women Group could not take any more plastic shopping bags because their storeroom was full (Interview FF16, 2004-02-03). This resulted in the Grahamstown Feeding Association negotiating for an alternative to send the plastic shopping bags to Grahamstown Recycling. This alternative did not materialize due to the fact that the plastic shopping bags could not be taken in for recycling, as they were considered “useless”, according to a response given by one of the managers there (*ibid*). As such, until the time when the Plastic Bags Regulations came into force on 9 May 2003, collected bags were being taken to the Environmental Health Section of the local authority, which in turn disposed them at the landfill site. However, from the Grahamstown Feeding Association’s response, it was not long before Masithandane Women Group indicated that they needed the plastic shopping bags again as their business was being threatened by the new regulations.

The Eastern Cape Tourism Board, according to a report by the Daily Dispatch of 26 March 1998 (Kopp, 1998) requested the assistance from Masithandane to initiate another self-help project by training women from the Mdantsane, Duncanin, Chalumna and Mooiplaas in a pilot plastic bags crafts project. The group was made up of 17 women. In this initiative, school children were used to collect the plastic bags and clean up the environment of litter.

The Sunday Times (Horner, 2002) recorded that women from Obanjeni, near Mtunzini on the KwaZulu-Natal North Coast were being inundated with orders from overseas for their fashionable hats, handbags and mats made from discarded plastic shopping bags. Such orders were said to be coming from about 19 countries and one Australian distributor was reported to have received 20 consignments for the various items. The Obanjeni Women's Group was made up of 132 unemployed women who used an estimated 30,000 plastic bags monthly and had sold goods valued at more than R400,000 since the inception of their project (*ibid*). Ten percent of the sales of the Group is contributed into a trust that funds an adult literacy course for the Group. As of 2002, 41 women from the Group had already benefited from the literacy programme. Some of the additional countries importing from Kwazulu-Natal, apart from those mentioned earlier, include Poland and Sweden. About R1,500 per month was reported as among the highest returns for an individual and much of the income is invested towards educating family dependents and providing other necessities like food and clothing. In South Africa, the hats and handbags were sold for R20 each and the beach bags for R40 at conferences, holiday parks, garden shows and flea markets. The demand for shopping plastic bags went up to the extent that the Obanjeni Women Group had to employ up to 600 housewives to collect littered plastic shopping bags from places outside the Kwazulu-Natal Province (*ibid*).

5.7.3 Ongoing debates in the media

On 18 September 1997 the Daily Dispatch (Piliso, 1997) reported that the Queenstown (Eastern Cape Province) mayor, George Xoseni would use unemployed people to pull plastic bags off trees and bushes in an effort to clean up the landfill site. This followed the breakdown of the municipal bulldozer that would normally cover refuse bags that waste recyclers were now having free access to on site. On 17 September 1998, the same paper contained an article that encouraged the ban of plastic bags in India (Sapa, 1998). This followed revelations that hundreds of cows had died of plastic ingestion in the country. A similar report also featured in the Daily Dispatch edition of 12 November 1998 in which several cattle were reported to have died after feeding on plastics in farms of Beacon Bay near East London in the Eastern Cape Province (DDR, 1998). The edition of 18 September 1999 reported that 45kg of 4,000 different plastic

bags were removed from a cow by an Indian veterinary surgeon and this inspired animal activists to launch an anti-plastic bags campaign in the country (Sapa, 1999). On 17 December 1998, the same paper carried an article that advocated for the complete ban of the plastic shopping bag (Steenbeek, 1998). The story was that an emaciated baby penguin had washed ashore and could not respond to treatment until it vomited up a piece of green plastic bag, which had choked its stomach outlet.

Citing one of the radio programmes on a plastic debate that brought in two representatives from retail chain Pick'n Pay and the Plastics Federation of South Africa, the Dispatch of 5 August 1999 (Staff Reporter, 1999) outlined some of the trouble that the country would face if thin shopping plastic bags were to be phased out in the country. A representative from Pick'n Pay made it clear that they were not prepared to talk to their opposition in the industry to reach an agreement of phasing out thin bags although they were costing them about R24 million a year (*ibid*). In addition, the representative from the Plastics Federation highlighted that biodegradable plastics had a short life span and as such industry did not produce them.

Concerning some South Africans' behaviour towards littering, the Daily Dispatch of 25 September 1999 indicated that bins were ignored as the Eastern Beach in East London was left awash with plastic bags litter (Piliso, 1999). This was after school buses and taxis full of people from Transkei and Ciskei areas in the Eastern Cape Province visited the beach and did some shopping. Both Transkei and Ciskei were also singled out as some of the hottest litter spots in the country in the Daily Dispatch of 17 February 2000 (Sadie, 2000). The following day municipal workers from the Cleansing Department had to conduct an emergency clean up before tourists flocked to the beach for Heritage Day. A follow-up story on this kind of behaviour in the 24 February 2000 issue (Jensen, 2000) showed that this could have been aggravated by the fact that plastic shopping bags were issued 'free'. As such, the case of Denmark where a tax was charged to consumers was proposed as one of the possible solutions to that kind of behaviour.

In a report by The Star of 7 February 2000 (Feris, 2000) South Africa was reported to have entered the international plastic shopping bag fray. The paper cited Didi Moyle, the special adviser to the Minister of Environmental Affairs and Tourism who claimed that, "wherever you go in South Africa, whether you are on the beach or driving on a road, you see plastic bags lying around" and that DEAT was trying to find an effective way of regulating the use and encourage re-use of plastic shopping bags. The advisor also indicated that discussions with retail chains and the Plastic Federation of South Africa towards addressing the problem had not yielded any

positive results. The paper also cites Didi Moyle saying plastic shopping bags were so visible that they negatively impacted on tourism, agriculture and the environment. A comparison between plastic bags consumption between South Africa and the USA showed that the former consumed half the amount and yet the problem of littering was higher. This was attributed to attitudes towards litter.

The same report also cites inputs from the Plastic Federation of South Africa and the South African National Consumer Union (Feris, 2000). As of the reporting time, the South African plastic shopping bag industry employed 1,500 people whose jobs could be threatened by any moves to phase out plastic shopping bags. The option to move to paper bags that could be recycled was highlighted and it was found that it would cost the country resources, especially water. Lastly, the consumer union indicated that more discussion was needed before banning the plastic shopping bags and it was up to the communities to take the initiative to “do something about plastic bag pollution”.

5.7.4 Department of Environmental Affairs and Tourism

Lobbying against the plastic bag also became implied through the ongoing campaign by government against litter as reflected in the crafting of both the National Waste Management Strategy and Action Plans and the Integrated Pollution and Waste Management (see section 5.5 & 5.6) policies and associated starter guidelines for integrated pollution and waste management that included among others those for: compiling integrated waste management plans, waste collection in high density unserved areas, and post consumer recycling.

DEAT expected all local provincial and local governments to have integrated pollution and waste management plans by December 2004 (DEAT, 2000f). The guidelines covered topics around generating background information, developing strategic objectives, selecting instruments for implementation, developing environmental communication and public participation strategies as well as monitoring and review aspects. The reference document for waste collection in unserved high density areas audited the situation on the ground in South Africa (DEAT, 2000e). The communal skip system was revealed to be problematic, resulting in complete breakdown of waste removal in the areas.

DEAT also recommended that guidelines for waste collection in high density unserved areas be developed and these were produced (DEAT, 2000d). With regard to post consumer recycling (DEAT, 2000g: 15), DEAT concluded that this was characterised by “a lack of direction”. This

followed detailed review of recycling initiatives both within the continent and overseas. Some of the case studies done on the continent (DEAT, 2000e) covered direct observations of the cities of Wavis Bay (Namibia), Kumasi (Ghana) and a review of proceedings for Ouagadougou (Burkina Faso) and those outside the continent included Kalabagan and Dhaka (Bangladesh). An audit was also done for Botswana and Kenya (DEAT, 2000g). In the national arena, direct observations were undertaken that covered cities like Sebokeng (Free State Province), Southern Metropolitan Local Council (Gauteng Province), Stikwater (North West Province) and Duncan Village (Eastern Cape Province) (DEAT, 2000e). At the international scale, a comparative review audit was done (DEAT, 2000g) for the European Union, Norway, Denmark, Germany, USA and India. Recycling activities were primarily the responsibility of the private sector, particularly those in the packaging industry such as Collect-a-Can⁸. It was also noted that there was no legal basis for recycling. The baseline work on recycling activities shows that data could not be harmonised to a single base year with data for paper having been obtained for 1998, glass for 1999, plastic for 1997 and beverage cans for 1999. The full picture on total weight of waste, percentage recycled and potential for recycling is presented in table 5.2.

Table 5.2: Status of recycling in South Africa as of May 2000

| <i>Item</i> | <i>Year</i> | <i>Quantity (tonnes)</i> | <i>% Recycled</i> | <i>Recycling Potential</i> |
|---------------|-------------|--------------------------|-------------------|----------------------------|
| Paper | 1998 | 720,000 | 38 | Nil |
| Glass | 1999 | 104,550 | 18 | 175,000 tones |
| Plastic | 1997 | 115,000 | 13 | Nil |
| Beverage cans | 1999 | 61,000 | 63 | Nil |

Source: Compiled after DEAT, 2000d

The notation 'Nil' in table 5.2 implies that with the capacity then there was no probability that recycling could be increased. In addition, most of plastic recycling that took place excluded shopping plastic bags. Many local authorities were reported to have put in place voluntary drop-off facilities and buy back centres. Others, such as Knysna in the Western Cape Province had implemented kerbside collection of separated recyclables (see section 5.6.7 below). A number of ongoing education and awareness programmes were also reported. Monetary incentives were considered a critical factor for enabling recycling, especially by individuals from lower socio-economic status while environmental behaviour drove recycling in middle to upper socio-economic groups (DEAT, 2000g). Benefits of recycling were recorded as job creation, litter

⁸ Collect-a-Can is probably the best example of a large-scale waste recycling initiative managing one-way packaging of used steel beverage cans at household level in South(ern) Africa. Currently it has 11 recovery branches spread in Botswana, Lesotho, Mozambique, Namibia, South Africa, Swaziland and Zimbabwe (Collect-a-Can, 2002a; Collect-a-Can, 2002b).

abatement, reduction in the waste stream and pollution, conservation of natural resources and energy as well as reduction in production costs in the manufacturing sector. To address problems associated with collection, DEAT proposed the introduction of more kerbside facilities, drop-off and buy-back centres.

5.7.5 Case of Makana Municipality solid waste management system

To verify and confirm DEAT's findings and proposals of 2000, a case study that audited solid waste management systems with a thrust on plastic shopping bags was done for Makana Municipality of the Eastern Cape Province in May 2003. The case study was selected due to its proximity to Rhodes University, an aspect that reduced costs associated with this research including transportation and time. The site also provided an opportunity for regular monitoring and interaction with respondents and other officials associated with solid waste management during both formal and informal gatherings. Some of the gatherings took place within my research station, the Rhodes University Environmental Education and Sustainability Unit. The case study audit revealed that a decade into a democratic South Africa the situation regarding poor waste management had not changed. This was made worse by the fact that former white and black municipalities were amalgamated (Interview FF8, 2003-03-03).

Direct regular field observations within Makana Municipality showed that waste delivery systems were haphazardly managed (plates 5.2a-c). The above plates were captured from the landfill site (plates 5.2a & b) and formerly disadvantaged high-density residential area known as the Coloured Area within Grahamstown townships (plate 5.2c). Many other sites within the townships had similar characteristics. From plates 5.2a&b it is evident that refuse removal systems are not properly run and plastic shopping bags are visibly outstanding in the waste stream. To investigate this further, two in depth semi-structured and open-ended interviews were arranged and granted, one from Makana Local Municipality Environmental Health Department and another from Grahamstown Recycling, the largest collecting agent in Makana. More data were generated through informal follow-up conversations with the same respondents over the research period. With regard to plastic recycling, the Grahamstown Recycling Company indicated that it could not collect these for recycling (Interview FF15, 2003-10-04). This was due to the low monetary value of most plastic waste to the recyclers and collectors, especially plastic shopping bags; high levels of contamination associated with plastics; and high transportation costs. As a collecting agent, Grahamstown Recycling Company collects and sorts out the recyclables which are then collected by recyclers from the Nelson Mandela Metropole (formerly Port Elizabeth) some 135 km away from Grahamstown.

Plates 5.2a-c: Waste management facilities in Makana Municipality



5.2a



5.2b



5.2c

Responses from the Makana Local Municipality Environmental Health Section revealed that the waste management system was under severe stress (Interview FF8, 2003-03-03). This ranged from the fact that the municipal boundaries had been extended to cover formerly disadvantaged communities and this took place against a shrinking local government budget line. Mr. Johan Esterhuizen (Chief Environmental Health Officer for Makana Municipality) indicated that the Municipality had no waste management policy in place (*ibid*). He also indicated that as of March 2003, there were 16,151 households and 928 commercial premises within Grahamstown with an estimated total population of 78,000 people. Domestic waste was removed through a kerbside

system once a week. The local authority provides black refuse plastic bags to households in Grahamstown North and East. These are formerly disadvantaged black and coloured areas with high and middle density suburbs as well as a number of informal settlements. Households in Grahamstown West (low density, high income areas) provide their own refuse plastic bags. An estimated 12,500 refuse plastic bags were issued weekly and these amounted to a total budget of about R330,000 annually (*ibid*). An analysis was also made that assumed green, yellow or other coloured bags are to be issued for onsite separation and recycling purposes. The cost was estimated to go up sharply resulting in 'further' stress on the council budget (*ibid*).

In terms of street sanitation (cleaning) and litter abatement, the Municipality employed 13 street sweepers for the Central Business District who clean daily (Interview FF8, 2003-03-03). With regard to equipment, the local authority was said to have two compactor vehicles, a tractor and trailer unit, one special wastes truck, two roll on (haul) container vehicles, a tipper, one front-end loader and one bulldozer that was stationed on the landfill site (*ibid*).

Garden waste from the high and middle density areas of Grahamstown East and West was supposed to be placed in 16-cubic metres and 5-cubic metres skip containers. The containers are placed on strategic authorised dumping spots identified by council in every ward. A total of 47 (37 16-cubic metres and 10 5-cubic metres) containers were available (Interview FF8, 2003-03-03). However, these were not enough as Mr. Esterhuizen confirmed that there were over 20 other identified dumping spots without skips. These dumping sites are supposed to be cleaned up using the front-end loader and the tipper once a fortnight although this has not been the case, with some 'dumping' spots going for months without being cleaned up. This has resulted in a huge problem of littering as depicted in plate 5.1c presented earlier.

Another aspect addressed in relation to this work concerns environmental public education initiatives. The interview revealed that each year the Environmental Health Section sends out letters to local schools in which they indicate their willingness to give public lectures on 10-15 environmental topics that include solid waste management (Interview FF8, 2003-03-03). This has, however, not been very successful, as many schools do not respond to the invitations. To address this, the Environmental Health Section supported the Rhodes University Environmental Education and Sustainability Unit (RUEESU) to develop waste education materials that were aligned with the new outcomes-based curriculum. These materials include an activity that encourages learners to undertake a field trip to the landfill site. The materials are also integrated into an ongoing teacher education programme run annually by the RUEESU (Mbanjwa, 2002).

In 2002 a clean up campaign was held in which 250 'voluntary' cleaners were paid R20 per person per day for 10 days to clean hot spots, particularly those in the townships (*ibid*). However, this approach has been stopped due to its many disadvantages among them, the way other residents viewed those involved as workers who would require more waste for them to get the jobs and the manner in which this negatively affects environmental citizenship. As such, the 2003 budget for clean up campaigns was channelled towards public education initiatives instead.

Future plans regarding waste management were also probed, and especially plastic shopping bags litter. In confirmation of the lack of local authority involvement in processes leading to the formulation of the Plastic Bags Regulations, the Chief Environmental Health Officer (Interview FF8, 2003-03-03) confirmed that his department was not aware of the regulations (see section 6.1). He also indicated that they did not receive any communication from DEAT. As researcher, I thus had to intervene and provide the May 2002 Plastic Bags Regulations to the Section. The Environmental Health Section, however, indicated that there were a number of initiatives planned for better waste management in Makana Municipality. These included formulating Illegal Dumping By-Laws in which policing agents will be identified and paid by the council to go out and identify households illegally dumping. Households and other groups found guilty will be served with notices to remove the waste within a week after which failure to comply will result in a fine of between R200 to R300 (*ibid*).

Another future development is the Local Environment Action Plan (LEAP) initiative. The LEAP is an initiative of the Department of Local Government's Municipality Infrastructure Investment Unit that is funded by the Development Bank of South Africa. The LEAP is developing a comprehensive plan in which a Makana Municipality Integrated Waste Management Plan will be developed as an integral component to LEAP. A follow-up on LEAP revealed that work is at an advanced stage with the Rhodes University Environmental Education and Sustainability Unit playing a role as one of the consulting stakeholders on the Environmental Education and Training Strategy. The Municipality Infrastructure Investment Unit initiative is working with over 30 other municipalities in the country to develop such LEAPs. Aspects that will be considered significantly revolve around private public and municipal community partnerships aimed at improving the involvement of households and local people in waste management.

The interview with the Chief Environmental Health Officer (Interview FF8, 2003-03-03) also revealed that Makana Municipality had already initiated a pilot project around involving local communities in clean-up operations targeting plastics and other wastes. The *Siyacoca* (meaning

We Clean in local Xhosa language) Waste Project was initiated in Ward 6 in the Joza Township towards the end of 2002. *Siyacoca* employed three people to clean up an authorised dumping area, educate the community about environmental and social ills of illegal dumping and hand over the facility to them. This approach has gained momentum and is being monitored with the full support of the councillors (*ibid*).

The history of recycling was also probed and it revealed that during 1996, 20 volunteers were recycling paper and board, bottles, plastics (excluding shopping bags) and other materials from the landfill site (Interview FF8, 2003-03-03). Bottles were collected by a Mr Person from Port Elizabeth and the Grahamstown Council transported the recyclables to Grahamstown Recycling, then under different ownership than the present. However, problems arose as Grahamstown Recycling disapproved of the mixed materials recycled and their quality. In addition, recyclers opened up the refuse plastic bags on the landfill site resulting in wind blowing the material all over the place. The Council then took a decision to close the recycling project. As it stands, the new Grahamstown Recycling Company has been given permission to collect recyclables, particularly paper and board from the landfill on condition that it leaves the refuse bags closed with its 'wealth' (Interview FF15, 2003-12-04). "A feasibility study to install a conveyor (sorting platform) was likely to be done under LEAP", acknowledged Mr. Esterhuizen (Interview FF8, 2003-03-03).

Other problems identified are summarised in this paragraph. Residents do not place garden waste in the provided skips and in addition, residents place non-garden waste (especially domestic and dead animals) on the identified sites. This has resulted in council employing an extra team of four labourers that goes around on daily basis to clean up around the skips and other containers. Furthermore, residents make fires in the containers and this has resulted in some containers being damaged. As of December 2003 the cost for a new container was R 25,000. The equipment is very old, on average 12-13 years (except for the compactors that are 5 and 7 years old) and as such, the bulldozer breaks down frequently at times for periods of up to a month. If the bulldozer is down, the front-end loader is used instead and this means there will be no cleaning at authorised dumping sites each time this happens. Domestic animals (cats, dogs, donkeys, cattle) open up refuse bags on collection days and this makes collecting very difficult and slow.

5.7.6 Good practice example from Knysna

Lastly, an example of good practice waste collection and recycling initiatives in the town of Knysna in the Western Cape was mentioned during the interviews (Interview FF8, 2003-03-03).

Due to the fact that landfill space in Knysna has run out and that Knysna Municipality is forced to transport its waste to George Municipality some 100 km or so away, a rigorous waste recycling programme has been put in place. The programme is aimed at cutting costs associated with landfilling and transportation. Knysna Municipality provides bags for recyclables and other waste targeted for the landfill site. As such the municipality recycles about 70 tonnes of waste every month saving an estimated R245,000 required to dispose of this waste if exported to the George Municipal landfill site (*ibid*).

5.8 CONCLUSION

This chapter reviewed, particularly the policy framework that provided legal backing to the promulgation of the Plastic Bags Regulations (as provided for by the Environmental Conservation Act of 1989) and secondly, a framework for entering into Environmental Agreements such as the September 2002 Plastic Bag Agreement between Government, Organised Business and Organised Labour (as provided in the National Environmental Conservation Act of 1998). The chapter also revealed the lobbying that had been going on from Government and media perspectives in terms of the need to find new ways of managing packaging waste, plastic shopping bags included. Two central pieces of policy were reviewed: the 1999 Waste Management Strategy and Action Plans, and the 2000 White Paper on Integrated Pollution and Waste Management. These two documents introduced South Africa's new thinking towards waste prevention. The chapter also reviewed the *status quo* regarding waste management in one municipal context, to illustrate some of the issues informing and surrounding the promulgation of the Plastic Bags Regulations. Some dimensions of community-based and other waste recycling initiatives were also traced so as to provide further insight into the formulation and implementation of the Plastic Bags Regulations.

The Plastic Bags Regulations are a prototype of a waste product regulatory instrument. This is discussed in more depth in the next chapter, which goes further and draws on the contextual profiling in this chapter in the analysis and discussion of data associated with the formulation of the Plastic Bags Regulations. The following chapter also traces the tensions, debates and responses that followed after the promulgation of the Plastic Bags Regulations and how actors and actor/actant-networks took positions in relation to developments around the regulations.

CHAPTER SIX

TENSIONS, DEBATES AND RESPONSES DURING THE PLASTIC BAGS REGULATION FORMULATION PHASE

6.0 INTRODUCTION

For analysis purposes, two distinctive policy phases are identified: a predominantly formulation phase (this chapter) and another, which focuses predominantly on implementation (chapter seven). The tensions, debates and responses are analysed drawing insights from the AANT enquiry framework presented in the methodology chapter. The token (focal) actant remains the Plastic Bags Regulations published in the Government Gazette of 19 May 2000. Major actors and their actor/actant-networks identified in the formulation phase include Government (represented by the Department of Environmental Affairs and Tourism), Organised Business, Organised Labour and non-governmental organisations (NGOs). The major tensions and debates emerged when, especially Organised Business and Organised Labour disputed both the draft regulations resulting in the Parliamentary Portfolio Committee on Environmental Affairs and Tourism referring the draft regulations to the National Economic Development and Labour Council (Nedlac) for arbitration and the finalised version of May 2002. Organised Business, led by the Plastics Federation of South Africa (PFSA) sought further dialogue with Government and presented, in March 2002, an alternative business plan for managing plastic bags litter and waste in South Africa. The proposal did not sail through at first and this was followed by heavy lobbying and recruitment of additional actors with substantial action resources from the business sector, particularly giant retail chains including Pick'n Pay (Pty) Ltd, Checkers-Shoprite (Pty) Ltd, Clicks Stores and Woolworth (Pty) Ltd to support its narrative (see section 6.7). This illustrated significant interlinked processes in ANNT's moments of translation discussed earlier in section 3.3.2.

6.1 PROMULGATION OF THE PLASTIC BAGS REGULATIONS

Based on Section 24 (1) (a) and (k) of the Environment Conservation Act of 1989 then Minister of Environmental Affairs and Tourism, through the Department of Environmental Affairs and Tourism (DEAT) promulgated the Plastic Bags Regulations (see section 5.1). From the literature, the regulations were a typical product of a *bureaucratic* policy formulation network (see figure 2.1 section 2.5.2). The regulations were gazetted for public comment on 19 May 2000 (RSA, 2000) and 90 days were given for written public submissions. The draft regulations (appendix 6.1) proposed to prohibit the manufacture and distribution of plastic shopping bags of less than

30 microns wall thickness by the first of January 2001 and 80 microns wall thickness respectively by the first of June 2001. Any person who contravened the provisions of the regulations would be guilty of an offence and liable, on a first conviction, to a fine not exceeding R10,000 or imprisonment for a period not exceeding one year or to both. In the case of a second or subsequent conviction the offender would be liable to a fine not exceeding R100,000 or to imprisonment not exceeding ten years or to both (*ibid*).

The proposed regulations did not go down well with, especially industry and labour. This resulted in the process of problematisation, interessement, enrolment and mobilisation leading to actor/actant-networks being formed to lobby against them. One huge actor/actant-network that emerged from industry resulted in a consortium submission that involved five organisations led by the Plastics Federations of South Africa. The other organisations that were enrolled in the consortium were the Chemical and Allied Industries Association, South African Chamber of Business, South African Retailers' Association and the Steel Engineering Industries Federation of South Africa.

What emerges here is that after *problematizing* plastic shopping bags and waste as environmental threats (see sections 1.5.3, 3.3.2 & chapter 5), the Plastic Bags Regulations were formulated and put into circulation as *quasi-object* (discusses under section 3.1) by Government through DEAT as key actor. This resulted in other actors and actor/actant-networks positioning themselves to respond to the proposed law. Alliances were sought and made, a translation moment of *interessement* according to AANT and actor/actant-networks such as industry and labour emerged through the translation moment of *enrolment* (refer to 3.3.2). With the passage of time, the proposed regulations were simultaneously re-oriented as they transformed events, actors and actor/actant-networks such as industry and labour in circulation as noted above. The manner in which proceedings took place (i.e., the *tensions*, *debates* and *responses*) is best illustrated by the written public submissions made and the resultant *deadlock* between Government and environment lobby NGOs supporting the regulations on one side while industry and labour stood on the other side. This is the focus of the rest of this chapter.

6.2 SUBMISSIONS ON THE MAY 2000 REGULATIONS

From one of the early interviews with a senior officer from DEAT (Interview FF7, 2003-02-17), it was established that a total of 99 submissions were received following the gazetting of the Plastic Bags Regulations on 19 May 2000. To trace arguments and representations generated by the submissions key documents were retrieved: two of them representing views from the

consortium (Botha, 2000) and its continued lobbying against the proposed regulations (PFSA, PREO, & CAIA, 2002), one from the Plastics Federation of South Africa (PFSA, 2001) and another, minutes summarising the Environmental Affairs and Tourism Parliamentary Portfolio Committee *Public Hearing on Plastic Bag Regulations* of 27 October 2000 from the NGO, Parliamentary Monitoring Group (Parliamentary Monitoring Group, 2000). Parts of these and other supporting texts are drawn on below.

6.2.1 Industry submissions

The consortium's submission, which also drew insights from the 2000 national survey on Plastic Recycling in South Africa undertaken by the Plastics Federation of South Africa (see section 1.7) raised a number of issues. The submission indicated that public education and awareness raising were the most important and critical aspects in addressing environmental problems related to plastic shopping bags litter and waste in South Africa (Botha, 2000). Efforts that were being made by the plastics industry to address the problem associated with plastic shopping bags since the early 1980s were 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, 2001). The companies subscribing to the Plastics Enviromark are able to express their commitment to environmental responsibility by use of the logo on their stationery and products. 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 (Botha, 2000). Some of the awareness programmes covered by the Plastics Enviromark initiative (PFSA et al., 2002; Botha, 2000) include:

- encouraging manufacturers to use an internationally accepted system to identify the polymer with which a plastic product is made from, so as to facilitate recycling,
- a series of publications aimed at schools and other environmental organisations for community and school use,
- a series of environmental programmes for broadcast on South African Broadcasting Corporation TV and use in schools,
- financial assistance for educational and environmental bodies, which have been done in some instances in partnership with the Department of Education and Training,
- major sponsor of Keep South Africa Beautiful for two-and-a-half years, during which it was estimated that some 250,000 school children were reached, and
- 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 placed in the Eastern Cape, Western Cape, Gauteng, KwaZulu-Natal, Free State and Mpumalanga Provinces.

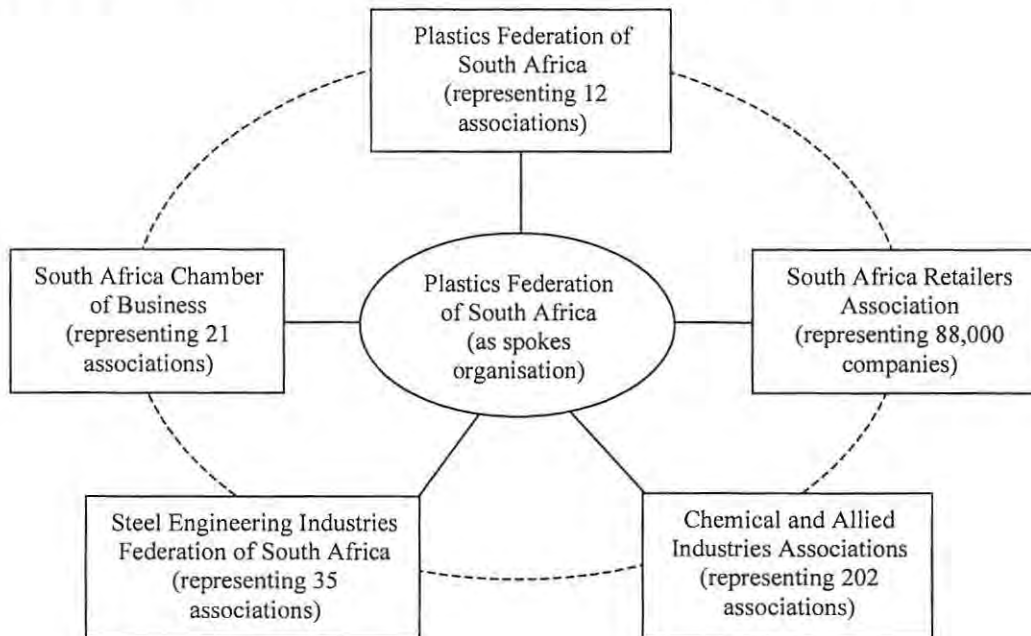
The submission reported that since the launch of the Green Cage project, more than 70 new job opportunities had been created and that the number of plastic items collected by means of these cages was increasing significantly each month (Botha, 2000). The consortium also warned that it would be difficult to enforce the proposed regulations and that the issue of imported plastic bags and packaging material were not addressed fully. The legal basis upon which the regulations were being promulgated was also challenged as the consortium claimed that the Minister had not declared plastic shopping bags as waste in terms of the Environment Conservation Act. The submission indicated that the section of the Environmental Conservation Act, which was used to promulgate the regulations, dealt with landfills and had nothing to do with a specific waste and how it is dealt with (*ibid*). In fact, verification to this claim from the provisions of the Environmental Conservation Act revealed that this was true (refer to section 5.1).

Although the consortium admitted there was a need to address the problem of plastic shopping bags, it hinted at their good uses too. It 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, 2002). Plastic shopping bags were also deemed more environmentally friendly than other alternative materials such as paper bags, the submission emphasised. As such, the plastic shopping bags were being regulated because of their high visibility in the waste stream (see section 1.5). In conclusion, the submission called for an holistic approach to the litter problem, including a range of actions rather than implementing a prescription on the quality of plastic shopping bags only. The submission also warned that at least 3,800 jobs could be lost as most companies would be forced to close down as most modern equipment could not produce plastic shopping bags of up to 80 microns wall thickness illustrating how the technical and social are 'blurred' from AANT's perspective (see section 3.3.1). This is a position that was carried throughout the lobbying period by industry until 2002 (PFSA et al., 2002).

The PFSA played a central representation role for business and industry during the entire policy process. This was marked by its initiative to undertake a scientific study on Plastic Recycling in South Africa in 2000, to organising the consortium submission and the subsequent networking around creating the Organised Business actor/actant-network during negotiations around the Plastic Bags Regulations. As such, this section briefly looks at the composition of the PFSA with a view to presenting a profile that portrays the power relations associated with the PFSA as it engaged with various stakeholders in the policy process (figure 6.1).

Information gathered from the PFSA website (<http://www.plasticsinfo.co.za/page.asp?pid=54>) on 18 March 2003 revealed that the organisation is an umbrella organisation for the plastics industry. From a legal point, the PFSA is registered as a non-profit (Section 21) company. Its constituent members include mainly material suppliers and converters.

Figure 6.1: Actor/actant-network formed during the consortium submission



It should be noted that figure 6.1 is a much simplified representation of the reality. There are many other linkages that are not shown that also influenced the development of the actor/actant-network. The solid lines linked to the PFSA in the centre show strong and more direct linkages and the dotted circular line shows indirect and weaker links. One of the complexities revealed in figure 6.1, particularly in line with the actor/actant-network theory, is the double representation of the PFSA as both single entity actor/actant-network and spokes organisation (representative) for the whole consortium. If one is to take the 88,000 plus retail companies as one entity, then the PFSA represented over 271 separate organisations as spokes organisation for the consortium. The figure for retailing companies was obtained from Nedlac (2001). Other figures were retrieved from respective websites of the organisations on 10 September 2004 as follows:

- Chemical and Allied Industries Associations (<http://www.caia.co.za/>)
- South African Chamber of Business (<http://www.sacob.co.za/>)
- Steel Engineering Industries Federation of South Africa (<http://www.seifsa.co.za/frames/content/membership/index.html>)

6.2.2 Public hearing on Plastic Bag Regulations

From the minutes obtained from the Parliamentary Monitoring Group, a watchdog website (<http://www.pmg.org.za/docs/2000/viewminute.php?id=29>, 13 June 2003), a number of key actors and actor/actant-networks were identified as having made representations to the Parliamentary Portfolio Committee. These included those from the plastic shopping bags manufacturing sector, NGOs, individuals, retailers, Government and a representative from the Australian Provincial Parliament. The PMG (<http://www.pmg.org.za/whatispmg.php>, *ibid*) was established in 1995 to provide semi-verbatim information regarding proceedings of more than forty South African Parliamentary Portfolio Committees. Such information, the Group claims is needed by civil society to lobby the Parliament of South Africa on pieces of legislation and matters of democratic processes. The website was set up in 1998 to make Portfolio information available to a wider audience and the information can be used without acknowledgement, except when used for commercial purposes. Most of the proceedings are recorded in the form of minutes. Details of the consultation process as well as major issues that emerged from the discussion are presented in the following paragraphs.

The hearings started with a presentation that gave a brief overview of the proposed regulations from the Director-General for the Department of Environmental Affairs and Tourism (DEAT), Dr Crispian Olver. The Director-General opened by indicating that “when the department drafted the regulations they knew it would be controversial” and that the public comments were critical in providing a way forward. In terms of the policy foundation for the regulations, Mr Jerry Lengoasa, the Chief Director of the Environmental Quality and Protection Division in DEAT indicated that this was provided under the National Waste Management Strategy of 1999 (see section 5.5). Mr Lengoasa then gave the key justification for regulating the plastic shopping bags, which he said was due to them being the most visible pollutant in the South African environment. He also informed those present that the proposed regulations were “just one part of a widespread effort to curtail litter”.

6.2.2.1 Plastic shopping bag producers

Over seven plastic shopping bag producers and their spokes organisation, the Plastics Federation of South Africa (PFSA) were presented during the public hearing. Those present included Nampak, Transpaco, Laughton & Co, A1 Plastics, R&B Packaging and the East London Consortium. Summaries from some of the presentations during the session are considered below. Not even one producer was in favour of the proposed law.

The Nampak Group indicated that it held a plastic shopping bags local market share in excess of 50% and manufactured over 4 billion plastic shopping bags annually for this market. However, its equipment was not capable of producing 80 microns wall thickness plastic shopping bags. As such, the new regulation meant that the group would retrench all their 600 employees. Nampak, also revealed that it exported around US\$10 million worth of plastic shopping bags annually and had shelved plans to expand the export division pending the outcome of the proposed law. The group proposed the following alternatives to the proposed regulations from DEAT:

- A Collect-A-Bag program similar to the Collect-A-Can initiative,
- That imports of very thin plastic shopping bags from Asia (of about 6 microns) must be stopped, as this would make the proposed regulations useless,
- Find a way to put a market value on the plastic shopping bags, thereby encouraging the public to re-use and recycle, as was the case with bottles in other countries, and
- Educate and create awareness regarding the problems associated with plastic shopping bags litter and waste.

Nampak also concluded the presentation by citing that plastic shopping bags remained the most convenient, cost effective, environmentally friendly packaging product on the market. As such, they still needed to be part of packaging solutions in the country.

The Plastics Federation of South Africa (PFSA) summarised discussions around job and equipment losses as elaborated under section 6.2.1 as well as the need to put in place proper waste management strategies, raise levels of awareness and curtail the 'throw away culture' among South Africans. The PFSA also emphasised that the 52 companies involved had a market value (from start to finish) in excess of 1 billion Rand. An alternative strategy was then suggested that would see the wall thickness of plastic shopping bags increased to about 25 microns. This option would save jobs and create new ones if a Collect-A-Bag project was put in place. However, the initiative would require a strong commitment by both industry and Government.

Transpaco agreed in principle that plastic shopping bags litter and waste was a substantial problem. However, Transpaco noted that the proposed regulations did not provide an effective solution to the problem at hand. The company proposed that an holistic approach was need that looked at the entire process of production rather than just the finished product. Transpaco also indicated that its equipment could not produce an 80 microns thick bag and if forced by the new law, 300 jobs would be lost from its three factories. The solution, from Transpaco's point of

view would be to put in place a long-term strategy aimed at building a culture of re-use and recycling among South Africans. One way it proposed was to increase the size, rather than the density of the bags.

Laughton & Company, one of the oldest producers of plastic shopping bags in the country reminded participants of the hearing in the 1960s that marked a shift from paper to plastic. The reason for the shift was established as consumer preferences related to cost-effectiveness in the industry. The presentation also stressed the international developments in packaging product thinning (see section 1.1.5.4). The company also requested Government to look at a more holistic approach in managing waste. Laughton highlighted that the proposed law would affect the poorest and its dream was to see a 6 microns plastic shopping bag that had the same strength as the 17 microns plastic shopping bag that was in circulation in the country. Laughton revealed that if the proposed regulations were implemented without amendment, 33% of jobs in the company would be lost, with a 50% turnover reduction and a 75% capital investment loss.

A1 Plastics indicated that it was not going to be affected immediately as it was already producing a 30 microns plastic shopping bag. However, a shift to 80 microns would have a negative effect on its business. The company then proposed that a levy be charged to producers to fund recycling programs and that the company would be committed to such a programme.

R&B Packaging, a small player in the province of KwaZulu-Natal revealed that it would retrench workers and all the existing machinery would go to waste. Another representative from a small consortium of packaging companies in East London (Eastern Cape Province), Mr Charles Benn, mentioned that Lead Packaging had 10 million Rand invested in one of its plants, 70% of which was specialised equipment for the production of plastic shopping bags ranging from 12 to 30 microns. As such, a change to an 80 microns plastic shopping bag would bring viability problems to the group of emerging companies.

From Mr Benn's presentation that represented a consortium of small-medium scale producers from East London, it was indicated that the problem in the country was not plastic shopping bags, but jobs and money. Mr Ben said it was a sorry state that industry was pleading with Government to serve their business. Given the scenario, a solution would be to consider adapting good case practices such as one from the City of Windhoek in Namibia where private contractors were hired to pick up litter and were paid per bag of litter collected. Mr Ben indicated that

similar arrangements were also used in Sri Lanka and Pakistan. He also noted that the proposed regulations would be impossible to police and administer.

Reacting to the presentations by industry, the DEAT Director-General accused industry of not giving the Portfolio Committee and the public correct information about the job implications of the proposed regulations. He claimed that industry had failed to mention the possibility and probability of job creation in the alternative carry facility proposed product industries. The Director-General also claimed that DEAT had found that the demand for plastic shopping bags was static. Hence a shift to alternative carry products was unlikely to decrease demand of plastic shopping bags. This aspect is revisited later under section 7.3 dealing with the impacts of alternative carry facilities such as Green Bags and Biodegradable Bags on the demand of plastic shopping bags. The Director-General highlighted that DEAT had found that alternative carry products were more labour intensive, leading to more, not less jobs, in the carrying bag industry. Dr Olver also noted that DEAT was mindful that there was a lot of investment in machinery in the industry and asked the industry for information on the current life span of the plants in use as it could have an effect on the length of the phasing-in period for the proposed regulations. Lastly, the Director-General emphasised that he was disappointed that industry had not come up with a viable alternative to the regulations.

6.2.2.2 Retailers and distributors

Those present included Woolworths, Pick'n Pay and Shoprite. Woolworths indicated that it opposed the proposed regulations because they would increase overhead costs that were likely to be passed on to the consumer. Pick'n Pay had the same view. Pick'n Pay mentioned that up to 27 million Rand was spent annually to 'supply' the old plastic shopping bags and up to 400 million Rand per year would be required if the proposed law was passed. Overall, the new law would lead to a 3 billion Rand increase in overhead costs, which would be passed on to consumers by increasing the costs of foodstuffs.

Pick n' Pay proposed that a culture of recycling and re-use be cultivated among the citizens. Another option was to consider regulating the 3-6 microns plastic shopping bags that were being imported and that seemed to be the real litter and waste problem. The group concluded by saying research had shown that the old 17 microns plastic shopping bag had the best weight and that it was re-used an average 20 times before being thrown away. The group also revealed that it had made a commitment to recycle plastic shopping bags in all of its stores.

StarPac Distributors stated that the problem was aggravated by the informal sector. This was the area that would require a lot of attention and yet at the same time this sector would be the most difficult to police should the proposed regulations go through.

In the discussion that followed, one of the Portfolio Committee members detected that the presentations from, especially, the producers and retailers seemed well calculated and coordinated. Mr September had to ask when the discussion between industry and business players started. In response, a representative from Pick n' Pay indicated that they had been going on for nearly two years and that Pick n' Pay's education programmes had cost nearly five million Rand. The group also indicated that it had sold over 250,000 alternative heavy duty plastic shopping bags, the *Bags for Life*. As of October 2004, the same bag was selling for R1.20. The idea of a plastic shopping bags buy back programme was mooted and Pick'n Pay indicated that it would be too costly to implement and it was not its business to do it.

The aspect of 'suspicious' collaboration by producers and retailers raised by one of the Portfolio Committee members confirms how Keeley and Scoones' (2003) concept of 'policy entrepreneurs' (discussed under 2.5.2 played out and in section 3.3.2 for their roles in processes of intersement). As policy entrepreneurs, producers and retailers' narratives were timely and well co-ordinated. They knew when to push for their positions and how to market them, an aspect that is often lacking amongst actors with limited resources. The development also signified how a *corporatist* (refer to figure 2.1 section 2.5.2) policy formulation network had emerged in order to push for a common policy position, in this case the rejection of the proposed regulations.

Another member of the Portfolio Committee, Ms Chalmers asked if industry was considering the option of producing biodegradable plastic shopping bags. A response from a Mr Davies showed that biodegradable plastic shopping bags were too expensive for general commodity applications. He also revealed that biodegradable plastic shopping bags had been tried and the evidence was that they had potential to promote a 'throw-away' society since people would think they would degrade (see also section 4.4.5.3). As such, using biodegradable plastic shopping bags as alternative carry facilities did not get adequate support.

6.2.2.3 *Industry and business associations*

A submission to DEAT from the Industrial Environmental Forum (<http://www.ief.co.za/newspapers/plasticbag.html>, 20 July 2003) signed by its Executive Director, Dr Zoë Budnik-Lees on 28 August 2000 showed that its submission was supportive of, and complimentary to

individual submissions from its corporate members and associates. The forum is now part of South Africa's National Business Initiative that has integrated the re-oriented Business Council for Sustainable Development South Africa into Sustainable Futures Unit. Some of the corporate sponsors of the National Business Initiative (<http://www.nbi.org.za/>, 20 July 2003), who were significantly involved during the public hearing as well as the entire policy process included Nampak, Pick'n Pay and Woolworths. This reveals some of the multiple webs and sub actor/actant-networks that often influence or shape lead actor-networks.

The Industrial Environmental Forum (IEF) submitted that the proposed regulations were inconsistent with the intention of DEAT to reduce the level of fragmentation in environmental legislation. The submission also noted that since the intention was to reduce the amount of plastic shopping bags finding their way into the environment and landfill sites, a parallel objective should be to change people's behaviour towards waste management as well as to raise awareness. The IEF also claimed that the proposed regulations failed to inspire the development of alternatives, or take economic and social needs of people into account. Furthermore, if the purpose of the regulations was to address the plastic waste stream and the issue of disposal and treatment, then an environmental framework providing incentives to explore socially acceptable alternatives and solutions had to be sought, and had to be extended to managing medical waste too. Lastly, IEF strongly recommend a more transparent consultative process, and a clear indication of how DEAT would administer and enforce the proposed regulations.

Lorraine Lotter from Business South Africa stated that there was a programme in DEAT to look at economic incentives to reduce litter. However, the programme seemed to have been shelved. As such, she asked DEAT to resuscitate research in that area as one alternative to the proposed law. Ms Lotter also reminded attendants that all stakeholders supported the goals of the regulations, but it was the methods of attaining the aims that was the point of contention.

6.2.2.4 Environmental non-governmental organisations (NGOs)

Among the NGOs that made presentations were: The Natural Step, Fairest Cape, the Wildlife and Environment Society of South Africa and Habitat Council South Africa. Mr Willis of The Natural Step began his presentation by reminding participants that the discussion had been very narrow and short-term focused, thus, debating about litter, jobs and profit. He indicated that in the bigger picture, litter was a low-level sustainability issue and that the world was faced with more pressing issues such as the decreasing life-supporting resources (soil, water) and a concurrent rise in the demand for such resources. Therefore, South Africans needed to be

thinking of how a sustainable society could be reached. To achieve sustainability in managing plastic shopping bags, the Natural Step proposed a Systems Approach that would embrace the following steps:

1. Think Long-Term: Will we be using fossil-fuel based plastic bags in the sustainable society?
2. Think Upstream: What matters is what we cause to be introduced into the natural system. (e.g. fossil fuels, non-natural compounds).
3. Recycling – or rather downcycling – a plastic bag once before dumping it does help a little, but . . .
4. Does downcycling encourage us to continue our dependence upon substances that we will have to move away from sooner or later? (e.g. fossil fuels, synthetic compounds).
5. If so, are we wise to invest in downcycling?
6. How might we move our shopping around in the sustainable society? i.e. in compliance with the System Conditions.

Fairest Cape, represented by Ms Barbara Jenmann recommended that more emphasis be placed on recycling and the use of non-plastic bags. She indicated that there was not much plastic shopping bag or plastic container recycling done due to the lack of proper infrastructure. She also pointed to the city of Windhoek as a good practice case. The Fairest Cape said there was a need to change people's attitudes about waste and come up with creative ways to phase out plastic products. However, Fairest Cape did not support a total ban on plastic shopping bags.

The Wildlife and Environment Society of South Africa (WESSA), represented by Mr P Dowling spoke about the visual degradation associated with litter, and the harmful psychological effects this had on the human spirit. Mr Dowling acknowledged that jobs would be lost in the short-term but this was not a new phenomenon. He gave an example of the workers who were retrenched from quill pens manufacturing when new inventions came forth. He ended by drawing good practices from the small town of Douglas in the Western Cape Province that had banned plastic shopping bags.

Mari Lou Roux, of the Habitat Council South Africa noted that the results of the proposed regulations may have been different had DEAT's consultation process been more thorough. From Habitat's perspective, DEAT had not done its homework in terms of assessing job and equipment loss. Therefore, more time was needed to allow for the transfer of strategies and machinery to the new regulations to permit a longer phasing-in period than was proposed. In addition, further research was needed in the area.

6.2.2.5 Comments from the Australian Member of Parliament

After the presentations by the NGO sector representatives, Ms Kerrie Tucker, a Member of Parliament for the Australian Provincial Parliament noted that the problem at hand was not unique to South Africa. She indicated that around the world plastic shopping bags had become symbolic of many concerns regarding the environment and our place within it. In addition, she encouraged participants not to separate their concerns regarding the environment from those associated with society and societal well being. In Australia, the plastic bag industry first considered focusing on reducing and reusing, with recycling being a last step. However, industry needed to take responsibility for the pollution it creates and more research and development was required, which looked at creating plastics from other sources.

The fact that an Australian Member of Parliament was present during the public hearings taking place in South Africa confirms how the international developments informed local developments. At the same time local proceedings of the public hearing were also potentially informing international practice (see chapter four and section 8.2). The collapse of international and local spatial scales is an aspect that was discussed as one of the key dimensions of the AANT enquiry framework that articulates how quasi-object entities are created and circulated as new relations emerge around focal actors or actants (see section 3.3).

6.2.2.6 Labour movements and other individuals

The Chemical, Energy, Paper, Printing, Wood and Allied Workers Union suggested that the proposed regulations would severely affect the poor, especially the rural workers. The Union noted that for every worker in that industry, there was an average of ten dependents and that the composition of the workforce in the industry was 60% women. Given this scenario, the new law, if passed would impact negatively on those already disempowered that needed to maintain their jobs at all cost. The Union also concurred that awareness regarding the problems associated with plastic shopping bag litter and waste was not enough and that concrete solutions towards this were needed.

Mr Arnold Van Der Riet, as a private individual, presented an (hypothetical) idea based on subsidising the collection of plastic shopping bags by imposing a charge at the point of sale. The concept was to charge 12 cents per bag, giving 10 cents back to the individual who returns the bag and 2 cents for administrative costs. The justification for this program would be the idea that those who buy the bags should pay for their collection, a concept similar to the Irish Plastic Bag

Levy (refer to 4.1.2.1). He realised plastic shopping bags had a very low intrinsic value and as such did not provide enough incentive for recycling.

6.2.2.7 DEAT summary and concluding remarks from the Portfolio Committee

The Director-General for DEAT summarised issues emerging from the proceeding and noted that industry wanted a 12-month grace period to come up with a thorough proposal. He indicated that DEAT was, however, concerned as to whether it was being offered a *window dressing* to prevent the promulgation of the regulations for private interests or the fact that the concerns were genuine. The window dressing suspicion is often what is believed to lead governments, including in this case the South African Government to 'force' compliance by industry through command-and-control regulation approaches (see section 2.5.5.3).

The Chair to the Portfolio Committee, Ms Mahlangu, concurred with industry that there were problems with the proposed regulations and that they could not be passed without further analysis. She also challenged industry to come up with a solid commitment that could be presented to the Minister. The Committee then decided that a meeting would be convened in March 2001 (if agreed to by the Minister) to look at proposals brought forward by industry, especially a 12-months grace period. In as much as the Chair to the Portfolio Committee concurred with industry's presentation, the move confirms the fact that when industry fails to have the proposed environmental regulation rejected, it will always find ways either to delay it or have strong components of self-regulation incorporated (Carter, 2001a). Self-regulation in environmental policy was discussed in depth under section 2.5.5.2 (dealing with theory) and sections 4.4.5 dealing with the Australian perspectives.

A follow-up on the development from the public hearing revealed that the Minister of Environmental Affairs and Tourism was not in favour of the 12-month grace period requested by industry. This was contained in a letter as noted by an update on Policy and Legislation posted on the Business Council for Sustainable Development South Africa website dated November 2000 (<http://www.ief.co.za/news-print/nov00d.html>, 23 July 2003) written by the Director-General for DEAT to concerned stakeholders, which also noted that the proposed regulations had been referred to the National Economic Development and Labour Council (Nedlac) by the Portfolio committee for arbitration and finalisation.

6.2.3 Regulations referred to Nedlac

After hearing the summarised version of public comments concerning the May 2000 Plastic Bags Regulations from DEAT and major stakeholders as presented under 6.2.2 in October 2000, the Parliamentary Portfolio Committee referred the issue Nedlac. Nedlac is South Africa's national organisation that discusses and tries to reach consensus between government, organised labour, organised industry and organised communities on issues affecting social and economic policy through social dialogue (Nedlac, 2004). Public comments received and reviewed by DEAT called for the need to explore other options to deal with the plastic shopping bags. Options suggested included the need to produce more durable and reusable bags (thereby growing the recycling industry and creating jobs), introduction of customer levies to promote recycling, manufacturing of degradable plastic bags, introduction of educational programmes and anti-littering campaigns as well as the introduction of heavy anti-litter fines.

The draft regulations and the comments from the public were tabled by Nedlac for discussion on 23 November 2000 (Nedlac, 2001) and interested parties, particularly Government, Organised Business and Organised Labour agreed that a joint research project 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 research would investigate likely impacts on investment, employment and distortionary effects of isolating one aspect of the packaging industry for regulation. Debates surrounding *distortionary* effects arose from industry as it strongly felt a comprehensive, rather than piece meal (waste product-centred) approach should have been proposed instead.

A Plastic Bag Task Team established under the auspices of the Trade and Industry Chamber drew up the terms of reference for the study and was given jurisdiction to manage the research process. Six major areas of focus were mentioned (Nedlac, 2001):

- employment, including both direct and indirect job losses,
- manufacture of plastic bags,
- potential for alternatives and their manufacture,
- life cycle analysis of 17/18, 30 and 80 microns plastic bags, paper and cloth bags,
- potential use of biodegradable or photodegradable plastic bags, and
- distortions that may arise in the markets.

Data were generated through a questionnaire and interviews with companies (table 6.1). Further information was generated from workers representatives of plastic bag manufacturing

companies, DEAT and the Department of Trade and Industry. Nedlac also revealed that data was not generated from distributors of plastic bags and consumers. Information concerning the distributors and consumers was indirectly obtained from manufacturers in the case of distributors and retailers in the case of consumers. The fact that retailers were consulted on behalf of consumers presents a scenario that disempowered them. Effectively, the consumers' voice was subdued in the entire policy process.

The Nedlac report of 2001 revealed that companies in the plastic bags industry range from very small operations with turnover of less than R5 million per annum, and employing less than 15 people, to large companies with annual turnovers in excess of R200 million, and employing up to 500 people (Nedlac, 2001). The total value of the industry was estimated at R550 million per annum (*ibid*).

Table 6.1: Sample of Nedlac research 2001

| <i>Company</i> | <i>Total identified</i> | <i>Sample realised</i> |
|---------------------------|--|---|
| Polymer producers | 2 | 2 |
| Plastic bag manufacturers | 42 | 12 |
| Recyclers | 85 | 2 (only ones recycling plastic shopping bags) |
| Pulp producers | 2 | 2 |
| Paper bag manufacturers | 6 | 3 |
| Paper recyclers | 4 | 2 |
| Cloth bag makers | 3 | 2 |
| Retail industry | Representative sample of 390 small, medium and large retailers | |

The plastic shopping bag manufacturing industry was revealed as consisting of six large companies that shared between 70-75% of the local market and companies manufacturing plastic shopping bags were almost entirely dependent on that business alone. Small to medium scale companies were found to be using technology that was about 20 years older than that used by large producers. Equipment was found to have a 20 to 30 years life span, with the oldest technology in use having at least 10 years remaining in their life. The machinery used for manufacturing an 80 microns plastic shopping bag was deemed different from that required for manufacturing a 30 microns plastic bag. As such, 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 no industry was prepared to make such huge capital investment to align with the proposed regulations (Nedlac, 2001).

Findings on labour (as presented in chapter one) were presented with the main bone of contention being potential loss of thousands of jobs in the industry. Nedlac established that regulations stipulating 80 microns would lead to all local producers closing down. On recycling, the Nedlac report showed that although an increase in the thickness of the bag would stimulate recycling, this was likely to off set a maximum of between 10-15% of production capacity (based on recovery economics) unless other factors constraining recycling in the country were addressed. There was a need therefore to create demand for recycled resins, particularly by specifying a minimum recycle content for refuse and other plastic bags.

In another typical case of how the global informs the local (see discussions under 6.2.2.5), a life cycle analysis on environmental impacts of plastic shopping bags was done based on a desktop case study comparing plastic shopping bags in the USA and a 25 kg distribution sack in Europe. The life cycle of the plastic shopping bags indicated that there were less environmental impacts than paper bag in terms of energy consumption, solid waste generation, atmospheric emissions and waterborne wastes. The study on the 25 kg distribution sack showed that the paper sack had more environmental benefits if compared against primary energy consumption, abiotic resource depletion, global warming, acidification, nutrient enrichment, photochemical ozone formation, aquatic ecotoxicity, air and water emissions. However, conclusions could not be drawn as these were not comparable to South Africa. As such, Nedlac recommended that a detailed life cycle analysis be done specifically for South Africa (Nedlac, 2001). This was not taken further.

Cloth bags were not common in the country, apart from about 150,000 that were manufactured as a niche product for one large retail chain. The cost of a cloth bag substitute to the plastic shopping bag would be about R7. Nedlac concluded that the option was too expensive, even though believed to be more durable and hence it was not one of the preferred options. As for degradable plastic shopping bags, Nedlac noted that the technology was still in its infancy stages internationally. Biodegradability, as a terminology had only surfaced firmly around 1997. The biodegradation process would result in water, carbon dioxide, methane and biomass being formed. As for photodegradation, the plastic bag would break down if exposed to sunlight into small fragments. Nedlac noted that with the level of technology in the South African polymer industry, it was not possible to manufacture degradable plastic bags within the short to medium term horizon although very small scale trials of degradable bags were found (Nedlac, 2001). Furthermore, evidence gathered from international experience showed that degradable plastics offered no real life cycle benefits (*ibid*).

Commenting on the proceedings leading to the Plastic Bags Regulations being referred to Nedlac, one of the senior managers in the Waste Management Directorate of DEAT wrote: "The future plan to regulate prioritised waste streams should take into consideration the necessity to conduct extensive consultation with national stakeholders including organised business and labour" (Moatshe, 2004: 651). This was particularly so given that Government intended to implement identified waste recycling strategies after considering lessons drawn from the formulation and implementation of the Plastic Bags Regulations (*ibid*).

6.3 INDUSTRY'S CONTINUED RESPONSE TO THE MAY 2000 REGULATIONS

The plastics industry continued to search for an alternative to the May 2000 regulations outside Nedlac's initiative and engaged Bentley West Management Consultants in 2001. From one of the informal presentations done by the consultants entitled 'Plastic Industry: Integrated Feedback' and dated 7 March 2002, a one-day proceedings meeting was held by the 6x6e Forum on 28 February 2001. The presentation also showed that input was received from a number of parties that included the Plastic Recycling Employers Organisation, Plastomark, Chemical and Allied Industries Association, Nampak and Collect-a-Can. The document recorded a number of issues around the philosophy, specifications and preferred strategies for managing plastic shopping bags litter and waste in South Africa. Some of the major issues raised were that:

- Collectors should be stimulated to focus on all litter with a ready market for plastic content, thus, a total plastic industry levy was required,
- A Collect-a-Bag Section 21 Company was proposed,
- The minimum thickness of the new plastic bag was recommended at 22 microns with specifications that included two plastic shopping bag sizes of 260mmx140mmx480mm and 300mmx200mmx560 and ink coverage of not more than 25% of the total area of bag,
- The specifications above were not to apply to imported bags. However, the marking for raw material and converters name should be compulsory,
- It was estimated that plastic shopping bags circulating were about 6 billion annually and the new initiative should have reduced these to about 4.2 billion,
- A levy of 2 cents per plastic shopping bag was suggested and this would provide a fund of about R80 million annually, and
- Bag cost to retailers would be about 18 cents.

The presentation indicated that the parties preferred that shared services be provided by the PFSA. The services included, among them: accounting, payroll, industrial relations, creditors and debtors. One of the critical revelations from the presentation was that Government did not trust the plastics industry and therefore would not delegate the regulator function to 'Collect-A-Bag'.

The Collect-a-Can case was discussed at length with the intention of drawing lessons from its success story. The conclusion drawn was that Collect-a-Can's success was attributed to its good advertising campaign. Furthermore, the parties indicated that Collect-a-Can should not be involved in the Collect-A-Bag initiative in any way. As such, a resolution on the Section 21 Company had to be undertaken and an alternative found. There was need for clarity concerning the structure of the Section 21 Company and its ownership. Once more, in reference to the organisation of the Section 21 Company, the presentation indicated that an attorney had been consulted on the organisational framework of the company and that a preferred approach was suggested by the attorney.

In terms of the levy, the presentation indicated that an all-inclusive levy was not possible given the fact that a mechanism could not be put in place for imports. On the issue of retailers charging for the plastic shopping bag, the presentation indicated that there was a need to make reference to the Irish experience and that the levy had to be reflected as a separate line on the retail invoice (see section 4.1.2.1). Linked to the levy, was the collection system. In this regard, the parties agreed that the levy had to "be collected as far upstream as possible". The reasons given were that there was a possibility that smaller converters may avoid the charge.

For logistics of litter and waste collection, the presentation revealed a structure that included Litter SWAT Teams, informal collectors from the urban and rural set-ups, schools programmes and community-based programmes. These four structures would collect litter and feed into multi-material collection agents. The agents would then either take the material to recyclers (if deemed to have recycling value) or to the disposal sites (if it is of no recycling value). The recyclers would pass on the material to plastic converters who would manufacture products that include refuse plastic bags and black piping.

What is evident from discussions in this section is industry's determination to develop a solution based on a model for voluntary regulation outlined earlier in section 2.5.5.2. Industry committed itself to: (1) establish a non-profit company, (2) produce plastic bags of 22 microns wall thickness, (3) produce two plastic shopping bag sizes, (4) allow normal flow of imported plastic shopping bags and (5) charge a plastic shopping bag levy. As revealed by this work, all the above commitments by industry apart from continued imports were later accepted by Government resulting in the September 2002 Plastic Bags Agreement (see section 6.10)

6.4 GOVERNMENT AND STAKEHOLDERS' CONTINUED LOBBYING

Another campaign against the plastic shopping bag litter and waste emerged due to the need to have South African beaches attain the international Blue Flag status that officially started in 2001. Debates from the South African Government and stakeholders in the tourism industry were that plastic bags litter and waste make beaches unsightly and deter tourists, resulting in revenue loss (Sapa, 2000b).

The following information concerning the international Blue Flag was retrieved from various press statements appearing on the DEAT website <http://www.environment.gov.za/> and the Blue Flag Organisation: <http://www.blueflag.org/> as of 3 October 2004. The Blue Flag campaign is accepted as an exclusive eco-label awarded to more than 2900 beaches and marinas in 24 countries across Europe and South Africa in 2004. The campaign is administered by the Foundation for Environmental Education in Copenhagen, Denmark and South African became the first country outside Europe to be awarded the official Blue Flag status and the 25th country globally allowed to award coastal local authorities with the Blue Flag.

The Blue Flag is valid for a year and is awarded to beaches that meet excellence in the areas of safety, amenities, cleanliness and environmental standards. Its criteria cover four aspects of coastal management among them: water quality; environmental education and information; environmental management; and safety and services. The campaign also has a strong focus on environmental education that strives to inform the public, decision makers and tourist operators. As a non-profit national NGO, and in line with the Foundation for Environmental Education, the Wildlife and Environment Society of South Africa was selected as the awarding partner of the official Blue Flag status in the country.

Addressing Parliamentarians on the National Marine Day on 18 October 2001, the Deputy Minister of Environmental Affairs and Tourism hailed the link between the Polokwane Declaration and the Blue Flag in cleaning up South Africa of its waste. Up to 27 beaches have qualified for the Blue Flag since its launch in 2001 in South Africa. Of these, 14 are in the Kwazulu-Natal Province, eight from the Western Cape and the remainder are from the Eastern Cape Province.

6.5 NOVEMBER 2001 PLASTIC BAGS REGULATIONS

As the interested and affected parties continued dialoguing between May 2000 and October 2001, a new set of the Plastic Bags Regulations was drafted and circulated internally by the

Department of Environmental Affairs and Tourism on 22 November 2001 (appendix 6.2). The regulations were supposed to have addressed a number of concerns raised in the 99 submissions. Two new sections were slotted in: one dealing with the prohibition of certain plastics, and the other dealing with administration of the regulations. Under Section 2 of the May 2001 regulations, the manufacturing, trade, and commercial distribution of plastic bags with wall thickness less than 80 microns was prohibited. In addition, a tolerance of 10% microns variation in the measurement of the minimum thickness was permitted.

The section dealing with offences and penalties was amended and the R10,000 fine on first conviction removed. However, a fine of R250 or imprisonment for a period not more than 20 days was included. The full details of the offences and penalties as provided under Section 4, thus, read:

Any person who contravenes any provision of these regulations shall be guilty of an offence and liable on conviction to a fine not exceeding R100,000 or to imprisonment for a period not exceeding 10 years, or to both such fine and such imprisonment, and to a fine not exceeding three times the commercial value of any thing in respect of which the offence was committed, and, in the event of a continuing contravention, to a fine not exceeding R250 or to imprisonment for a period of not exceeding 20 days or to both such fine and such imprisonment in respect of every day on which such contravention continues.

What emerges from these transit regulations is that the R100,000 was now applicable to even first time offenders. This implied that this set of regulations were even harsher than the May 2000 version that stipulated R10,000 as fine for first time offenders. As such, industry and retailers continued lobbying strongly against this fine (PCSA, 2003) and other provisions they thought were not fair in their eyes (see section 6.7 below).

6.6 FINALISED REGULATIONS OF MAY 2002

Following Nedlac's report and two years of negotiations that were now pitching organised labour and organised industry against the government, the draft Regulations were then amended and passed into law as they appeared in the Government Gazette of 9 May 2002 (RSA, 2002). The full provisions from the three-paged regulations are included under appendix 6.3.

As for the definitions section, the term 'distribute' was replaced by 'commercial distribution', which was substituted for 'trading'. The definition for 'plastic bag' was expanded to include: (a) a plastic carrier bag with handles which is designed for the general purpose of carrying goods purchased by consumers; (b) a plastic flat bag constructed with no gussets or handles which is

designed for the general purpose of carrying goods purchased by consumers; and (c) a plastic refuse bag which is designed for the general purpose of carrying waste. Furthermore, a new definition for 'plastic bread wrapping' was included, which meant: (a) a flimsy bread bag with a wall thickness between 5 and 10 micros, which is designed for the purpose of packaging bread; (b) a shrinklene bread bag with a width of 500 millimetres and a wall thickness between 8 to 12 micros, which is designed for the purpose of packaging bread; and (c) a bread bag, which is wicketed, with a wall thickness between 25 and 30 micros, which is designed for the purpose of packaging bread. Technical details of what constituted a 'plastic film' were also given. In addition, the definition for 'mark' was also included that meant "any symbol, sign, drawing, design, badge, emblem, representation, heading, name, word, signature, letter or numeral, or any combination of two or more thereof" (RSA, 2002: 1).

The provisions on offences and penalties remained the same as those covered under both the May 2000 and November 2001 sets of regulations. This final version of the regulations, which would have entered into force on 8 May 2003 was rejected once more by Organised Business and Organised Labour. As such, Organised Business and Organised Labour sought further dialogue with then Minister of Environmental Affairs and Tourism, including lobbying the Minister of Trade and Industry to intervene on their behalf. This resulted in ongoing tripartite negotiations between the two stakeholder actor-networks and Government. Organised Industry was represented by the Chemical and Allied Industries Association, PFSA, Plastics Recyclers Employers' Organisation and the Retailers Plastic Bag Working Group (represented by retail chains Pick 'n Pay (Pty) Ltd, Woolworth (Pty) Ltd, Clicks Stores and Shoprite-Checkers (Pty) Ltd). Cosatu and the National Council of Trade Unions represented Organised Labour.

6.7 RETAILERS' PERSPECTIVES ON MAY 2002 REGULATIONS

Two informal submissions in the form of letters directed to then Minister of Environmental Affairs and Tourism were retrieved one from Pick'n Pay and the other from Woolworths retail chains. The letters, dated 16 and 22 May 2002 respectively raised issues related to the amended Plastic Bags Regulations that were gazetted on 9 May 2002. Pick'n Pay is a food retail chain whilst Woolworths deals in clothing. From the letters, it was clear that both retail outlets had engaged Government to push for favourable amendments to the original regulations but with limited success as reflected in the finalised regulations of May 2002.

Commenting on the issue of the thickness of plastic shopping bags, the Pick'n Pay letter proposed that this be increased to a maximum of 24 microns and disputed the fact raised by the

regulations to have them between 30 microns and 80 microns as any increase above “24 to 30 microns” would be problematic and resulted in rendering the “bulk of the current modern equipment for bag manufacturing redundant”. The Minister was also attacked in the Woolworths letter. The group noted that the new regulations remained “highly inflationary” and would still result in major job losses. The letter also points to the same issue regarding the thickness of plastic shopping bags.

With regard to the plastic shopping bag charge, Pick’n Pay indicated that they were discussing the issue and hinted that from their original discussion with the Minister, he had “clearly” indicated that the Government’s position was that “consumers should pay for packaging in order to motivate re-use”. Pick’n Pay indicated that their preferred future was to have a partial recovery of the increased cost on the plastic shopping bag, an aspect that was not covered by the revised regulations. Once more, tension emerged here due to the fact that Government failed to address ‘expectations’ of retailers. Almost exactly the same sentiments were raised by the letter from Woolworths, which emphasised that the Minister indeed indicated that “customers SHOULD pay for their packaging ...”. Such ‘similar’ thinking shows how power is distributed among actors and within actor-networks, and how the formation of alliances strengthens and consolidates this power.

However, what is of critical importance in terms of tracing how tensions arise is the request from both letters for further dialogue with the Minister. The Chief Executive Officers concluded by requesting continued dialogue with Government. The concluding remarks from the Pick’n Pay letter read:

... we appeal to you for further dialogue in weeks ahead, as we certainly believe that with some significant, but minor, modification to the proposed legislation, that a win-win situation could be created for all, as judging by the public response, the legislation is indeed not a popular one and ultimately, we are there to serve the interests of all of our stakeholders.

And for Woolworths it portrayed almost the same message and read:

We do believe, Minister, that further dialogue is required between yourself and ourselves. We equally believe that whilst small gains may be made, still bigger ones could be achieved – to the benefit of all stakeholders. We would therefore appeal to you to not overlook our proposals, but to engage with us to achieve the same objectives together. After all, the very aspect of engagement and consultation is the very cornerstone of our young democracy.

The two paragraphs extracted from the letters raise key issues in terms of environmental policy making in South Africa and the overall framework informing this research, the AANT. Firstly, the similarity of the language used confirms that the letters talk with one voice and represent a much bigger actor/actant-network, thus, Organised Business. The letters also raise issues around the thickness of plastic shopping bags and yet these food and clothing retail outlets do not produce such plastic bags. Secondly, the letters talk of cooperative governance and the need for Government to engage more with the affected parties. Thirdly, the letters clearly show the preferred future from the retailers, thus, a focus on education and awareness raising plus a nominal charge on the plastic shopping bag. The letter from Pick'n Pay clearly indicated that there were other stakeholders that the Group served and these were the general public in the form of its customers. From the letter, the customers had indicated that they were not pleased with the idea of paying for a plastic shopping bag. This is an aspect that the Nedlac report overlooked as discussed under 6.2.3. As for the letter from Woolworths, another policy issue was raised that reminded the Minister of the Government's obligation to facilitate and operate in a democratic manner in debating the Plastic Bags Regulations.

6.8 ALTERNATIVE PROPOSAL FROM ORGANISED BUSINESS

As negotiations were taking place, in March 2002, Organised Business, represented by a new set of actors (the Plastic Federation of South Africa, Plastic Recycling Employers Organisation and the Chemical and Allied Industries Association) presented to government a business plan as an alternative proposal to manage plastic shopping bags litter and waste. The business plan was popularised as the e-Bag.

6.8.1 Debate prior to the finalisation of e-Bag initiative

Details presented below were gathered from an internal memo written as a response and contribution to ongoing debates surrounding the e-Bag initiative. The memo, dated 6 March 2002, was written by one of the three founder member organisations to the initiative and raised insights concerning both inter and intra-organisational issues pertaining to environmental policy making around the Plastic Bags Regulations. Such memos, according to Keeley and Scoones (2003) are critical as sources of raw data when applying the AANT enquiry framework. They reveal narratives cementing actor/actant-networks as well as how their mobilisation takes place. In fact, most of the aspects raised in the memo ended up being part of the finalised discussion document prepared by Organised Business for Government, which provided the bulk of information for the September 2002 Plastic Bag Agreement. Furthermore, it is when issues

raised in such memos fail to find a place in the actor/actant-network that actors and their actor-networks opt out of the initiatives proposed leading to the collapse of networks.

Commenting on plastic recovery from landfills and dumping sites, the memo indicated that this was a major source of material to the existing plastics recycling industry. As such, instead of discouraging it as was proposed in the Collect-A-Bag Initiative, this had to be controlled by the formulation of laid down procedures for the safe, hygienic and effective recovery of recyclable content. Turning to the actual amount of plastic shopping bags that were in circulation, the memo showed that a figure of 10% in the litter stream could be a great exaggeration. As such, the memo suggested a figure within the range “1 to a maximum of 3%”. The final statement from the Organised Business Initiative regarding percentage estimations read as follows, “It is estimated that currently about 3% of the total number of bags produced (about 240 million bags) find their way into the litter stream and 1% are recycled. The balance of the bags are disposed to landfill”. This might have been some kind of downplaying of the extent of the plastic shopping bags finding their way into the environment. This is an example of *black-boxing* discussed in section 3.3. It is hard to accept that only 240 million out of about 8 billion plastic shopping bags circulated annually in the country could cause the kind of problem recorded by Government in 1999. Therefore, industry could have been trying to cover-up the controversies surrounding the extent to which plastic shopping bags litter and waste were perceived an environmental problem.

Under the section dealing with ‘Litter Prevention Strategy’ the memo commented that the emphasis had to be placed on value for segregated waste. In this regard, collectors had to be stimulated to collect all litter with a ready market for the plastic content. The memo also emphasised that the “value paid for the plastic content must never be more than the reigning market price for the particular plastic recovered”. This point was taken on board in the final version of the Organised Business Initiative as the value for a tonne of new plastic shopping bags was set at the upper scale of market prices. Furthermore, subsidies were discouraged and these were only to be used for underwriting unrecyclable plastic, transport from remote areas as well as baling and stockpiling of plastic. The development of new recycling processes for previously unrecyclable material was to be encouraged through the use of a grant system. This aspect too was not picked up in the final document.

6.8.2 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, as well as making provision for the collection of litter from environmentally

sensitive areas. Such sensitive areas were identified as rural areas, tourist areas and high density, low socio-economic urban areas. 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 along the lines of the Irish experience to stimulate the collection and recycling of plastic shopping bags (refer to 4.1.2.1). 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 existing infrastructure of informal collectors and entrepreneurs that was collecting about 133,000 tonnes of plastic materials was to be used to collect the new shopping plastic bags. Where synergies existed with other initiatives, such as community based and school collection systems, as well as other recycling programmes like Collect-A-Can, these will be used to supplement the collection process. Funding of the initiative was to be done through the imposition of a levy to ensure that a monetary value is given to the plastic shopping bag. An ongoing education and awareness raising programme was proposed to address problems associated with litter, promote environmental responsibility and encourage the recycling of the plastic shopping bags.

The objectives of the Section 21 Company were outlined and these included among them the need to (PFSA et al., 2002):

1. promote efficiency in the use, re-use, collection, recycling and disposal of plastic shopping bags,
2. collate information on other plastic shopping bag recycling related information,
3. receive a statutory levy from all plastic shopping bag manufacturers and importers who were required to register with the South African Revenue Service (SARS), as well as administer the funds and voluntary contributions paid to the company by producers or Government,
4. follow appropriate international trends in the enhanced recycling of plastic shopping bags and apply them in South Africa as appropriate,
5. explore opportunities for entering into partnerships with civil society organisations,

6. investigate and make recommendations to Government in respect of the development of new markets for recycled material,
7. ensure that collection points are established within easy walking distance of all major settlements, and to this end explore the possibility of co-operation with retailers and local governments,
8. stimulate participation in education campaigns and recycling by small-scale and micro entrepreneurs and by organisations of civil society,
9. support government in the removal of plastic shopping bags litter from environmentally sensitive areas and hot spots as well as ensure best-practice in recycling through educational work and technical support,
10. investigate mechanisms to ensure participation in the company by all entities in the plastic shopping bag value chain and support the 'Proudly South African' campaign, and
11. pursue each and all of the aforementioned objects in a manner that demonstrates the members' commitment to sustainable development.

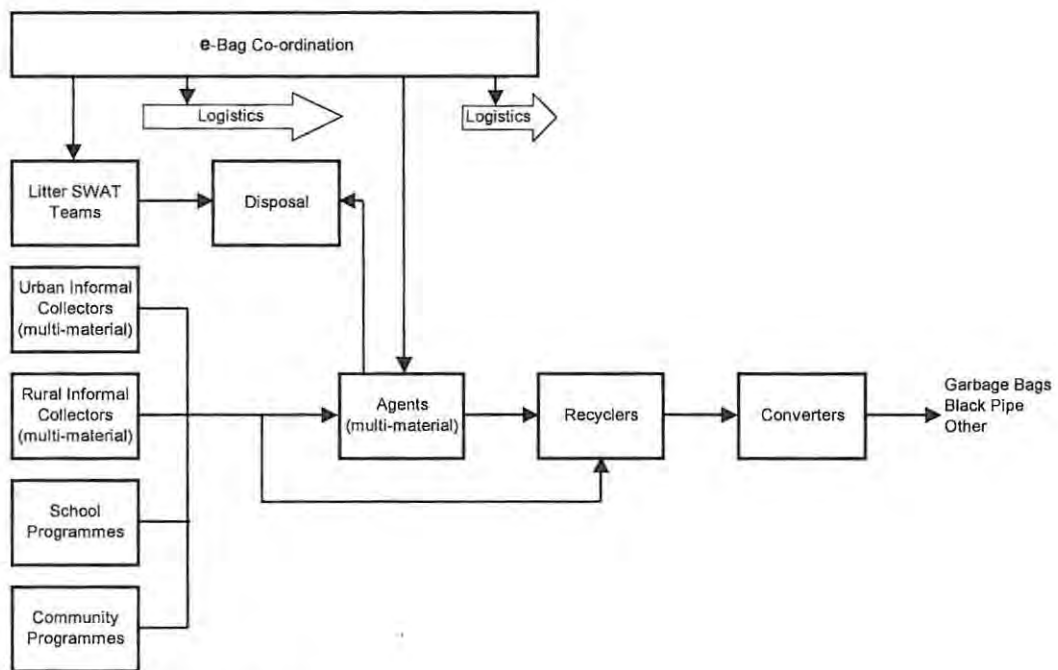
The concept of promoting the 'Proudly South African' campaign emerged during one of the interviews granted by the Director of Waste Management for DEAT (Interview T20, 2004-03-11). From the Government's perspective, this meant that South African companies producing plastic shopping bags or seeking alternatives had to do so from within and not outside. Such an initiative would seek to promote job creation as well as prevent their loss. From the interview, this aspect was not adhered to at all as the country became flooded with imported alternative carry facilities that caused significant job losses in the plastic shopping bags manufacturing industry. Tensions emerging from the possibility of importing alternative carry facilities were also highlighted in the Business Report of 6 June 2003. Pick'n Pay, the one of the leading grocery retail chain had contracted an Irish and Chinese company to supply the so-called Green Bag (Smith, 2003a). From the report, as member of the Proudly South African campaign, Pick'n Pay should not have entered into such an agreement. Smith (*ibid*) reported Pick'n Pay saying it had ordered up to 7 million Green Bags within a month to meet the demand. Debates and responses following this initiative are discussed further under section 7.3.2.

6.8.3 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 in the affected areas (figure 6.2). In addition, Regional Development Officers were proposed whose mandate was to establish and manage Litter SWAT Teams, as well as co-ordinate school and community activities. In this respect, about thirty-six fulltime posts were envisaged in addition to between 2,000 to 4,000 temporary jobs.

Informal collectors from both the urban and rural set-ups were targeted as the primary starting point to enhance collection in the e-Bag Initiative and these were to be assisted by collections from schools and the communities. The collectors were free to collect all packaging material including plastic shopping bags, paper and cardboard as well as used beverage cans that would be sent to collecting agents. The agents 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 6.2: Plastic bags and other materials collection strategy



Source: Supplied by PFSA, 2003

Non-recyclable products would be disposed of in a sustainable and environmentally friendly manner with alternative applications for the material that cannot be recycled having to be investigated further in the future. The market price for recovered plastic shopping bag could not be fully established due to limited demand. However, prices were said to be between R800 to R1,400 per tonne. As such, Organised Business agreed that in order to recover about 5% of the plastic shopping bags, a price of R1,400 per tonne matched those prevailing for other plastics on the market.

The existing plastic shopping bag litter problem was recognised and a number of hot spots were identified as requiring urgent clean ups. Some of the deep rural areas identified included Transkei in the East Cape Province, Kwazulu-Natal, North West and Limpopo Provinces. Tourist areas that needed urgent clean ups included airports and roads to airports, game and nature reserves, rail links, key access roads, beaches and waterways. Informal settlements were also identified as requiring urgent attention.

6.8.4 Implementation

The performance of the Section 21 Company would be monitored and reported to the Minister of Environmental Affairs and Tourism on a quarterly basis. 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., 2002). After this, a database would be developed. Furthermore, polymer manufacturers and importers and plastic shopping bag manufacturers and importers were supposed to provide specific information to e-Bag South Africa on a quarterly basis (*ibid*). 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. The proposed strategy is along the lines of Australia's National Environment (Used Packaging) Measure discussed under section 4.3.2.

At the other end, plastic shopping bag manufacturers were supposed to report on a monthly basis to e-Bag South Africa on 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 Government 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. The data sets were to be used to set targets for the following year. Should compliance with the agreed e-Bag Initiative objectives not be met, a programme of corrective action will be implemented to ensure compliance with the agreed objectives. Independent third party auditors were to be appointed to audit the information reported. The projected situation concerning plastic shopping bags recycling after a year is shown in table 6.2.

Table 6.2: Projected recycling targets 2002-2003

| <i>Stream</i> | <i>March 2002</i> | | <i>March 2003</i> | |
|---------------|-----------------------|---------------|-----------------------|---------------|
| | <i>(tonnes/annum)</i> | <i>% bags</i> | <i>(tonnes/annum)</i> | <i>% bags</i> |
| Litter | 1,260 | 3 | 504 | 1.5 |
| Waste | 40,320 | 96 | 31,920 | 95 |
| Recycle | 420 | 1 | 1,176 | 3.5 |
| Total | 42,000 | 100 | 33,600 | 100 |

Source: Supplied by PFSA, 2003

Table 6.2 shows that about 3% of the total number of plastic shopping bags produced (about 240 million bags) found their way into the litter stream and only 1% was recycled, with the balance going to the landfill. 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. Organised Business assumed a worst-case scenario of a 40% drop in the number of plastic shopping bags demand. The expected expenditure for the first year, during which 3.5% of the plastic shopping bags will be recovered included cost of collection, salaries, education projects, hot spot clean ups, schools clean up projects, community projects, public awareness and advertising, development and implementation of a database, disposal and capital.

6.8.5 Cost-benefit analysis of the e-Bag Initiative

Organised Business presented a detailed cost-benefit analysis of the potential of the e-Bag Initiative and the proposed May 2000 Plastic Bag Regulations. The cost-benefit analysis focused on the three pillars associated with sustainable development and this meant addressing the economic, social and environmental (ecological) dimensions related to the two sets of suggestions towards eliminating plastic shopping bags litter and waste in the country. Details are presented in table 6.3. In concluding, Organised Business indicated that the basis of the e-Bag Initiative was the 2000 White Paper on Integrated Pollution and Waste Management for South Africa. It also indicated that the e-Bag Initiative was in harmony with trends in Europe, more specifically, Ireland that had recorded a success story in addressing the plastic shopping bags litter and waste. Reference to Europe and the Irish experience shows how the overall data generation and analysis framework, the AANT reveals how spatial boundaries (between the local/national and global) are collapsed in environmental policy processes. As for the South

African context, the status of plastic recycling as surveyed by the Plastic Federation of South Africa in 2001 was presented. Details of the survey were presented earlier under section 1.7.

Table 6.3: Environmental benefits of proposed regulations versus e-Bag Initiative

| <i>Government Policy Goals</i> | <i>Proposed Regulations</i> | <i>The e-Bag Initiative</i> |
|---|--|--|
| Clean up South Africa of litter and plastic waste | Single rigid approach and unlikely to achieve the goal | Holistic, flexible approach and more likely to achieve the goal |
| Establish partnerships with business and labour | No partnership potential | Based on partnership approach with a number of sectors |
| <i>Economic benefits</i> | | |
| Promote sustainable industrial development | Polymer and plastic bag producers negatively impacted | Significantly lower cost will not cause plants to close down |
| Promote economic growth | Existing industry negatively affected | Potential to promote recycling whilst existing plastics industry remains visible |
| Create employment | Significant job loss | More jobs likely to be created |
| Stimulate investment | Current capital investment rendered redundant | New investment in recycling plants and collection infrastructure |
| Promote tourism | Tourist areas not specifically addressed | Specific clean ups of sensitive areas |
| Control inflation | Significant negative impact on inflation target | Minimal inflationary impact |
| <i>Social benefits</i> | | |
| Improve public awareness of environmental impact | Thicker bags alone might not necessarily increase awareness | Payment by consumers for bags will result in a mindset change |
| <i>Environmental benefits</i> | | |
| Increase information on recycling | No effect | Data will be collected and reported to government regularly |
| Promote public awareness around recycling | No effect | Schools and communities form an integral part of the scheme |
| Subsidise collection to make it viable | Thicker bags may lead to more recycling | Collection of bags will be promoted by subsidising payment as necessary |
| Remove plastic litter from the environment | Regulations alone will not improve existing litter situation | Plastic litter will be physically removed from the environment |

Source: Compiled from PFSA, PREO & CAIA, 2003

6.9 LABOUR'S PERSPECTIVES ON THE MAY 2002 REGULATIONS

The aspects raised by the Nedlac 2001 report, according to Cosatu were not adequately addressed in the finalised Plastic Bags Regulations of May 2002. As such, representing the Chemical, Energy, Paper, Printing, Wood and Allied Workers' Union, South African Chemical Workers' Union and the South African Commercial, Catering and Allied Workers' Union, Cosatu issued a notice of intention to strike through Nedlac on 17 July 2002. The reason for the proposed protest action was that there would be job losses and that this would impact more

widely on the dependents of workers. Cosatu also argued that retailers would pass the higher costs of thicker plastic shopping bags onto consumers. As of August 2004, the labour movement had 21 trade union affiliates with a membership of just over 1.8 million workers (Cosatu, 2004). Cosatu indicated that there would be massive job losses, running into thousands from the materials and production companies as well as the packers from retailers. It suggested that municipal services deliveries be improved, including the collection of plastic shopping bags.

Cosatu's notice proposed what it felt would be a sustainable thickness of plastic shopping bags and the need to put in place measures aimed at saving jobs. Part of the notice read,

The unions propose rather that the minimum thickness for vest type carrier bags should be set at no more than 24 microns, ... which the local industry could produce without changing their machinery. In order to ensure that local producers of 24 microns bags are not undermined by imports of thinner bags, the unions propose that Government must ensure that customs and excise is given sufficient capacity and resources to monitor imports.

The above text captures some of the proposals put forward by Organised Business in their March 2002 discussion document (see section 6.8). This shows how a new but informal actor/actant-network had emerged between Organised Business and Organised Labour to lobby Government against the finalised Plastic Bags Regulations. The narrative around threatened jobs cemented the relationship between the two actor-networks, indicating a strong point of coherence in these two actor-networks. A follow-up on the outcomes of the 17 July 2002 notice from Nedlac on 1st October 2003 through email revealed that three meetings had taken place intended to address the issue raised by Cosatu but with limited success. Discussions were said to have been "continuing on a political level". The major concerned stakeholders, Government, Organised Business and Organised Labour had failed to reach consensus. As such another meeting was scheduled after 19 September 2002 and resulted in the Plastic Bag Agreement between Government and the two lobbying parties, which it called Social Partners. The Plastic Bag Agreement is discussed fully in the following section.

6.10 PLASTIC BAG AGREEMENT

In September 2002 the Government entered into a Memorandum of Agreement with what it referred to as Social Partners that were represented by 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 Memorandum of Agreement was published by the Department of Environmental Affairs and Tourism as the Plastic Bag Agreement (DEAT, 2002b), hence continued reference to the Memorandum of Agreement either as the Plastic Bag Agreement or the Agreement.

The Government and its Social Partners (Organised Business and Organised Labour) literally adopted the Organised Business e-Bag proposal and agreed upon the following concerning the amendments to the 2002 Plastic Bag Regulations (DEAT, 2002b):

- *Minimum thickness of the plastic bag:* This was set at 30 microns, with a 20% tolerance until 9 May 2008.
- *Disclosure and transparency of cost at checkout points:* Customers were supposed to be made aware of the cost associated with the new plastic bags before purchase. In addition, retailers were to reduce commodity prices accordingly.
- *Printing on plastic bags:* The thickness, ink type and extent of printing were to be set by Standards South Africa (then South African Bureau of Standards). Printing would 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:* DEAT in consultation with the Department of Trade and Industry were to develop standards regarding minimum percentage recycle content of the plastic shopping bags.
- *Creation of a Non-profit (Section 21) Company:* Buyisa-e-Bag South Africa was to be created to promote re-use and recycling of plastic bags, particularly by small to medium scale enterprises and civil society.
- *Promotion of job creation:* The manufacturers, recyclers and retailers committed themselves not to retrench workers up until 9 May 2008. Furthermore, Buyisa-e-Bag South Africa was envisaged to create between 180 and 220 direct permanent jobs and between 2,000 and 4,000 more jobs created through the extension of recycling.
- *Mandatory levy:* Plastics converters were to pay the levy and recover the cost by invoicing the next packaging chain.
- *Prevention of illegal imports:* DEAT and the Department of Trade and Industry were to work together to develop a new legislation to ensure that local and imported plastic bags comply with the regulations.
- *Enforcement date:* Set for 9 May 2003.

The Plastic Bag Task Team (Task Team) was to put in place the necessary actions to give effect to the Agreement, especially the creation of between 180 to 220 permanent jobs from Buyisa-e-Bag South Africa. The Task Team would also oversee the optimal utilisation of deploying the plastic shopping bag levies and other resources. The Task Team was also given the mandate to develop draft articles of association for Buyisa-e-Bag and a draft memorandum of understanding between the Company and DEAT. Furthermore, the Task Team would develop a detailed proposal for legislative amendments to ensure equal treatment for domestically produced and imported plastic shopping bags in consultation with the Department of Trade and Industry as

well as the South African Revenue Services. Where necessary, the Task Team could establish sub-committees to undertake specific deliverables associated with the implementation of the Agreement. Buyisa-e-Bag's scope was adopted as presented earlier under section 6.8.2. In terms of legislation, DEAT, in collaboration with other government departments was tasked to promulgate new regulations or amend the Plastic Bags Regulations of May 2002 as appropriate. In doing so, DEAT would consult with the parties to the Agreement and other relevant stakeholders. This was to be undertaken by a Technical Subcommittee established under the auspices of the Department of Trade and Industry to work with Standards South Africa and develop compulsory specifications to give effect to the Agreement. The subcommittee would comprise representatives of all parties that were signatory to the Agreement.

6.11 MAY 2002 REGULATIONS REPEALED

The Plastic Bag Agreement formalised the rejection of the May 2002 Plastic Bags Regulations and these were repealed when the new-look Plastic Carry Bags and Plastic Flat Bags Regulations were passed into law in the gazette of 9 May 2003. This is the same day the new regulations entered into force. There were two noticeable revisions in the new regulations: specification of wall thickness; and fines against offenders. The wall thickness was set at 24 microns minimum. In terms of fines and offences, the repealed May 2002 Plastic Bags Regulations stipulated that:

- (1) Any person who contravened the regulation was liable on conviction:
 - (a) to a fine not exceeding R100 000; or
 - (b) to imprisonment for a period not exceeding 10 years; or
 - (c) to both such a fine and such imprisonment; and
 - (d) to a fine not exceeding three times the commercial value of any thing in respect of which the offence was committed.

On amendment, the watered down regulations removed the R100,000 fine and the new section on offences and penalties stipulated that:

- (1) Any person who contravened the regulations was liable on conviction-
 - (a) to a fine; or
 - (b) to imprisonment for a period not exceeding 10 years; or
 - (c) to both such a fine and such imprisonment; and
 - (d) to a fine not exceeding three times the commercial value of anything in respect of which the offence was committed.
- (2) Any person convicted of an offence, and who after such conviction persists in the act or omission, which constituted such offence, would be liable to a fine not exceeding R250 or to imprisonment for a period not exceeding 20 days or to both such fine and such imprisonment in respect of every day on which such offence continues.

The other change was the complete renaming of the Plastic Bags Regulations to Plastic Carrier Bags and Plastics Flat Bags Regulations. In addition, one new definition emerged and this dealt with 'compulsory specifications'. *Compulsory Specification* meant the Compulsory Specification for Plastic Carrier Bags and Flat Bags published in terms of the Standards Act, 1993 (Act No 29 of 1993) that was published on 17 April 2003 by the Department of Trade and Industry. This effectively separated the May 2002 regulations into two as per the provisions of the September 2002 Plastic Bags Agreement. This drastic change clearly shows how powerful economic and social interests shaped environmental policy processes during the Plastic Bags Regulations. A complete about turn and total repulsion of some kind of a 'draconian law' in the eyes of industry and labour was the ultimate outcome.

Another interesting input concerns observations made in an earlier draft of the May 2003 regulations. The draft version indicated that there was contemplation on addressing the issues of bin liners. The following statement appeared as earmarked for deletion in one of the drafts dated 24 February 2003, "~~"bin liner" means a plastic bag manufactured for the use of collecting refuse and is placed inside a refuse bin; —~~". Details of the person editing the regulations as indicated in the electronic version confirmed the name of the specialist as one from the University of Cape Town who appeared regularly as part of the drafting teams of most environmental policy documents done by Government through DEAT. This once more proves how much power and influence specialists have in environmental policy making not only in Ireland as revealed in section 4.2 but also in South Africa. In fact, the suggested change to remove the editorial input was accepted and did not appear anywhere in the finalised May 2003 regulations.

6.12 THE CONSULTATION PROCESS

All the companies (appendix 3.2) interviewed by telephone indicated that they were not consulted during the formulation of the original Plastic Bags Regulations that appeared in the Government Gazette of 19 May 2000. However, companies admitted that they were later involved in the process "although the consultation process was not done in an open environment", reflected one respondent (Interview T27, 2004-02-26). As such, the consultative process was judged unsatisfactory. All the local authorities (appendix 3.2), NGOs and CBOs that were consulted during the research, echoed the same sentiments.

6.13 SUMMARY OF TENSIONS, DEBATES AND RESPONSES

The main tension that emerged during the formulation phase of the Plastic Bags Regulations was on how best the problem of plastic shopping bags litter and waste could be addressed. Government and NGO representatives favoured the command-and-control approach that was put on the table, whilst industry (producers and retailers alike) and labour preferred self-regulation. One of the key debates revolved around increasing activities aimed at education and awareness raising, which industry and its allies supported. Debates also centred on job and equipment loss although only small producers acknowledged that they would be hit hard in their businesses. Industry also highlighted that it was already 'doing something' about plastic waste as reflected by the Plastics Environmark initiative that had witnessed up to 70 new jobs created with a series of recycling Green Cages dotted throughout the country. As such, industry argued that it was well ahead of the proposed Government regulations. Further debates emerged on the legality of the proposed regulations as industry felt that Government had no mandate to promulgate the regulations. Industry also indicated that if the regulations were to be passed, Government had to put in place long-term measures to protect it from cheap imports. Linked to this debate was the aspect of imported alternative carry facilities and the need to stick to the promotion of the Proudly South African campaign.

Debates also emerged about the need to place recycling value on the plastic shopping bag. To this end, industry proposed to increase the wall thickness of plastic shopping bags from an average of 15 microns to 22 microns. A proposal to have a non-profit company and impose a plastic bag levy to be collected at the point of sale was also made. Industry also raised points to the effect that the South African plastic shopping bags manufacturing sector was bigger and more mature compared to others such as those from Ireland where a similar regulation was put in place. Up to 52 companies, employing more than 4,000 people were involved in manufacturing plastic shopping bags. On the other side, retailers raised concerns on possibilities of increased overheads that would burden consumers as such overhead costs which would be passed on to them. Industry also proposed that a comprehensive, rather than a waste product-centred approach to managing waste be adopted and the informal sector was singled out as contributing significantly to the plastic shopping bags litter and waste management problem in the country. As such, Government had to find a way of policing it. Industry felt Government had not consulted widely with it and needed time to deliberate on the proposed regulations. Lastly, it emerged that some actor-networks, particularly Organised Labour dominated the proceedings whilst others involving consumers were excluded.

From its side, Government indicated that the proposed regulations would not result in excessive job losses as industry claimed. In addition, new jobs were to be created within alternative carry facility production sectors. Government also argued that the demand for plastic shopping bags would not be reduced, as this was static. The issue of biodegradable plastic shopping bags was also deliberated upon and thrown out as (1) it would promote a throw-away culture and (2) industry was not ready to take it on board as it felt it was an expensive alternative. It also emerged that the problem of plastic shopping bags litter and waste management was not unique to South Africa as Australia was also battling with ways on how best to address it. Lastly, the need to place South Africa on the international tourism map surfaced with the Blue Flag campaign having adopted for the first time in Africa, only in South Africa.

The result of these tensions and debates was an extended deadlock between the actor/actant-networks. This led to a response where the proposed regulations being referred to Nedlac for arbitration by the Parliamentary Portfolio Committee on Environmental Affairs and Tourism. It also led to strengthened alliances between Organised Business and Organised Labour actor-networks. The ultimate was the amendment of the May 2000 Plastic Bags Regulations in May 2002 and their subsequent repulsion through the Plastic Bags Agreement in September 2002. The Plastic Bag Agreement paved way for the May 2003 Plastic Bags Regulations as well as the June 2003 Compulsory Specifications.

6.14 CONCLUSION

This chapter 'followed-up' (through using AANT as a 'network-tracing' activity') the tensions, debates and responses surrounding the formulation phase of the Plastic Bags Regulations. This was undertaken through observing the circulation of the quasi-object, the Plastic Bags Regulation (as focal actant). The tensions were addressed as they emerged from the submissions made by key actors and actor/actant-networks that included industry, labour, non-governmental organisations and selected individuals following the promulgation of the May 2000 Plastic Bags Regulations. The submissions revealed that threats to labour, equipment and business became the core issues that the policy process needed to address. As such, education and awareness raising stood out as preferred future options. Organised Business presented an alternative plan to managing plastic shopping bags litter and waste that would utilise Buyisa-e-Bag South Africa, a non-profit Section 21 Company. In May 2002, the regulations were finalised and passed into law. However, these did not address most of the fears raised by the submissions and the subsequent arbitration presented through the National Economic and Development Labour Council. As such, retailers led by Pick'n Pay and Woolworths wrote quasi-submissions in the

form of letters addressed to then Minister of Environment and Tourism to express their reservations on the finalised regulations. At the same time, Organised Business and Organised Labour sought further audience with Government and this resulted in the signing of the Plastic Bag Agreement in September 2002. The Agreement effectively repealed the May 2002 Plastic Bags Regulations and also marked the formal acceptance by Government of the e-Bag Initiative proposed by Organised Business. The consultation process was limited to Government and its two Social Partners represented by Organised Business and Organised Labour, a process that disempowered many others including consumers, NGOs, CBOs and local authorities. Overall, the entire policy process was dominated by key economic and social interests from Organised Business and Organised Labour actors and their actor/actant-networks, which in most cases were channelled through the Plastics Federation of South Africa as spokes organisation.

The following chapter focuses on environmental policy processes around the implementation phase of the Plastic Bags Regulations. Once more, the narratives are developed using AANT as a 'net-work-tracing activity' (see section 3.3.1) to identify the tensions, debates and responses during this phase. Again, the Plastic Bag Regulations are taken as the token (quasi-object) of data presentation and analysis process.

CHAPTER SEVEN

ENVIRONMENTAL POLICY PROCESSES DURING THE IMPLEMENTATION PHASE OF THE PLASTIC BAGS REGULATIONS

7.0 INTRODUCTION

Environmental policy processes during implementation phases are usually dominated by evaluating policy outputs and outcomes. However, to gain insight into these processes, in line with the AANT enquiry framework this chapter documents the tensions, debates and responses emerging from the implementation phase as informed by the previous chapter. Both the intended and unintended outputs and outcomes were traced, and were characterised by friction, emergency policy instrument declarations and amendments of certain pieces of legislation to align them with the unintended outcomes and concessions that were made between key interests and affected parties. The chapter is organised around key actants, actors and actor/actant-networks that include among them: the repealed May 2002 Plastic Bag Regulations, September 2002 Plastic Bag Agreement, Government (through DEAT), Organised Business, Organised Labour, the media, NGOs, CBOs, the public, May 2003 Bags Regulations, the June 2003 Compulsory Specifications standard as well as amendments to the 1989 Environmental Conservation Act, the 1998 National Environmental Management Act and the Revenue Laws amendment Act of 2002. Of significance was continued lobbying by the media, industry, retail chains and the local authorities as well as the surfacing of unanticipated outcomes such as a refusal to charge for the new plastic shopping bags, job losses due to reduced demand of plastic shopping bags and the delayed establishment of the Buyisa-e-Bag South Africa Section 21 Company. The media reached its peak reporting with up to 251 articles on plastic shopping bags litter and waste having been retrieved for 2003 compared to about 63 recorded in 2004 as the second highest figure and only one article reported in 1997 (see graph 3.1 section 3.5.3). These and other details are discussed in depth under various sections.

On 10 April 2003, a press release from DEAT (<http://www.environment.gov.za/>, 23 April 2003) cited then Minister for Environmental Affairs and Tourism saying the Plastic Bags Regulations should have 'win-win' outcomes. In the Minister's view, the regulations were a win-win situation because government won by ensuring the protection of the environment and industry won by pledging to engage in environmentally responsible operations. On the other hand, labour won in that jobs in the plastic bag industry were to be retained and more created through increased recycling. Consumers were also winners because food prices were to be reduced and

they had a choice to re-use plastic bags and to hand them in at various collection points. This was an aspect that would return money back into consumers' pockets (*ibid*). Was the 'win-win' situation realised? This chapter addresses this question in some detail through continued network-tracing as it describes further processes drawing from AANT's moments of translation (see section 3.3.1) with the Plastic Bags Regulations as focal actant (see section 3.1).

7.1 CONTINUED LOBBYING

As the new regulations were being enforced, lobbying continued both for and against their implementation from both national and international perspectives. Some of the organisations lobbying against included South Africa's Plastics Converters Association and retailers. Organised business and Organised Labour as well as retail group Pick'n Pay lobbied strongly against the Plastic Bags Regulations. However, government, local authorities and selected media houses, particularly the Business Report lobbied for the regulations. Networks also emerged pertaining to alternative carry facilities such as the Green Bag and biodegradable plastic bag with government opposing the initiative.

7.1.1 International-local plastic shopping bags lobby actor/actant-networks

On 29 May 2003, the website for a United Kingdom (UK) based Packaging and Industrial Films Association (PIFA) carried a press statement from a group calling itself the global Carrier Bag Consortium. The group hosted two representatives from the Plastics Converters Association of South Africa whose mission was reported as "to develop, in conjunction with stakeholders, a viable, socially and environmentally responsible plastics converting industry" in South Africa (<http://www.pifa.co.uk>, 15 August 2004). The visit was reported as part of a UK fact-finding tour aimed at sharing knowledge and experiences of contemporary developments in products, processes and politics that mutually affect plastics businesses in both countries (*ibid*).

In welcoming the South Africa delegate, the Chief Executive of the PIFA indicated that the plastics industry in South Africa was facing similar problems as those from the UK "including the imposition of a wholly unjustified tax on plastic bags" (<http://www.pifa.co.uk>, 15 August 2004). He went on and indicated that whilst their industry supported soundly-based environmental change, there was,

No doubt that the idea of a tax on plastic bags is being promoted by well-meaning, but misinformed environmental groups in many parts of the globe. But such taxes, like the one recently introduced in the Republic of Ireland, have no significant benefits to the

environment and only serve to encourage less environmentally acceptable alternatives (*ibid*).

This message was similar to the one the South African representatives were to take back home. The Carrier Bag Consortium outlined its mission as to “campaign to stave off the threat of a plastic bag tax in the UK” (<http://www.pifa.co.uk>, 15 August 2004). However, following its work with the Carrier Bag Consortium, the PIFA indicated that it had suddenly found itself at the “centre of the global debate on plastic bag taxes” (*ibid*) and claimed that it was now receiving daily requests for information from across Europe and as far apart as Australia and the USA. The Packaging and Industrial Films Association also claimed that it had been invited to present a keynote speech on environmental issues associated with plastic shopping bags to delegates from 12 countries attending the 13th Asian Plastics Forum in New Delhi, India. The scenarios presented here sum up the tensions surrounding the plastic bag debate both locally and internationally. The reaction, and use of strong words such as ‘unjustified’, ‘misinformed’ and ‘no significant benefits’ tell a story behind the story of taxes, thus, the loss of business. There would probably be no such ‘noise’ and networking if business could still thrive against the taxes.

7.1.2 Local retail chain groupings

Pick’n Pay is the largest and most powerful of the food retailers that critically engaged Government throughout the policy process associated with the Plastic Bags Regulations. From a statement posted on 16 April 2003 on its website (<http://www.mypnp.com/>, 20 April 2003), the group revealed that it had fought Government to avoid customers being charged the proposed R1 per plastic shopping bag at some stage during the policy process. Part of the statement from its Chief Executive Officer read:

We fought the original proposals put forward by government on the basis that we believe that education, not legislation, would help achieve the same objective – an improvement to our environment. Had we not taken our strong cost-related view to government, consumers would be paying over R1.00 a bag rather than the 40 cents (without VAT) ... While the new legislation is a compromise, we still believe it is an unnecessary cost to the consumer, when good, solid and co-operative communication and education would have served the same purpose. We are still determined to convince government to zero-rate the new bags (*ibid*).

A closer look at the quote above shows implies that Pick’n Pay was identifying itself more with the consumer rather than the Government. This is an orientation that links well into the group’s established advertising motto, *We are on your side*. Once more Pick’n Pay re-emphasises the aspect of education (as opposed to command-and-control legislation) as the ultimate solution to

the problems associated with plastic shopping bags litter and waste. This is an aspect that was discussed in much depth under 6.2. Pick'n Pay's position also reveals that the group had not fully accepted the new law and still believed it was a 'compromise'. Such narratives surface as the 'black boxes' rapture. Also revealed from this narrative is the manner in which the 40 cents per plastic bag was reached.

7.1.3 Local authorities

The City of Cape town estimated that four million pieces of litter were dumped in and around the city daily and half of them were plastic (Interview FF22, 2004-03-15). The respondent, one of the directors in the Solid Waste Management Branch, concurred that the Plastic Bags Regulations were a bold initiative in line with international best practice. Between R168 million and R184 million was used up each year to clean up such waste and up to 238 kg of plastic shopping bags were reported to find their way into storm water drains each day resulting in environmental damage as well (*ibid*). The Nelson Mandela Metro's top management reiterated similar sentiments (Interview FF18, 2004-02-12; Interview FF19, 2004-02-12; Interview FF20, 2004-02-12) as all the three respondents indicated that the Plastic Bags Regulations were working. Some of the indicators that emerged from the interviews were that there were less plastic bags trapped by screens along storm water drains (Interview FF19, 2004-02-12), less plastic shopping bags litter, especially in the townships (Interview FF18, 2004-02-12) and less plastic shopping bags litter on the beach fronts (Interview FF20, 2004-02-12).

Elements of continued lobbying both for and against the Plastic Bags Regulations discussed in sections 7.1.1-3 above reveal the complexities and continued tensions that surrounded the environmental policy making process. Some representatives from the South African plastic bags production sector still felt they had been short-changed by the finalised regulations and needed to recruit global voices to the debate. Once more, the local developments informed the global and *vice versa* as discussed under 6.2.2.5. Spatial boundaries became blurred, as articulated by AANT (see section 3.3.1). Continued lobbying also reflects how powerful actors and their networks, particularly industry can spread and commit action resources to market a favourable policy position.

7.2 ENFORCEMENT OF THE REGULATIONS

Enforcement of the May 2003 Plastic Bags Regulations can be traced from a number of angles and at a number of levels that ranged from the grassroots to the national scale. For a clearer elaboration, the enforcement phase is dealt with under the following sub-sections: Government

involvement, plastic shopping bag price war and compulsory specifications. The choice to deal with these categories was made after they emerged distinctively as key issues during data analysis.

7.2.1 Government involvement

Government commitment to enforcing the Plastic Bags Regulations came in various forms that included among them, political support. Officials from DEAT were involved in inspecting the proceeds on the enforcement day of the regulations. On Monday 5 May 2003 DEAT released a press statement on the 'Inspection of readiness of retailers on the eve of Plastic Bags Regulations effect' and posted it website (<http://www.environment.gov.za>, 9 May 2003). The inspections of three of the top five retail chains were to be conducted by the Acting Minister of Environmental Affairs and Tourism on Thursday 8 May 2003 in Cape Town. Two other Members of the Provincial Executive Committees responsible for the environment were to conduct inspections on the enforcement day in Durban and Gauteng Provinces respectively (*ibid*). The Acting Minister and his two Members of the Executive Committee responsible for the environment from the provinces honoured their schedules in Cape Town, Durban and Johannesburg metros. They inspected major retail outlets on readiness to comply with the new law. "All media are invited to accompany the Minister on this walkabout", read part of the press statement (<http://www.environment.gov.za>, 9 May 2003). This press release recognised the role of the media as a stakeholder in policy implementation, as was evident by articles that flooded the media⁹ after the enforcement deadline. The media is one group of actors that can either stabilise or de-stabilise an actor/actant-network, thus it can play an ambivalent role.

Government had no intention to have inspectors enforcing the regulations, as only four such inspectors were available from Standards South Africa to oversee implementation across the whole country (Sapa, 2003f). Issues regarding enforcement, particularly the role of local authorities and police, were followed up by email with the Director of Waste Management in the Department of Environmental Affairs and Tourism. The Director indicated that local authorities and the police were not part of enforcement mechanism and that a Hotline (080020362) had been set aside to take care of concerns raised by members of the public (Email 1, 2003-05-16). The lack of local authority involvement in enforcement was evident in all the interviews conducted with those sampled among them, Makana Local Municipality and Nelson Mandela Metropolitan in the Eastern Cape Province (Interview FF18, 200402-12; Interview FF8, 200303-23), Govan

⁹ Some of the media reporting on 9 May 2003 included The Star , BBC News , Daily Dispatch , Cape Argus and Sowetan. Those reporting on 10 May 2002 included Sunday Times, Natal Witness and Cape Times

Mbeki Municipalities in Gauteng Province (Interview T14, 2004-11-21) and City of Cape Town in the Western Cape Province (Interview FF22, 2004-03-15). What was clear, however, from all the government press statements, was that the regulations had been 'well received' by the general public.

Another debate concerning enforcement emerged around technicalities arising from legal loopholes. The government could neither claim the levy paid for the plastic shopping bags nor force compliance because there was no legal basis to do it. Even though the Plastic Bag Agreement meant industry was obliged under the provisions of the National Environment Management Act of 1998 to manufacture thicker plastic shopping bags, the specifications from the Department of Trade and Industry were only gazetted on 17 April 2003 (DTI, 2003). Effectively, this meant nothing could be done to offenders until 17 June 2003 when the specifications entered into force. To those looking for such loopholes, this was translated into a 'grace period', as the media recorded that a number of retail outlets were still issuing and/ or selling old plastic shopping bags (Knowler, 2003; Staff Reporter, 2003b; Feni, 2003b). The fact that retailers were issuing and/ or selling old plastic bags was confirmed by visiting some outlets in Grahamstown.

Following the mix up, DEAT issued a statement to clarify the so-called 'grace or window period' on 15 May 2003 (<http://www.environment.gov.za>, 20 May 2003). This was in responding to media reports that the Government had given a window period of 45 to 52 days, starting from May 9, the day the legislation came into effect (Knowler, 2003; Staff Reporter, 2003b; Feni, 2003b). Part of the statement as retrieved from the DEAT website indicated that all plastic shopping bags should be sold and that the "beliefs about a 'window' period are just confusion" caused by those bent to cause trouble by avoiding the new law. Earlier, the PFSA had requested clarity on the issue from DEAT in a fax dated 8 May 2003. "We believe there will be a window period of about 45-52 days from May 9 during which retailers will be able to get rid of their stock of thin bags", read part of the fax. The 45-52 days 'grace period' did not arise from mere speculation and fabrication by ordinary retail outlets. Rather, it was a calculated move by informed actor/actant-networks that were close to the policy processes and that had knowledge of legal matters. A mathematical computation, reveals that from 9 May 2003 to 17 June 2003, the period in which the specifications were to mature into law, there are in fact 52 days.

The second major legal loophole concerned the Revenue Laws Amendment Act of 2002. The Treasury could not collect the levy as it was not stipulated in the Revenue Laws Amendment Act

of 2002. A follow-up through an email with those responsible in the South African Revenue Services Department revealed that the Act was only going to be amended in December 2003 and “effectively, institutional capacity was likely to be in place by 1st April 2004”, read part of the email response (Email 10, 2004-02-03). As of September 2004, Treasury had collected nothing from the manufacturers as it was still finalising the matter.

7.2.2 Compulsory Specifications for the new plastic shopping bags

On 17 April 2003, the Minister of Trade and Industry gazetted (for submission to be made in writing before 17 June 2003) the draft proposal of the Compulsory Specifications for Plastic Carrier Bags and Flat Bags (the specifications). The specifications were promulgated under the auspices of the Standards Act of 1993 (RSA, 1993) with a sole purpose to enforce the implementation of the Plastic Bags Regulations. This meant that the Department of Trade and Industry was now responsible, through Standards South Africa, to enforce the Plastic Bags Regulations. The specifications covered among other issues, definitions, the construction and materials to be used when manufacturing plastic shopping bags, film thickness, printing, test methods, ink types and consignment slips and markings (appendix 7.1).

Both the Plastic Bag Agreement and the Compulsory Specifications for Plastic Carrier Bags and Plastic Flat Bags Regulations stipulated that new plastic shopping bags had to meet certain standards. The compulsory standards that were stipulated were that the new plastic shopping bags should be (DTI, 2003; DEAT, 2002b):

- 24 microns minimum wall thickness,
- Have a retail bar code,
- Specify polymer class (grade) as per the South African classification,
- Have a safety or health message, and
- Name of producer and country of origin.

For producers, this meant installing and/ or adjusting equipment to manufacture a 24 microns plastic shopping bag. A visit in February 2003 to Nampak Polyfoil, one of the country’s largest manufacturing plants in Johannesburg, showed that production of old thin film plastic shopping bags had ceased in November 2002 with the plant only getting back into operation on 9 May 2003, the date the regulations entered into force. On 17 July 2003, the PFSA prepared a technical support memo that it circulated to its constituent members as well as posting it on the website (appendix 7.2). The one-paged memo contained technical details on how to calculate and produce various bag sizes as required by the new law.

To monitor compliance with imported plastic shopping bags, the Standards South Africa's Consumer Health and Safety or Human Health and Environmental Department designed an instrument requiring importers to obtain Letters of Authority for Plastic Bags (LOA). The LOA are issued after an evaluation of the proof of compliance with the Compulsory Specifications. To obtain such LOA, the importer must register with the Consumer Health and Safety Department. The cost associated with the LOA is R500 and when issued, the LOA is valid for three years.

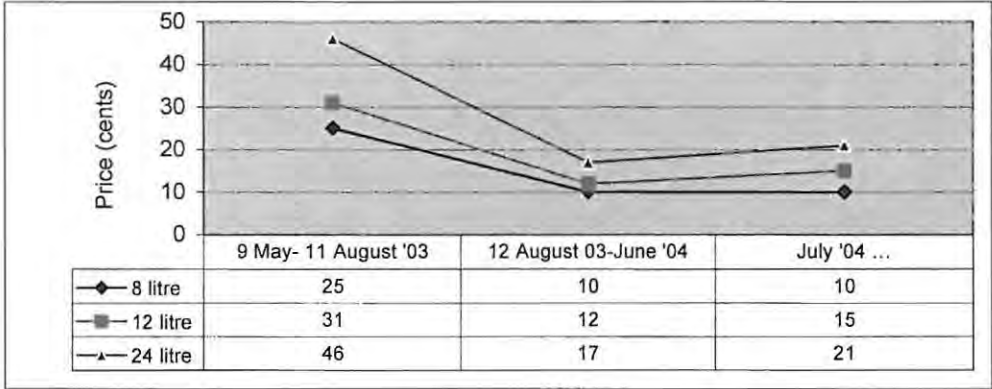
7.2.3 Plastic shopping bag price war

In the September 2002 Plastic Bag Agreement, major retailers agreed that they would use and charge for three sizes of plastic shopping bags: eight litre, 12 litre and 24 litre size bags with prices set at 25 cents, 31 cents and 46 cents respectively (DEAT, 2002b). This was done in the spirit of levelling the playing field as charging different prices for the same product would have introduced unfair competition. From a government perspective, this was, however, supposed to have been implemented by all retail outlets in the country. However, not only did the pricing change over time, some retail outlets, lead by Mr Price, refused to charge for the plastic shopping bags altogether, citing that they were not party to the Plastic Bag Agreement. The debate over Mr Price's position made headlines in the media (Grayson, 2003; Sapa, 2003a; Sapa, 2003b; Gosling, 2003b; Ngobese, 2003b). In addition, Mr Price claimed that the existing laws of the country did not force it to charge for plastic shopping bags (Sapa, 2003a).

In a report by the Mercury of 11 April 2003 (Hosken, 2003) and another by the Business Report on 2 July 2003 (Ngobese, 2003b), the South African National Consumer Union expressed outrage over the move to charge for plastic shopping bags as the organisation felt it would cripple the poor. The Union appealed to consumers to support shops that supplied free plastic shopping bags and slammed the Government's plan to take the Mr Price retail chain to court for not charging customers for plastic shopping bags (*ibid*). The organisation also claimed that consumers were already overburdened with tax and it was not fair to expect them to pay for plastic shopping bags. The organisation then congratulated Mr Price for the stance it had taken. The South African National Consumer Union is hereby identified as a new actor-network that voiced concerns and yet was not fully represented during the policy decision-making and formulation process. By default, the actor-network recruits itself to the Mr Price narrative and stabilises Mr Price-led actor-network. Both Mr Price and the South African National Consumer Union actor-networks reveal how actors can enter into debates at various points strengthening certain positions. The actor-networks also reveal the fluid nature of the retailers actor-network.

A follow-up on price changes, particularly in the food sector, showed that this was started by the Pick'n Pay retail chain (<http://www.mypnp.com/>, 20 August 2003), which reduced its prices starting 12 August 2003. This also led to its major competitor in the groceries business Shoprite-Checkers lowering its prices with the same margins. Price changes were also monitored through observations from the Pick'n Pay retail outlets in Port Elizabeth and Grahamstown (graph 7.1), two cities within the eastern Cape Province.

Graph 7.1: Plastic shopping bag price changes over time



However, a statement from then Minister of Environmental Affairs and Tourism indicated that Government was not surprised over the ‘price war’ given the competitive nature of the retail food business (Rodgers, 2003). The minister also added that while the development was not in line with the Plastic Bag Agreement, it did not undermine Government’s efforts to remove plastic shopping bags litter and waste from the environment. The minister also believed that the ‘fight’ could not make consumers return to thinking that bags were ‘free’ and carelessly discard them (*ibid*). The Minister noted that there had been massive environmental awareness raising in the country in a very short space of time. Given the job threats from the implementation of the new law, the Minister also hinted that the Government had accepted the new development to allow retailers to sell plastic bags at cost and allow clothing retailers to issue plastic shopping bags of 40 microns and above free. The Minister’s sentiments reflect some points of coherence by actors and actor-networks in environmental policy making. From regular checks conducted among major clothing retail outlets in Grahamstown, it became clear that most of them dropped charging for plastic shopping bags in August 2003 with some having done so as early as one month after 9 May 2003. Debates surrounding the plastic bag ‘price war’ featured prominently in

the media (Bailey, 2003; Gosling, 2003a; Sapa, 2003c; Sapa, 2003d), again testifying to the important role of the media in actor-network construction and change.

The tensions surrounding the role of retail giant Pick'n Pay during the implementation of the Plastic Bags Regulations were thoroughly investigated. This involved tracing, especially, the texts retrieved regularly from its website: <http://www.mypnp.com/>. On 11 August 2003, Pick'n Pay posted a statement to the effect that it would cut the price of its 24 litre plastic shopping bags to 17 cents from 46 cents and that for the 12 litre size to 12 cents from 31 cents the following day (<http://www.mypnp.com/>, 20 August 2003). This, the statement claimed, had been achieved through an agreement with the plastics industry on a lower cost price of plastic shopping bags, and redirecting bulk and cash discounts from the Plastic Payback campaign directly into the cost price of the plastic shopping bags.

The fact that Pick'n Pay entered into another 'agreement' with the producer of the plastic shopping bags, in this case Nampak Polyfoil, speaks volumes on how actor/actant-networks are created, how they collapse and change. Latour (1987), identifies this process as the unmasking of what will be hidden in the 'black boxes' that weave the narratives (Latour, 1993), in this case, a policy position to reject the plastic bags regulations. From one side, a new actor/actant-network was created between Pick'n Pay and Nampak Polyfoil and on the other; this signalled the weakening of the long-standing actor/actant-network that concluded the Plastic Bag Agreement.

Pick'n Pay gave further justifications for the price cuts. It claimed that it had taken the decision to deduct the original cost incurred for issuing free plastic shopping bags, instead of putting it into its Plastic Payback Food Campaign (<http://www.mypnp.com/>, 20 August 2003). The Plastic Payback Food campaign amounted to 4 cents on every R10 spent. In providing the detailed breakdown, the statement indicated that:

The new cost price of a bag to Pick 'n Pay will be 32 cents for a 24 litre bag, which, with the 15 cent subsidy (cost of old plastic bag) will bring the cost price to consumers down to 17 cents. The consumer will now be able to see the cost price of the plastic bag, less the cost the company used to incur for free bags, marked clearly on their till slips (*ibid*).

The Group also maintained that some kind of a deal had been struck with the producer that had offered a special price for a period of three months so as to save jobs in the industry. At the same time, the company announced that an environmental project would be the beneficiary of a R1.00 donation from each of its Green Bags sold. The environmental project was to be decided jointly

by the company and DEAT. Further justification regarding the price cut was that this had resulted from feedback from its customers. The Group claimed that since the inception of the Plastic Bags Regulations it had recorded thousands of calls on its Customer Careline, which guided the decision. Customers were recorded as having told Pick'n Pay "very clearly that they were not necessarily making the connection between the savings" the group made and the Plastic Payback Food Subsidy (<http://www.mypnp.com/>, 20 August 2003). Pick'n Pay's update on the Green Bag sale on 19 June 2003 reported that over 1.2 million such bags had been sold with another 2.75 million expected in stock within the "next few weeks" (<http://www.mypnp.com/>, 30 November 2003).

7.2.4 Food prices

One of the social debates that got much publicity was that food prices were to go down as part of a subsidy to the consumers since it was not possible to pay out (or refund) a consumer small amounts saved from original overheads caused by hidden plastic shopping bag costs (DEAT, 2002b). A message printed on the Woolworths plastic shopping bags formalised this issue. Part of the message reads, "Money generated from the sale of this bag will go towards reducing the price of basic food items".

Cosatu's notice of intention to strike of 7 August 2003 indicated that consumers were being 'penalised' by the new system of charging for plastic shopping bags (Email 2, 2003-08-08). The notice claimed that there was no evidence that retailers had reduced the price of goods in accordance with the Plastic Bag Agreement of 2002. This was singled out as being "burdensome for poor consumers with limited disposable income" (*ibid*). The aspect of commodity prices not going down was also widely reported in the media (Scott, 2003; Naidoo, 2003; Bragg, 2003; Feni, 2003a). In some cases the media acknowledged that even if there were adverts to this effect, reduced prices were for periods less than two months (thereby appearing as routine promotions) or reduced on non-essentials, making it an insignificant benefit (Feni, 2003a). The fact that South Africans were not satisfied with food price reductions also came into the limelight through a survey by Research Surveys reported in the Daily Dispatch of 29 July 2003 (Sapa, 2003e). The survey sampled 2,000 respondents across the country. Out of those sampled, more than half indicated that the Plastic Bags Regulations did not result in cheaper food prices (*ibid*).

7.2.5 Enquiries from industry and the public

In one of the statements posted on the DEAT website (<http://www.environment.gov.za/>, 23 August 2003), a number of issues were raised around the Plastic Bags Regulations and

Compulsory specifications, presumably from industry and the general public, which required further clarity. As such, DEAT noted the frequently asked questions and provided some responses. Listed below are the top five questions and answers provided. The answers to the questions are given in italics (*ibid*).

1. What are the technical specifications for the new plastic shopping bags? (The technical specifications are set out in the Government Gazette on 17 April 2003 (No. 24734, No. R522), in short these stipulate: thickness (*30 microns with a 20% leeway, thus of 24 microns*); *the type of ink permitted, coverage of printing and related matters*).
2. Do retailers have to charge for the new thicker plastic bags? (*The new regulations do not require retailers to charge for the new thicker plastic bags. But in terms of the Agreement entered into between the DEAT, Organised Labour and Organised Business it was agreed that retailers could charge for the thicker bags provided that they reduce the price of consumer goods*).
3. Regarding existing stocks of thin plastic shopping bags: (i) What do we do with existing stocks? And (ii) May we still give these away free as in the past? (*Strictly speaking you may no longer distribute the thinner bags. You should ideally dispatch them to a recycling depot. But in practice we will not prosecute you for a few weeks if you continue to distribute them free of charge. The Department has taken cognizance of the fact that although suppliers have known of the imminence of these regulations for over a year they have not got enough available stock of the new thicker plastic bag*).
4. What about very thin bags where retailers package fruit or bread for hygiene purposes? (*These are not caught by the new regulations provided that they are not used by consumers at the final point of sale to carry away their goods*).
5. What do you advise consumers to do to avoid paying for plastic bags? (*Take your own containers, old thick bags or whatever to the supermarket and thereby keep South Africa free of unsightly and harmful litter*).

From the above text, it is clear that Government did not have a strong legal basis to enforce charging for the shopping plastic bags. It is also evident that there were still large stocks of old plastic shopping bags held somewhere either by retailers or their suppliers and distributors.

Prior to DEAT's statement, the PFSA (<http://www.plasfed.co.za/>, 15 April 2003) had posted information to educate and raise awareness on the new law that was due for enforcement on 9 May 2003. The issues addressed included the objective of the Plastic Bags Regulations, type of plastic shopping bags to be regulated, if retailers had to charge for the plastic shopping bags, printing, the levy and the registration requirements for producers (*ibid*). The PFSA also revealed that the retailers were not obliged to charge for the new plastic shopping bags. However,

members of the Retailers Plastic Bag Working Group that signed the Plastic Bag Agreement had committed themselves to doing so and to effectively have prices of goods reduced accordingly.

7.3 ALTERNATIVE CARRY FACILITIES

A wide range of alternative carry facilities to the plastic shopping bags emerged. These ranged from the complete refusal by customers to buy the new plastic shopping bags, to the distribution and sale of heavy duty plastic shopping bags, degradable plastic shopping bags and paper bags to the sale of colourful bags and baskets made of cloth, plastic and assorted material. The alternatives were from both the local and transnational markets. Details regarding the major actors and actor/actant-networks as well as the tensions, debates and responses around the alternative carry facilities are presented in the sections below.

7.3.1 Degradable plastic shopping bags

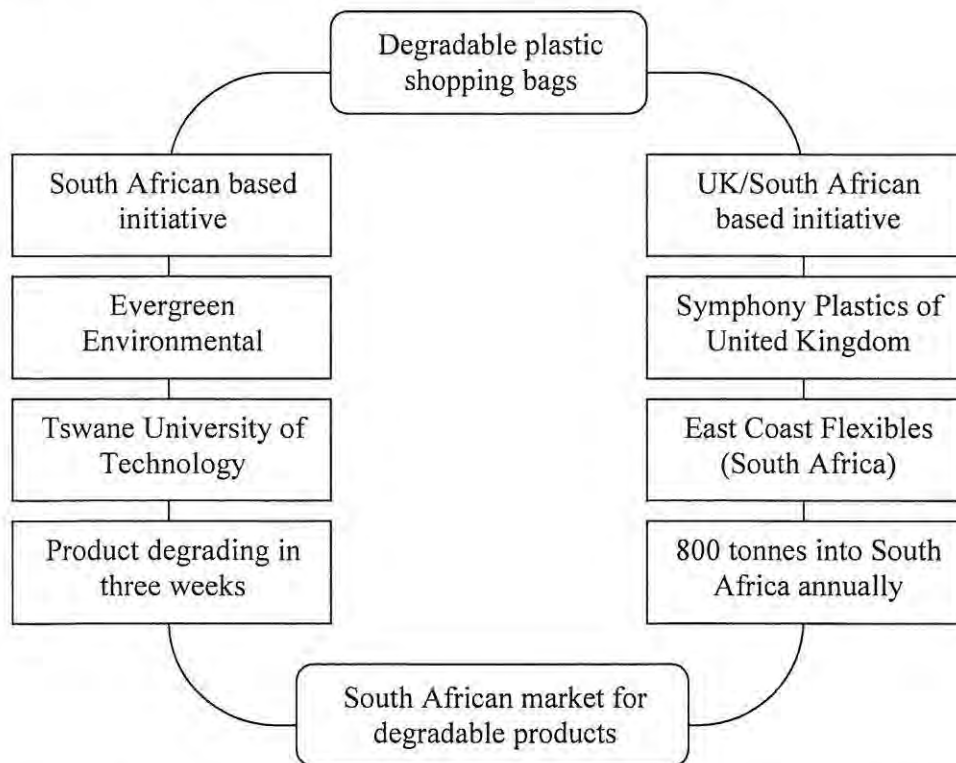
There was much debate around the issue of introducing biodegradable plastic shopping bags. In fact tensions rose as proponents of this idea strongly lobbied Government to stop the implementation of the Plastic Bags Regulations to give time for the trial of a 'new technology' that claimed to have developed a plastic shopping bag that decomposed within three weeks. Two main initiatives emerged regarding the use of degradable plastic shopping bags: a UK/South African initiative and the other, a South Africa intervention (Ngobese, 2003a).

The former initiative involved a UK-based company called Symphony Plastics that was scheduled to enter into a partnership with a local company based in Durban, East Coast Flexibles whose products should have started circulation by the end of June 2003 (Ngobese, 2003a). An estimated 800 tonnes of degradable material was due for shipment into South Africa annually and two major clients had already been identified (*ibid*). The latter initiative involved a company by the name Evergreen Environmental from Rivonia that would have manufactured a plastic shopping bag that would degrade in three weeks (Kleijn, 2003). This initiative was also supported by the Institute of Applied Materials in the Department of Chemical Engineering at Tswane University of Technology in Pretoria (Olver, 2003). The owner of Evergreen Environmental, Mr. Felix de Kleijn even made a presentation to Parliament on Tuesday 25 March 2003 concerning his product. However, his idea was not accepted (*ibid*). Field observations that I made on 30 June 2003 in Grahamstown (Eastern Cape Province) revealed that Evergreen Environmental had been producing such biodegradable plastic shopping bags since November 2002. This conclusion was reached after visiting Cardies Martin Horsfall, one of the gift retail chains in the country who were using these bags. The Evergreen Environmental

initiative also gained support from a local Executive Committee of South Africa’s largest and leading environment NGO, the Wildlife and Environment Society of South Africa (WESSA) that submitted a paper to WESSA National Executive for endorsement in October 2003. The two initiatives are summarised in figure 7.1.

Cardies Martin Horsfall indicated that it would continue supporting the initiative as long as it conforms to the requirements of the Plastic Bags Regulations. To follow up on this issue, a sample of the presumed Evergreen Environmental photodegradable bag was collected from one of Cardies Martin Horsfall outlets in Grahamstown on 3 September 2004. The message on the bag is, “Made to degrade. This bag is photodegradable. It breaks down after extended exposure to natural sunlight reducing the build-up of litter and forms part of an effective litter control strategy”. In terms of the Plastic Bags Regulations requirements, the sample bag does not fulfil three key specifications: (1) thickness, (2) name of producer and (3) country of origin. The issue of thickness still remains a subject for debate due to the fact that biodegradable bags are likely to be thinner than the specifications.

Figure 7.1: Degradable plastic bags initiatives for South Africa



The peak of the tensions concerning the Evergreen Environmental initiative is revealed by a letter that was written by its owner that featured in the Mail & Guardian of 20 June 2003 entitled

“Can South Africa Afford the New Bag Law?” This was followed up by a direct response from the Director General of DEAT in a letter featured in the same paper on 2 July 2003 entitled “Bag Agreement is Working”. The full texts of these rich data letters are presented in appendix 7.2. What emerged from the two letters were the tensions, debates and responses around the introduction of degradable plastic shopping bags in South Africa.

The argument presented by Evergreen Environmental highlighted the potential job losses that the South Africa industry would experience if the Plastic Bags Regulations continued being implemented (Kleijn, 2003). Figures showing the 90% reduction in demand from the Irish experience are presented and the fact that the Irish industry was relatively smaller (with 177 employees and four companies) compared to South Africa (with 4,000 employees and 52 companies). Furthermore, job threats of up to 70,000 packers in the retail industry was highlighted. The aspect of whether recycling could trigger significant job creation was raised. Figures provided indicated that about 200,000 old plastic bags (half the amount for new plastic bags) were required to make a tonne that was bought at a market price of R1,000. The letter then concluded by indicating that there was a need to shift to degradable plastic shopping bags.

The Director General’s response noted that while the issues of job losses was genuine and that DEAT was looking into it, Evergreen Environmental’s opinion was biased as the company was an interested party as manufacturer of the degradable plastic bags (Olver, 2003). Part of the response read (*ibid*: 20):

One should note that De Klein has a vested interest, not only as a consumer but also as a businessman who wants to sell a product of somewhat dubious worth. He makes a ‘degradable’ plastic bag that ‘dries up like a leaf’. De Klein claims it decomposes more quickly than ordinary bags and would be a marvel for the environment. He made representations to Parliament's portfolio committee and to industry earlier this year, and has asked the government to delay implementing the regulations to give time to test his product. Unfortunately, De Klein has so far failed to prove the worth of his product or to convince business to buy it.

The response also probably outlines why government did not buy into the idea of using degradable bags on a large scale.

The so-called degradable plastic bags do not degrade completely to water and carbon dioxide, as De Klein claims. They degrade into tiny pieces of polyethylene, creating the ‘white dust’ problem currently experienced in China. We cannot afford to solve problems with other problems. Until proven technology that ensures these plastics successfully

degrade is available, it would be irresponsible to distribute biodegradable bags on a large scale here (Olver, 2003: 20).

Two aspects can be drawn out of the two letters. The first is that the issue of job losses is real and the fact that South Africa has a mature plastic shopping bag manufacturing industry cannot be disputed. The second fact concerns uncertainty concerning degradable plastic shopping bags. This technology is young and still under experiment globally (see section 4.4.4.6). The concerns raised above calls for more debate surrounding sustainability and sustainable plastic shopping bags litter and waste regulation. If sustainability in managing plastic shopping bags litter and waste is to be achieved, then one must consider means by which key concerns – jobs, income and equipment loss as well as restoring the environment might be achieved. This is an issue that was probably not fully addressed in both letters. In fact, what emerges here is illustrative of Keeley and Scoones' (2003) notion of 'policy space'. Actors and actor/actant-networks fight for this space by closing (arguing against) what another actor and actor/actant-network in opposition would be putting across. Very few points of common ground (as indicated in the two letters) would exist.

A follow-up on debates concerning biodegradable plastic shopping bags revealed that Government had somehow officiated them. This was highlighted in the Budget Report prepared by the Ad Hoc Committee on Environmental Affairs and Tourism that was presented before Parliament by the Minister on 17 June 2004 (<http://www.environment.gov.za/>, 23 June 2003). The Minister noted that jobs were being created around the production of biodegradable bags. This statement effectively realises and authenticates the production of such bags and appears to consider it as a relief measure to compensate job losses (*ibid*).

7.3.2 Issues around imported Green Bags

The retail chain Pick'n Pay exclusively distributes Green Bags in South Africa. Reporting on its website (<http://www.mypnp.com/>, 13 May 2003), Pick'n Pay revealed that an initial order of 300,000 Green Bags that were thought to be enough for the week prior to the enforcement of the Plastic Bags Regulations on 9 May 2003 were sold out in just over two days. The Green Bags had been on sale since 3 May 2003. An additional two million Green Bags were ordered, of which 300,000 were expected in the country by 24 May 2003. As for the justification of the Green Bags project, Pick'n Pay maintained that it carried out extensive research on consumer trends, environmentally friendly alternatives and successes internationally. The 18-litre reusable Green Bag were being sold at R5 and the Group believed it was "the most viable alternative to

the government-regulated plastic bags". The Green Bag was said to be ergonomically designed and made of an environmentally friendly fabric (i.e., non-woven polypropylene).

In an update of the Green Bags sales, the Group posted a statement on 19 June 2003 that showed that it had sold more than 1.2 million Green Bags since the new law. The statement also revealed that the company was still importing large shipments of the bags on a weekly basis and that it expected a consignment of about 2.75 million bags in few weeks then. A new development was indicated to the effect that local suppliers were contracted to produce the Green Bags so as to meet the huge demand and that the local producers would start supplying the retail Group by August 2003. The statement also revealed that the Green Bag initiative was instituted following its "great success in Ireland" after which Pick'n Pay bought the rights to produce it in South Africa. The last update on the Green Bags retrieved from the website was posted on 21 January 2004. In the statement, the retail chain reported that it had sold 4 million Green Bags yet the product was "still in great demand" (<http://www.mypnp.com/>, 25 January 2004).

The issue of the green bag and an environmental project (see section 7.2.3) that was supposed to be funded by Pick'n Pay raised speculation (Smith, 2003b) and heated debate in the media, especially the Business Report which featured it as an editorial on 7 November 2004 (Editor, 2004; Summers, 2004). In an article entitled *Pick'n Pay is mum on plastic bag revenues* run in the Business Report of 7 November 2007, Mochiko (2004) reported that the group had sold over six million green bags and it had not yet revealed how much had been contributed towards the environment as per its promise of 15 August 2003 (Smith, 2003b). Citing one of the senior managers from Pick'n Pay, the article indicated that the group only indicated that an environmental project that would benefit school children for the next three years had been identified (Mochiko, 2004). In addition, Pick'n Pay had bought three buses for use in the project that had already benefited 225 children that had visited one of South Africa's National Parks the previous week (*ibid*).

In support of the view that Pick'n Pay had remained silent over the amounts raised from the sale of green bags, the Business Report ran an editorial the same day (7 November 2004). The very opening statement read, "Remember the Great Plastic Shopping Bag Debate?" (<http://www.busrep.co.za>, 25 November 2004). This statement forces one to go down memory lane to re-consider the tensions and debates that emerged during the formulation phase of the Plastic Bags Regulations, as highlighted in the previous chapter. It also highlights the fact that

there were actors and actor/actant-networks that grew out of different opinions and positioning in relation to the Plastic Bags Regulations.

The editorial continued,

You should. The row over thin bags, thick bags, relative friendliness to the environment and to customers, who was allowed to pay for them and whether it was OK to give them away, seemed like it would never end. Then there were the clever retailers who tried to score brownie points out of the consumers' confusion. The our-bags-are-greener-than-our-competitors-bags-so-shop-with-us claims that were piggybacked on a sudden concern for the environment, were an inevitable result of environmental concerns being thrust momentarily to the top of the agenda. So, perhaps we should not be surprised when Pick 'n Pay, one of the retailers who made much mileage out of the whole furore, seems to be renegeing on its public promises. It was just talk, just business after all (<http://www.busrep.co.za>, 25 November 2004).

In line with AANT, words and phrases such as 'row', 'never end', 'clever retailers' 'brownie points', 'customers', 'confusion', 'piggybacked', 'not be surprised', 'made much mileage', 'furore' and 'just talk' show how the media, as key actor can, and did weave the 'world' around the green bag (see section 3.1). The power held by the media in shaping tensions and responses in actor-networks, is illustrated by this editorial. To some extent, the report alleges that Pick'n Pay was cheating the public and that it had failed to honour its pledge. It also highlights the 'business as usual' approach adopted by the group and introduces the notion of retailers cashing in, on the Plastic Bags Regulations in name of 'supporting environmental initiatives'.

The editorial also reminded Pick'n Pay that it was dishonouring its commitment to support the Proudly South African campaign, especially given that it was a member of the campaign. The editorial thus went to say,

That's the conclusion left when Pick 'n Pay gets cagey about how much it has collected for environmental projects from the sale of more than 6 million of the "green" bags it imports from China, even though it undertook more than a year ago to have the bags made locally in the interests of job creation (<http://www.busrep.co.za>, 25 November 2004).

Such 'allegations' could not go unnoticed by the concerned stakeholder, Pick'n Pay. Its Chief Executive responded in an article entitled, "Pick'n Pay proudly meets all its green bag commitments" that appeared in the same paper on 14 November 2004 (Summers, 2004) in an attempt to clear the air. In the article, the Chief Executive did not only write, but also indicated that he had spoken to the editor of the paper concerning the 'negative publicity'. Part of the article read:

We are both surprised and extremely disappointed at this article and the accompanying editorial comment. ... , the commitment by Pick 'n Pay to donate R1 per green bag sold since inception has absolutely been adhered to. As a part of this overall commitment, R8.72 million was committed to the Kids in the Park programme through the sale of green bags, and this is not by any means the only environmental initiative that we have undertaken. This financial commitment was made public by Raymond Ackerman at a press briefing (at the Kids in the Park launch), with the departments of education and environmental affairs and tourism on October 26 (<http://www.busrep.co.za>, 25 November 2004).

Although it remains a fact that the Kids in Parks Programme had just been launched, a follow-up search to verify whether the media had reported on the R8.72 million raised by Pick'n Pay yielded negative results. A press statement of 26 October posted on the websites of some of the key partners for the Kids in Parks Programme that included DEAT (<http://www.environment.gov.za/>, 25 November 2004) and the Department of Education, (<http://www.environment.gov.za/> 25 November 2004) did not contain information on the exact amount that Pick'n Pay was releasing for the Programme. An earlier attempt to get information on the environment project and funds promised to DEAT by the group through an interview with the Director of Waste Management also indicated that Pick'n Pay was 'mum' over the issue (Interview FF20, 2004-03-11). Since R1 was being donated per green bag sold, another aspect that emerges from this debate is the fact that as of 26 October 2004, Pick'n Pay had seemingly sold close to *nine million* bags. This is a huge amount and its impact on demand of the 'regulated' plastic shopping bags is considered fully in section 7.3.2.

The Chief Executive went further to clarify issues regarding the alleged betrayal regarding the Proudly South African campaign. He wrote,

With regard to the proportion of green bags that have been locally sourced as opposed to being imported, we are currently sourcing locally approximately 30 percent of the production, while 70 percent still remain imported on the regular bag. ... All locally manufactured bags are being made by a black economic empowerment enterprise. It is our intention that as the capacity grows on the production side, increasingly more of the bags will be sourced locally. With regards to the issue of Pick 'n Pay and Proudly South African, we were one of only a handful of retailers who signed an historic agreement with the Southern African Clothes and Textiles Workers' Union (Sactwu) in respect of total local content within our textiles (<http://www.busrep.co.za>, 25 November 2004).

Once more, through the power of the media in environmental policy making, Pick'n Pay had to reveal the percentages associated with the production of the green bags. Other related debates such as black economic empowerment also surfaced. The article concluded by indicating the

tension that had risen between Pick'n Pay and the Business Report over the Green Bag. "Attacks on our integrity, ethics and intentions will always be defended vigorously, and our track record over 36 years stands as a testimony to this" concluded the Chief Executive (<http://www.busrep.co.za>, 25 November 2004).

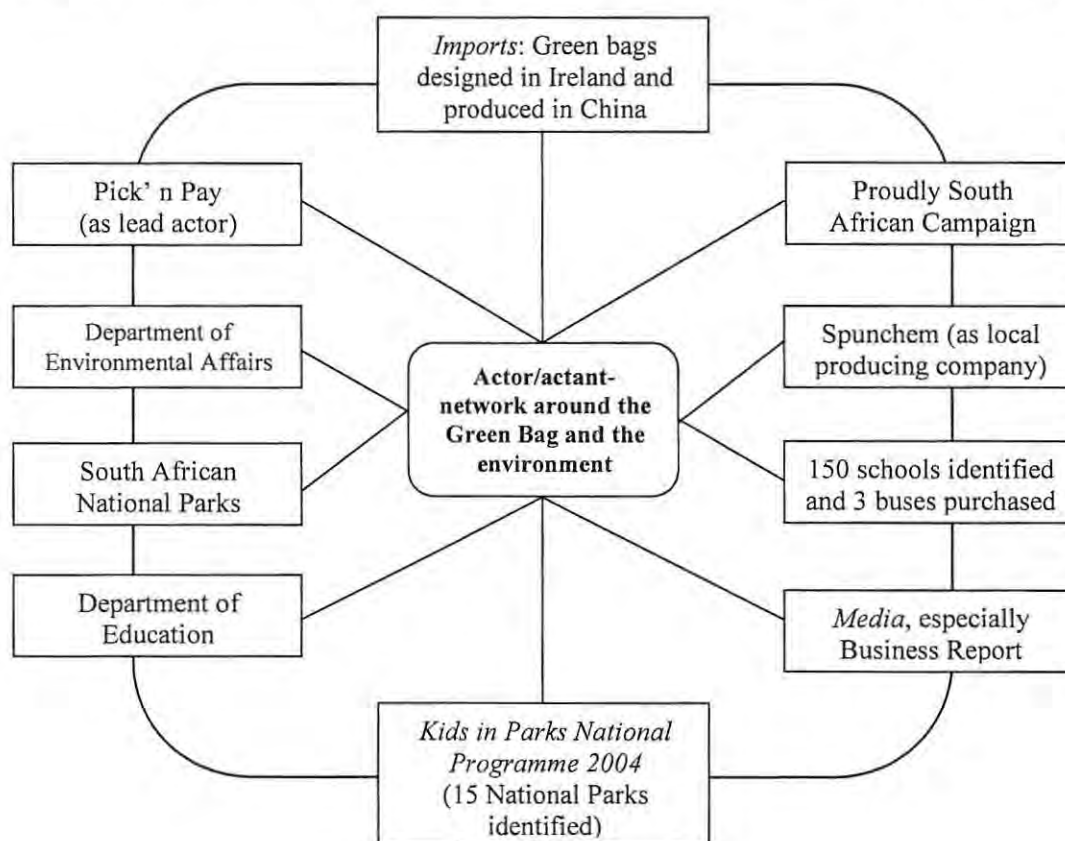
From the above, it is clear that the Kids in Parks Programme has been put in place. From a press statement released by DEAT on 21 October 2004 (<http://www.environment.gov.za/>, 25 November 2004), the Kids in Parks Programme is an initiative aimed at transforming and developing the school curriculum. 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) on Tuesday, 26 October 2004 at the West Coast National Park in Langebaan in the Western Cape Province. The environmental education programme aims to (*ibid*):

1. 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,
2. Enhance cultural resource management and indigenous knowledge,
3. Strengthen community-parks relationships, and
4. Contribute to local economic development through subcontracting, community-driven enterprises, joint ventures, apprenticeships and employment.

Irrespective of the arguments concerning the late release of funds from Pick'n Pay, the scenario presented above presents an important lesson concerning environmental policy processes surrounding South Africa's Plastic Bags Regulations. Probably very few people would have thought of such a large environmental education programme emanating from an initiative to regulate the use of thick plastic shopping bags. Although the programme started with 225 children in one park, over 15 such 'Kids in Parks' parks will be identified in the country involving about 150 schools over the next three years (<http://www.education.gov.za>, 25 November 2004). In addition, a roll-out plan for Kids in Parks is expected to take place and includes children and schools from "other previously disadvantaged areas" (*ibid*). In line with AANT, a new actor/actant-network (this time an environmental education network) that emerged from the Green Bag-Pick'n Pay discourse can be captured as depicted in figure 7.2.

Responsibilities of the actors shown in figure 7.2 have already been outlined. DEAT plays a coordinating role (<http://www.education.gov.za>, 25 November 2004). It is also tasked with the responsibility to develop educational material for the children. The Department of Education will be assisting with the identification of “the most needy schools near the parks” that would join the Kids in Parks Programme (*ibid*). The Department will also ensure that the initiative reflects the provisions of Curriculum 2005. The SANParks is tasked to manage the visits whilst Pick’n Pay provides the necessary financial support. Both the international and local Green Bag producers will continue supplying the bags whilst the media would probably continue playing its watchdog and mobilising role, as evidenced in the formation and construction of this new actor/actant-network which I believe it did very well.

Figure 7.2 Actor/actant-network capturing discourses surrounding the Green Bag



7.3.3 Other alternatives

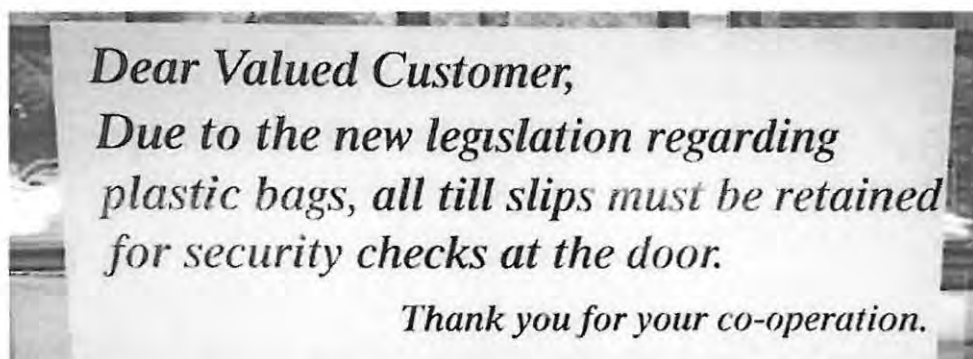
Observations made prior to and during the enforcement day of the new law revealed that a range of alternative carry facilities were in circulation. A significant number of customers were seen carrying their groceries in their hands to their cars. At the same time a range of other carry facilities with prices ranging from as low as R1 for heavy duty plastic shopping bags to as high

as R45 for shopping baskets emerged in the market. The list of alternatives included cardboard boxes, crates, paper bags, cloth bags, art bags and so forth. The shift to paper bags was a drastic measure and one fast food retail group with about 466 outlets in the country switched to using the brown paper bags. Overall, the advent of, especially the Green Bag and other alternatives, including degradable plastic shopping bags on the market adversely impacted demand for the new plastic shopping bags.

7.4 EDUCATION AND AWARENESS

Since the Plastic Bag Agreement obliged retailers to educate the consumers and packers (see section 6.10), all major retail chains conducted education and awareness campaigns, particularly during the few days prior to and after the Plastic Bags Regulations entered into force. The public was educated using strategies including posters, till slip messages, in-store audiovisuals and till talks. Plates 7a&b capture some of the strategies used.

Plate 7.1a&b: Public education and awareness campaigns



7.1a



7.1b

Ongoing observations in three major grocery retail chain outlets in Grahamstown revealed that till operators and packers had been trained to pack and ask customers as to whether they need a plastic bag. Since 9 May 2003 to date, till operators from these and other outlets have been asking this same question to customers and this practice has become a norm.

One of the specifications agreed upon through the Plastic Bags Agreement (refer to section 6.10) and the Compulsory Specifications (see section 7.2.2) was that all plastic shopping bags had to bear an environment or health message. A number of plastic shopping bag samples were collected and most of them complied with this requirement. Plate 7.2 shows some of the messages and other compulsory specifications (apart from the wall thickness as discussed in section 6.10) as scanned from a sample plastic shopping bag obtained from Woolworths.

Reading at the bottom of plate 7.2 (from the left to the right), the following details (which the public should be familiar with) relating to the regulations appear: (1) general clarification that the plastic shopping bag has been regulated (Government Regulated Bag – Non refundable), (2) name of the producer (Nampak Polyfoil), (3) country of origin (Made in South Africa), (4) Environment Mark (E-mark), (5) class of polymer (i.e., class 2 representing PE-HD), (6) environment message (please recycle), (7) size of plastic shopping bag (12 litre – 26x14x46) and (8) a retail bar code (20193782). In fact, this bag meets all the specifications and even goes further to give additional environmental messages and the cause for selling the plastic shopping bags and other related information. As discussed under section 6.7, Woolworths was one of the key actors in the policy process.

Some of the messages shown on different samples of plastic shopping bags included: '*Be more responsible: re-use . reduce . recycle*', '*Caring for the earth is in your hands*', '*We care about the environment. Please re-cycle this bag*', '*Safety first. To avoid danger of suffocation, please keep this bag away from babies and children*', '*Plastic bags can cause suffocation. Keep away from children*' (common message) and '*Please recycle*' (also a common message). However, not much education and awareness was done from the Government's side. The only initiative was the publication of a handful tabloids on the Plastic Bag Agreement (DEAT, 2002b). Otherwise much of the education and awareness was by default thorough the media. A hotline was also established to respond to public queries as discussed in section 7.2.1.



7.5 ORGANISED BUSINESS' POSITION

Under the representative voice of the PFSA, Organised Business re-worked its Buyisa-e-Bag initiative (see section 6.8) in line with the developments that had taken place. As indicated by the discussion document of 23 May 2003, the re-worked plastic shopping bag recovery and recycling plan was in place by 23 May 2003 (PFSA, PREO, & CAIA, 2003). The re-worked document presented a solid implementation plan. Some of the details regarding the implementation plan are outlined in the sub-sections below.

7.5.1 Buyisa-e-Bag South Africa

Although not immediately coming into existence by 9 May 2003 as indicated in the Plastic Bag Agreement, information supplied by the Chief Executive Officer (CEO) of the PFSA through a telephone interview (Interview T31, 2004-09-08) revealed that Buyisa-e-Bag had been registered on 26 May 2004. An organising chairman (name supplied) based in Pretoria had been elected to spearhead work towards the realisation of its operation. However, the CEO expressed that it was going to take "a good many, many, many months before the company starts operating" (*ibid*). This comment was made in light of the confusion that surrounded the manner in which the plastic shopping bag levy was to be forwarded to Buyisa-e-Bag. A follow-up with the organising

chairman in another interview showed that he was the President of the Institute of Waste Management Southern Africa (Interview T30, 2004-09-08).

Part of the confusion and tensions behind the scene revealed that the plastic shopping bag producers were reluctant to release money into National Treasury coffers. This emerged from two interviews granted by representative bodies of the plastics and packaging industry (Interview T15, 2004-02-17; Interview T31, 2004-09-08). One of the respondents indicated that they feared that once money has been put into Treasury it could “be anybody’s money, including a chance of it being misused by being directed away from the clean up and recycling purposes it is intended for” (Interview T15, 2004-02-17). As such, industry was more comfortable releasing the levy if ring-fenced so that it would be easily re-directed into Buyisa-e-Bag account (*ibid*).

7.5.2 The tensions

The confusion surrounding the registration and operation of Buyisa-e-Bag South Africa was traced from minutes of the Plastic Recycling Employers Organisation (PREO) Annual General Meeting of Tuesday 3 February 2004. About 24 organisations sit in the PREO Annual General Meetings. Agenda item 5 (1-17) reported on matters surrounding Buyisa-e-Bag. The minutes showed that all the retailers had withdrawn from the process and no specific reason was given (PREO, 2004-02-03). The withdrawal of retailers from the process had been noted earlier by Cosatu in its notice of intention to strike delivered to Nedlac on 7 August 2003 (Email 2, 2003-08-08). Part of the notice revealed that the retailers were holding up “the process by refusing to sign the legal documents setting up the company” and Cosatu demanded that they do it without any further delays (*ibid*).

The chairman, during the PREO Annual General Meeting, followed up the issue and indicated that it was very difficult to follow up on the Company “as every time someone enquires about the Section 21 Company the reply is that it is not finalised or registered as yet” (PREO, 2004-02-03). The sentiments raised above were true as a follow-up with the Director of Waste Management in DEAT (Email 10, 2004-10-01) provided exactly the same response. Another follow-up in a face-to-face interview with the same Director (Interview FF18, 2004-03-11) revealed that the situation had not changed and that the establishment of the Company depended on progress from the National Treasury.

As the discussions progressed during PREO’s Annual General Meeting, a point was raised to the effect that stakeholders involved were “very diverse with people only interested in their own

agendas” (PREO, 2004-02-03). The same message was echoed in another perspective from the interview with the DEAT official mentioned above who summarised the tensions that eclipsed the proceedings as follows (Interview FF18, 2004-03-11):

The original representatives had fallen out of favour with those they represented and were no longer trusted. For example, all the major individual labour unions now sit in the Plastic Bag Task Team and the representation now is plus/minus four of them. All major retailers must be on the Task Team and all this has been a result of the many disagreements and speculations from industry and labour. The issue has grown huge.

The quote above is a good indication of how actor/actant-networks collapse, especially if the main goal has been achieved or in this case, as the goal to force self-regulation had somehow failed. The loose coalition between organised labour (that represented five major unions), retailers (representing companies running into thousands) and organised industry can be viewed as having developed cracks. This is an aspect that AANT attributes to the failure of the translation moment of *mobilisation* (see section 3.3.2). The PREO minutes also revealed that then Minister of Environmental Affairs and Tourism “Vali Moosa was not open to other suggestions” (PREO, 2004-02-03). In this statement, the deep-rooted alignment to self-regulation or a belief that the regulations and what developed thereafter was not the right option surfaced again.

As the debate around Buyisa-e-Bag continued, a suggestion was put across that the first objective towards establishing the Company “would be to build a structure which would drive a management team” (PREO, 2004-02-03). In response to this it was mentioned that the suggestion was not feasible, as it would not take off without additional funding from Government. The fact that additional money would be needed from Government confirms that the levy collected is not adequate. With reference to the scope of the Company, the meeting concurred that the objectives of the company around “educational awareness, communication, recovery and development” (*ibid*) were sound and what was remaining was to get the Company going. To this effect, consensus was reached that PREO had to be active in assisting the quick establishment of Buyisa-e-Bag.

A new aspect was also raised concerning the bad media coverage regarding PREO’s role in the whole process. As such, a suggestion was made that the recyclers had, in fact let themselves down on that aspect (PREO, 2004-02-03). The meeting also tabled a motion that PREO needed

to be part of the Plastic Bag Task Team. In a way, this reveals that PREO somehow felt it was not being adequately represented by the PFSA.

Another set of tensions around the plastic shopping bags debate and Buyisa-e-Bag was revealed in a statement posted on the PFSA website on 28 July 2003 (<http://www.plasticsinfo.co.za/>, 9 August 2003). The statement reported that towards the end of July 2003, the Plastic Bag Task Team had called for an audience with government regarding the severe unanticipated outcomes of the implementation of the Plastic Bags Regulations. The unanticipated outcomes included drastic reductions in the demand of plastic shopping bags and related economic and social impacts such as loss of business and unemployment (*ibid*). The meeting was said to have ended in a deadlock and another date was set. However, as representative of the plastics industry, the PFSA had to issue this statement to clarify industry's position on the whole matter.

Part of the statement read (<http://www.plasticsinfo.co.za/>, 9 August 2003):

The intervention by DEAT in the plastic bag value chain has been very successful, in fact too successful. Plastic bag volumes have dropped to levels never ever envisaged by stakeholders. Plastic bag manufacturers are operating at approximately 10 per cent of capacity and are already in the process of retrenching staff. Plant closures are only days away now. There is no doubt that drastic action is required (*ibid*).

As such, the plastics industry called upon Government to accept and uphold a number of principles that the industry believed could assist in the successful future implementation of the Plastic Bags Regulations and the Plastic Bag Agreement. Some of the principles outlined in the statement were that (<http://www.plasticsinfo.co.za/>, 9 August 2003):

- The complete plastic shopping bag value chain should be sustainable,
- Awareness and education was key to the success of the implementation process,
- Market forces must be allowed to operate, and
- Consumers must be made aware of the value of the bags and must not be exploited.

In addition (*ibid*), the statement also called upon government to work towards reaching a consensus on the following issues:

- That charging for plastic shopping bags should be voluntary,
- Usage of plastic shopping bags be increased to levels that will sustain the plastic value chain (i.e., bag manufacture, recycling, job retention in manufacturing and job creation in recycling),

- Pricing of plastic shopping bags must be subject to normal commercial considerations, and
- Retailers promote the plastic shopping bag by normal commercial strategies.

The statement from the PFSA uses typical *strong worded, alarmist policy language* as noted by Keeley and Scoones (2003). Phrases such as ‘too successful’, ‘never ever envisaged’, ‘10% of capacity’, ‘already retrenching staff’, ‘plant closures days away’, and ‘drastic action required’ cannot be taken lightly from a policy perspective. Such terms are likely to ‘move’ policy makers from original positioning into debating concessions.

7.5.3 Other logistics

The new implementation plan indicated that a levy would be raised at the point of sale of the plastic shopping bag from the producer to the retailer (PFSA et al., 2003). The levy was supposed to be collected by the South African Revenue Services (SARS) and paid over to DEAT, which would in turn pay Buyisa-e-Bag. The retailer was therefore supposed to charge consumers to recover the levy at the point of sale. The levy was also intended to cover administration costs associated with implementing the Compulsory Specifications by Standards South Africa, an element that is similar to the Irish arrangement discussed under 4.1.2.1.

The plastic shopping bag producers would submit a monthly statement of the amount of levy collected as well as pay a voluntary levy upfront starting March 2004. The projected cash flow was R13.5 million (PFSA et al., 2003). Of this amount R1.5 million was interest free loan seed capital sourced from Organised Business (R1 million) and Government (R500,000). The loans were supposed to have been repaid from income at R500,000 per month during December 2003, January 2004 and February 2004. A detailed business plan (including cost breakdown), divided into two periods, i.e. the Interim Period (May 2003 to February 2004) during which contributions will be voluntary, and the following three years (2004/5, 2005/6 and 2006/7) during which the levy would be formally collected was also presented (*ibid*).

7.6 ORGANISED LABOUR’S POSITION

Proceedings surrounding the implementation of the May 2003 Plastic Bags Regulations did not favour labour. Following what Cosatu called “a threat of massive job losses in the plastic bag industry” a press statement and notice of intention to strike was issued on 7 August 2003 (Email 2, 2003-08-08). The notice of intention to strike was issued on behalf of the Chemical, Energy, Paper, Printing, Wood and Allied Workers' Union, South African Chemical Workers' Union and the South African Commercial, Catering and Allied Workers' Union. Part of the background

message to the notice indicated that parties to the Plastic Bag Agreement concurred “that there was a need to address environmental issues in a sustainable manner ... The agreement also attempted to ensure that DEAT’s regulatory efforts would be optimised whilst minimising any negative social or economic impacts, especially those relating to workers, the poor, women and rural areas” (*ibid*).

The notice went on to mention that an unintended consequence of the agreement was that “demand for plastic bags has plummeted by between 80% and 90%” (Email 2, 2003-08-08) and this was due to misleading advertising by certain retailers who indicated that it was the law to charge for plastic shopping bags. In a way, Cosatu’s notice claims that an agreement was never reached that retailers had to charge for plastic shopping bags in the first place. The claim was that the Plastic Bags Regulations did not enforce charging, but thickness and printing. However, Cosatu alleged that DEAT “pursued companies not signatory to the agreement, trying to enforce charging across the board”, among them, Mr Price clothing retail chain (see section 7.2.3).

A bigger issue is raised here regarding the tensions around who should and should not charge for the plastic shopping bags. The conclusion is that only those companies that were signatories to the Plastic Bag Agreement were supposed to be charging. Therefore 40% of retail outlets in the country represented by Pick’n Pay, Woolworths (another actor in the Australian case), Shoprite-Checkers and Clicks Stores were the only ones required to charge for the plastic shopping bags (DEAT, 2002b).

Cosatu then demanded that charging for plastic shopping bags end immediately as more jobs were on the line in the production sector. Reference was also made to “numerous meetings” that had been held with DEAT, the plastic shopping bag manufacturers and the retailers in an attempt to address the problem (Email 2, 2003-08-08). However, while all parties acknowledged the problem and indicated their commitment to addressing it, Cosatu did not believe that the substantive positions tabled by the retailers and Government would ensure that jobs were saved. As such Cosatu demanded that (*ibid*):

- there be no charge for plastic bags for 6 months from the date of notice,
- after 6 months, market forces were to determine the price for plastic shopping bags and that implied retailers could charge whatever amount they see fit, including no charge at all. After that retailers were free to choose whether they wished to charge separately or to build the cost of the packaging into their overall cost.

- In the interim, Government, retailers and labour were to work together to communicate the reasons for the charge to consumers, and
- that Buyisa-e-Bag had to be established urgently and opportunities for recycling plastic shopping bags made available in or near all major retail outlets.

Demands from Cosatu did not just mushroom overnight. In June 2002, Cosatu (on behalf of the same labour movements) had issued another notice of its intension to strike in response to the May 2002 Plastic Bag Regulations (Mati, 2002), illustrating coherence in this actor-network.

7.7 JOBS AND DEMAND FOR PLASTIC BAGS

The fact that there were significant retrenchments is one of the unintended outcomes of the Plastic Bags Regulations. In the first place the Plastic Bag Agreement indicated that no retrenchment would take place before May 2008 (see section 6.10) and yet this took place even before the regulations were implemented on 9 May 2003. Conservative figures supplied by the PFSA in February 2004 indicated that, three months after the regulations entered into force, an estimated 500 plus jobs had been lost in the production sector only (Interview T14, 2004-02-16). A follow-up on this issue revealed that up to 1,000 jobs (Email 16, 2004-11-08) had been lost. However, more job losses were likely to be experienced amongst the recyclers and collectors, especially small-scale community-based recycling projects (Interview T14, 2004-02-16).

A follow-up on raw data figures through telephone interviews and emails with producers in February 2004 revealed the following facts relating to some of the producers including two of the top three (table 7.1) that share a conservative 65-75% of the market in the country. In fact one of the companies sampled used to produce about 45.63% (3.65 billion) of plastic shopping bags annually for the country (Interview T11, 2004-02-16; Email 13, 2004-02-16). This is by far the largest single entity in the South Africa plastic shopping bag market.

Table 7.1: Loss of employment as of February 2004

| <i>Company</i> | <i>Date Surveyed</i> | <i>Staff complement prior to PBR</i> | <i>Staff complement after the PBR</i> | <i>Number retrenched</i> | <i>% Retrenchment</i> |
|----------------------|----------------------|--------------------------------------|---------------------------------------|--------------------------|-----------------------|
| A | 16-02-04 | 425 | 209 | 216 | 49.18 |
| B | 16-02-04 | 27 | 14 | 13 | 48.15 |
| C | 17-02-04 | 15 | 0 | 15 | 100.00 |
| D | 17-02-04 | 25 | 10 | 15 | 60.00 |
| E | 17-02-04 | 150 | 100 | 50 | 33.33 |
| <i>Total/Average</i> | - | <i>642</i> | <i>333</i> | - | <i>58.13</i> |

What emerged from these interviews were sorrowful narratives regarding the social and economic pain on the part of the employer and employees (Interview T25, 2004-02-17). Certainly none between them had advocated for the Plastic Bags Regulations and in their views the consequences were getting 'to the wrong people' altogether (*ibid*). Concerned with the balance between environmental and social-economic considerations, one of the respondents, an operations manager for company 'E' in table 7.1, reiterated that there were real job losses and "at the end of the day jobs weigh more than the environment" (Interview T25, 2004-02-17). The respondent could not hide the difficulty experienced in balancing the two.

I should say my reaction is split. On one hand it pained me to retrench some of our workers who had served the company for more than 20 years. However, on the other side, I am a nature person and the regulations are doing well to clean up the environment. You see. Really it is a catch 22 situation (*ibid*).

Only one of the 24 surveyed companies indicated that they had not been impacted negatively by the new law (Interview T16, 2004-02-17). The reason given by this company was that it only started dealing with plastic shopping bags after the new law had already entered into force. As such all the investments and employment were relative to the market dictates (*ibid*). The other aspect that came out clearly from the recyclers sampled was that they did not recycle the old plastic bags at all and this was due to the reasons alluded to in chapter one.

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 through emails of 16 February 2004 (Interview T11, 2004-02-16; Email 13, 2004-02-16). Both plants belonged to the largest plastic shopping bag producer in South Africa. The first response indicated that the company had retrenched 75% of its labourforce as it used to have 200 employees and was left with only 50 (Interview T11, 2004-02-16). 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 (*ibid*). Another interview indicates that the number of plastic shopping bags produced before and after the regulations remained the same as well as the production shifts (Email 13, 2004-02-16). However, it was 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 (*ibid*). With regard to a question comparing the amount of material used in producing the new bag to the old one, the respondent indicated that the ratio was 2:1 (i.e., approximately 2 old bags for 1 new bag).

Average figures from the company imply 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. This figure tallies well with experiences from Ireland covered in section 4.1.2.1. When converted to its old plastic bag equivalent for the purposes of the actual material consumed at the ratio 2:1 (about 622.8 million) the percentage goes down slightly to an 83% reduction. A 92% reduction in 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% (209 out of 425 employees) and if worked out at the national level, the figure is a significant 5.23% (i.e., 209 out of 4,000 employees). A follow-up with this company's Annual Report of 2003 confirmed that it had been severely impacted by the negative publicity for and charges in shopping plastic bags.

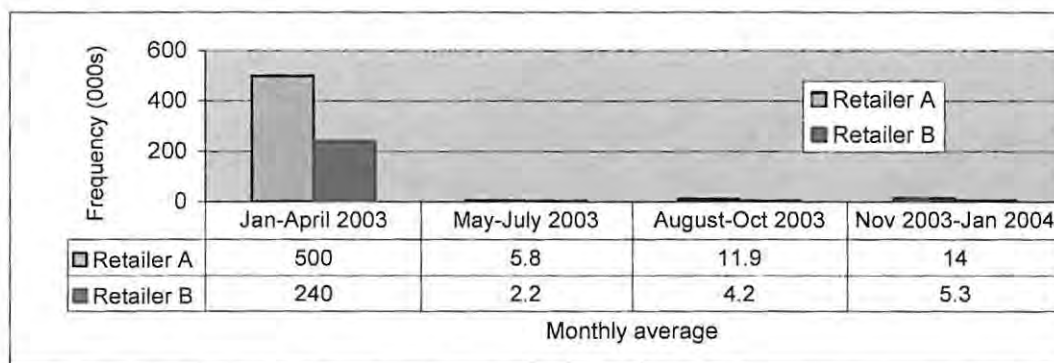
A follow-up to establish demand for HDPE material (used to produce the plastic shopping bags) from the single producer, Dow Chemicals (Interview T27, 2004-02-26) confirmed a similar trend. Dow Chemicals admitted that its business had been "significantly affected" (*ibid*). Immediately after the Plastic Bags Regulations were enforced, the company was selling on average 13 bags of HDPE per month compared to 100 bags it sold prior to the regulations. This figure represented an 87% drop in demand for raw material, a figure that compares well with the 83% from the manufacturing company discussed above. However, after the 'plastic bags price war' in August 2003 (refer to section 7.2.3), the company reported that the demand went up slightly and it was selling on average 30 bags of the raw material per month. This still accounted for a 70% decrease from the company's traditional figures. No loss of labour was recorded although Dow Chemicals noted that its customers down the value chain (i.e. producers) had reported such retrenchments (*ibid*).

The demand for plastic bags was also monitored for a complete year in two out of the three major groceries retail chains in Grahamstown between January 2003 and January 2004. 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. This meant that by the end of the day a more plausible conclusion could be reached concerning short to medium term demand trends.

The demand situation from the observations is presented in graph 7.2. The figures presented in graph 7.2 show that demand trends at the local scale were similar to those experienced by the raw materials supplier and 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 7.2: Retail plastic shopping bags demand



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 as revealed during interviews with the management of the two retail outlets and this was attributed to normal increase in consumption during the Christmas and New Year festive season (Interview FF9, 2003-05-19; Interview FF10, 2003-05-20). 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.

At the national level, plastic shopping bags demand figures reported three months after the enforcement of the Plastic Bags Regulations showed reductions that ranged between 75-90% reduction. In one of the reports that summarised the issues around plastic shopping bags demand

from major manufacturers, the City Press of 10 June 2003 got the following responses from major producers in the sector:

- 80% drop (Plastic Federation of South Africa),
- 90% drop (Premier Plastics), a company that employed 120 people in its Pretoria and Cape Town manufacturing plants,
- 80% drop (Nampak Polyfoil), a company that employed about 425 people in its Johannesburg and Cape Town manufacturing plants,
- 90% drop (Transpaco Flexible), a company employing about 350 workers in its three plants from Johannesburg (1) and Kwa-Ndebele (2), and
- 75% drop (Plastic Bag Manufacturers).

Once more, the figures discussed above compare favourably to figures cited in the Irish experience (section 4.1.2.1). The figures also make a case for retrenchments and this certainly took place earlier than anticipated in the Plastic Bag Agreement of September 2002. If the formula from the Nolan-ITU study conducted in Australia is applied (see section 4.4.5.1), about 3,000 full time job equivalents could have been lost from the 4,000 recorded in the production sector alone prior to the implementation of the regulations (see section 6.2). This is a figure that represents a 74% job loss. This is not an easy puzzle given that more jobs could have been lost amongst the packers in the retail sector, but this is more complex to monitor and trace.

7.8 ENVIRONMENTAL POLICY REFORMS

The promulgation and gazetting of the first draft of the Plastic Bags Regulations on 19 May 2000 triggered a series of environmental policy reforms. This included both amending existing laws as well as putting in place new ones, particularly in the form of regulations. Since some of the policies and laws have already been discussed under chapter seven, these will not be repeated here. The focus will be on the Customs and Excise Act of 1964, Revenue Laws Amendment Act 2003, Environmental Conservation Amendment Act 2003, and the National Environmental Management Act 2004. These will now be considered in turn below.

7.8.1 Amendment of the Customs and Excise Act, 1964

Due to the implementation of the Plastic Bags Regulations, an amendment had to be made to Schedule 1 of the Customs and Exercise Act of 1964. This was necessitated, according to the PFSA statement posted on its website (<http://www.plasticsinfo.co.za/>, 23 September 2003) by the fact that tariff headings under Schedule 1 did not provide detailed descriptions of plastic shopping bags in order to separate them from other goods under the same tariff heading. As such the South African customs control had detained containers with goods other than plastic

shopping bags. In addition, the statement indicated that in order to address the problem, the South African Revenue Services had proposed to amend the tariff headings and invited industry to comment on the proposal prior to it being gazetted before 15 October 2003.

Section 48 (1) (1) of the Customs and Excise Act of 1964 (<http://www.plasticsinfo.co.za/>, 23 September 2003) was amended by the insertion of sub-headings as indicated in table 7.2.

Table 7.2: Amendment of the Customs and Excise Act, 1964

| Sub-heading | Article description | Statistical Unit | Rate of duty | | |
|-------------|---|------------------|--------------|-----|------|
| | | | General | EU | SADC |
| 3923.21.10 | ... Carrier and flat bags or sacks, of a thickness more than 24 microns, printed with a single resin system ink based on a co-solvent polyamide with a mass of dry sold content not exceeding 2.25 % of the mass of the unprinted bag or printed with other inks with a mass of dry solid content not exceeding 1.125% of the mass of the unprinted bag (excluding bags for use as immediate packaging, refuse bags or sacks and refuse bin liners) | kg | 15% | 15% | Free |
| 3923.21.90 | ... other | kg | 15% | 15% | Free |
| 3923.29.10 | Same description as in first row | kg | 15% | 15% | Free |
| 3923.29.90 | ... other | kg | 15% | 15% | Free |

Source: Compiled from <http://www.plasticsinfo.co.za/>, 23 September 2003

What emerges from table 7.2 is that the detailed description required by Organised Business was provided. Furthermore, the amendment clearly exempts primary packaging, refuse plastic bags as well as bin liners.

7.8.2 Revenue Laws Amendment Act, 2003

The Revenue Laws Amendment Act of 2002 was amended from the Revenue Laws Amendment Act, 2003 in order to make provision for the imposition of environmental levies. This followed implementation problems, as the levy established by the Plastic Bag Agreement of 2002 did not have any legal backing. As such, the South African Revenue Services could not collect the levy. On Thursday 6 May 2004, the National Treasury announced that a compulsory levy to be charged for a plastic shopping bag would be 3 cents (or R2.13 per kilogramme). A portion of the levy was to be forwarded to the e-Bag Initiative (<http://www.environment.gov.za/>, 20 May 2004).

7.8.3 Environmental Conservation Amendment Act, 2003

In December 2003, the Environmental Conservation Act of 1989 was amended so as to enable the Minister of Environmental Affairs and Tourism to make regulations regarding financial matters relating to specific waste types and regarding product control for waste management. Section 24 of the 1989 Act was amended adding paragraph 24 (l) (RSA, 2004b). The paragraph stipulates that compulsory charging, deposits or related financial measures on waste types or specified items in waste types shall be imposed with the concurrence of the Minister of Finance (*ibid*). What this implies is that another institution and Ministry is linked to the implementation of environmental regulation (particularly waste product regulation) in South Africa.

Other amendments include the insertion of two new Sections, that is, 24B and 24C. Section 24B now deals with ‘Regulations regarding products’ (RSA, 2004b). The regulations are made in regard to the prohibition, control, sale, distribution, import or export of products that may have a substantial detrimental effect on the environment or on human health (*ibid*). This clause introduces a huge challenge for South African plastic shopping bags manufacturing industries. Technically, they can be sued from beyond the borders if they export the old type, thin plastic bags prohibited under the new Act.

Section 24C deals with “Procedure for making regulations” that were originally dealt with under Section 32 of the 1989 Act as discussed under 5.1.3. Technically, Section 24C now eliminates extended public participation and comments as stipulated under Section 32 of the 1989 Act (RSA, 2004b). Section 24C (3) effectively make provision not to subject the proposed regulations to prolonged and bureaucratic publication for comments as required under Section 32 of the 1989 Act. The new section leaves room for the Minister of Environmental Affairs and Tourism to deal with a limited group of interested and affected parties only. This might have severe negative impacts in terms of how the general public would participate as only 30 days (reduced from 90) are now allocated for the entire process. This is a limited period for the mobilisation of resources from a community or grassroots perspective.

7.8.4 National Environmental Management Amendment Act, 2004

The National Environmental Amendment Act 2004 establishes an Inspectorate under DEAT (Matjila et al., 2004). The issue of DEAT’s depleted enforcement capacity was discussed fully in section 7.2.1. The emergence of a strong enforcement arm (the so-called *Green Scorpions*) was deliberated at length in a conference paper entitled ‘*Gearing for efficient and effective pollution and waste management enforcement*’ (Lukey, Brijlall, & Thooe, 2004). The authors investigated

developments concerning enforcement, particularly since the mid 2003. This is the period when the Plastic Bags Regulations entered into force. The paper starts by indicating that there have been negative perceptions concerning DEAT's "performance in the area of enforcement" (*ibid*: 21). The re-orientation of DEAT that witnessed the creation of the Chief Directorate for Regulatory Services and the subsequent formation of the Enforcement Directorate is highlighted as the key achievement of the period under review. The core business of the Enforcement Directorate is described as to:

Facilitate the enforcement of compliance with all pollution and waste legislation, authorisations, norms and standards through the efficient and effective use of available enforcement instruments [including Plastic Bags Regulations] by Government in order to provide the people of South Africa with an environment that is not harmful to their health and well-being (Lukey et al., 2004: 25).

Phrases such as "an environment that is not harmful to their health and well-being" link directly to the provisions of the Constitution, NEMA and related legislation pertaining to environmental management in the country already discussed in chapter five (refer to sections 5.2-4).

From Lukey et al.' (2004: 26) explanations, enforcement of the Plastic Bags Regulations and other environmental policies follows two approaches: "hands on enforcement activities, and research and development (including capacity development and maintenance) activities". To achieve this, the Enforcement Directorate employs a number of strategies such as *partnerships*, *test cases*, *greening the judiciary* and *use of the media* (*ibid*). Since some of the aspects raised here have been dealt with elsewhere in the thesis (see sections 5.3.3 & 7.2.3) I will restrict myself to explaining briefly what the authors implied by 'greening the judiciary'. They indicated that the present judiciary system does not fully recognise environmental offences as 'crimes'. As such, "penalties and criminal sanction for environmental crimes seldom motivate changes in behaviour, hence increased compliance" (*ibid*: 27). The authors, however, acknowledge the fact that the situation was beginning to improve and Government (through DEAT) was to embark on an ongoing awareness raising campaign to green the judiciary. As a matter of fact, South Africa scored another first in southern Africa by launching an Environmental Court in Cape Town on 16 March 2003 (<http://www.environment.gov.za/>, 20 March 2003).

7.8.5 Government's preferred future for waste minimisation

In his speech during the National Assembly debate on the budget for DEAT on 21 June 2004, Minister Marthinus van Schalkwyk (successor to Vali Moosa) told Parliament that DEAT was

working towards waste minimisation by targeting waste streams. He reported that the first building block had been the pilot project by Government and its social partners to address plastic shopping bags pollution, which resulted in an average drop of 40% in their consumption (<http://www.environment.gov.za/>, 8 August 2004). The Minister also indicated that DEAT expected to conclude similar agreements with the glass and waste-tyre industry anticipated these before the end of 2004. From the speech, the Minister believed that the agreements would be “accomplished through cooperative mechanisms to ensure that the producers and the industry bear the costs - not the South African consumer” (*ibid*). Minister van Schalkwyk revealed to the Assembly that he had instructed DEAT to start working on *new waste management legislation*, which would be tabled before Parliament sometime in 2005. This response was in line with the need to harmonise various initiatives aimed at waste minimisation and management, particularly re-use and recycling.

7.9 BUYISA-E-BAG BECOMES OPERATIONAL

Both the Institute of Waste Management of southern Africa October 2004 newsletter (IWMSA, 2004b) and the July edition for the Plastics Environmental Initiative (PEI, 2004) reported on the establishment of Buyisa-e-Bag Interim board. As highlighted earlier in section 6.8.2, the Interim Board is made up of representatives from founding member organisations that include the Plastics Federation of South Africa, Plastic Recycling Employers’ Organisation and the Chemical and Allied Industries Association. Other organisations whose representatives sit in the Interim Board (who were also closely linked to Buyisa-e-Bag initiative) are the Plastics Converters Association and the Chemical Energy, Paper, Wood and Allied Industries Workers’ Union (CEPWAIWU). CEPWAIWU was involved in the policy process under Cosatu representation (see section 7.6).

Discussions with the Director for Waste Management (Interview T29, 2004-09-08) indicated that Government had committed itself to funding Buyisa-e-Bag activities aimed at creating jobs and promoting recycling, education and awareness raising regarding plastic shopping bags litter and waste. As such, “Buyisa-e-Bag had been allocated a budget of R20 million for the next three years” (*ibid*). The same sentiments were echoed by the Buyisa-e-Bag Board Chairman who did not only confirm the claim by Government, but also indicated that an R12 million grant was allocated for the financial year starting August 2004 and ending February 2005 (Interview T30, 2004-09-08). Like any other Section 21 Company, Buyisa-e-Bag is expected to present financial statements and budgets to Treasury through the necessary channels that included accounting to its Board, DEAT and other stakeholders. The reason why a budget line was established

according to the Director of Waste Management (Interview T29, 2004-09-08), 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. Instead, the levy goes to Treasury like any other revenues generated in the country.

7.10 COMMUNITY RECYCLING PROJECTS

One group that was negatively impacted by the implementation of the regulations was the Masithandane Women's Group from Grahamstown in the Eastern Cape Province (see earlier discussions under 5.7.2). The focus group interview revealed that the new plastic shopping bags could not be used for making crafts without treating them, as they were too brittle (Interview FG, 2004-01-30). In addition, they were now too scarce and this restricted the group to using refuse bags, which also require a lot of Vaseline to make them crochetable. In support of the views from Masithandane, an article retrieved from the South African Broadcasting news bulletin of 24 May 2003 reported that the Itlhabolole Plastic Bags Project in the North West Province was also threatened with closure following the regulations. The project employed 32 women who also weaved old plastic shopping bags into various artefacts.

7.11 OTHER CONSEQUENCES

Other issues of interest that emerged from the policy process during the implementation phase include increased thefts from retail outlets, health risks posed by physical body strain from lifting heavily loaded new plastic shopping bags and environmental awards. The managing director of Griffiths Reid Security Company was cited in *The Mercury* of 20 June 2003 (Staff Reporter, 2003c) saying they had recorded increased shoplifting since the banning of old plastic shopping bags. This was due to the fact that retail shops security guards could no longer seal bags upon an individual's entry to a shop. Gangs up to 40 shoplifters moving in and simultaneously stealing for syndicates were reported (*ibid*). Customers were also reported to be walking out hiding unpaid for goods in their bags.

The *Star* of 27 July 2003 (Melanie, 2003) carried an article warning of possible negative health impacts associated with the new plastic shopping bags. A physiotherapist from the South African Society of Physiotherapy indicated that the new plastic shopping bags could result in back problems as consumers lift excessively heavy plastic shopping bags as they would want to save money by reducing bag consumption. Those that were identified to be most vulnerable were packers who had to lift the heavy bags into trolleys at till-points and consumers when loading bags into their cars. The warning, as revealed by the physiotherapists, came against a background

that at least 80 percent of South Africa's workforce suffers from severe discomfort and even disability due to problems that arise from lower back pain (*ibid*). This problem was estimated to be costing South Africa more than two billion Rand annually in lost working hours and medical bills.

A national poll conducted by Research Surveys, an independent research group based in Cape Town (reported in *The Star*, *Mail&Guardian* and *Daily Dispatch*) concluded that 44% of 2,000 respondents sampled were very embarrassed to take their own plastic shopping bag when they went shopping (Staff Reporter, 2003a; Staff Reporter, 2003d; Sapa, 2003e). The survey also found out that more than half of the respondents did not believe that the new plastic bag law would result in cheaper food prices for consumers (see section 7.2.4). However, they were positive that the new law would reduce plastic shopping bags litter and waste in the environment (Sapa, 2003e). About 42% of the young people sampled said they buy a new plastic bag each time they went shopping (*ibid*). The survey also found that women were more likely to try to squeeze everything into one large bag than into several small ones.

Another development as already stated at the beginning of this section includes environmental awards. The Institute of Waste Management of Southern Africa presented the *Presidential Award* to then Minister of Environmental Affairs and Tourism, Valli Moosa. Presenting the award, the President of the Institute of Waste Management Southern Africa (IWMSA, 2004a-10-14) read the Minister's brief that touched aspects on the successful implementation of the Plastic Bags Regulations. Part of the brief indicated that Valli Moosa was "the major 'Mover and Shaker' on the new legislation on issuing of shopping bags" (*ibid*). Words like 'mover' and 'shaker' are often associated with the stock exchange. However, given the tensions and debates surrounding the Plastic Bag Regulations, the Minister was truly, like 'a company' that moves or shakes trade on the stock exchange. This was not the first time the Minister had received an award in recognition of his work. On 3 November 2003 (<http://www.environment.gov.za/>, 5 November 2003) a Centenary Environmental Merit Certificate was awarded to the Minister by the Southern Africa Association of the Advancement of Science. According to the National President of the Association, Dr Ian Raper, the award was in "recognition of the Minister's achievements since taking office, especially the legislation concerning plastic bags and 4X4 vehicles on beaches". By the time of completing this write-up, Moosa had retired from Government and active politics and taken up a challenging position of being the first African President of the International Conservation Union (IUCN) (<http://www.environment.gov.za/>, 2 December 2004).

7.12 ENVIRONMENTAL AND SOCIAL IMPACTS

From a statement that appeared on the DEAT website on 16 July 2003 (<http://www.environment.gov.za/>, 8 August 2003), 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. As discussed already under 7.1.3, a follow-up 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. Given this scenario, one may generally conclude that the regulations have had an impact in terms of the total amount of plastic shopping bags waste getting into the environment. Another environmental benefit has already been discussed under the *Kids in Parks Programme* (see section 7.3.2).

In a Parliamentary update on 16 September 2003, Member of Parliament Ms S. Rajbally asked then Minister of Environmental Affairs and Tourism "Whether there has been any noticeable effect on the environment and tourism since the implementation of the restrictions on plastic bags; if so, what effect?" (<http://www.environment.gov.za/>, 30 September 2003). In response, the Minister noted that although there were no scientific surveys conducted, the Ministry had received "numerous anecdotal reports from various sectors of society" ranging from farmers who indicated that their cattle were not being choked any longer, to tourists who had informed government about "noticeable decrease in plastic bags in the countryside" (*ibid*). The following were some of the observed changes highlighted by the Minister since the implementation of the Plastic Bag Agreement:

- (1) there had been a reduction in consumption of plastic bags by consumers since the implementation of the Plastic Bag Agreement requiring consumers to pay for bags,
- (2) consumers were increasingly re-using plastic shopping bags when doing their shopping, and
- (3) there was a heightened awareness by consumers of the need to reduce pollution and the impact had been that less plastic was being disposed of in manner that is detrimental to the environment supporting the 3R policy of reducing, re-using and recycling waste.

In a Parliamentary update of 31 October 2003, Member of Parliament Dr. S.J. Gous asked the Minister of Environmental Affairs and Tourism a series of questions concerning the implementation of the Plastic Bags Regulations (<http://www.environment.gov.za/>, 2 December

2003). The Member of Parliament enquired on: (a) the latest developments with regard to plastic shopping bags after a meeting with Nedlac, (b) how the representation by the Congress of South African Trade Unions would influence the regulations, and (c) what the Minister was going to do as the next step to reduce plastic shopping bags pollution? In response, the Minister acknowledged that labour had indeed raised concerns alleging that there were threats of job losses in the plastic industry (*ibid*). As such, DEAT had arranged further consultation with affected stakeholders including organised labour. This was done through Nedlac. The response from the Nedlac Standing Committee, in consultation with affected stakeholders subsequently agreed that in order to sustain the plastic bag value chain, the following measures be put in place (*ibid*):

- That a joint media statement agreed to by all parties should be issued and that the statement will encompass all elements of the agreement.
- That an extensive study be conducted to determine the supply and demand of plastic bags in the country and that DEAT facilitates the study to be completed in the first quarter of 2004.

A follow-up regarding the study with the Director of Waste Management in DEAT through a telephone interview (Interview T29, 2004-09-08) revealed that the study had not been done and no indication as to when it would be completed was given.

Addressing the third and last question on the next step forward (<http://www.environment.gov.za/>, 2 December 2003), the Minister indicated that the Plastic Bag Agreement of September 2002 established a Section 21 Company and went on to elaborate the scope of the company as discussed earlier under section 6.8. The Minister also indicated that there was consultation with the “National Treasury to facilitate the development of a mandatory levy through which the company will be financed” (*ibid*). Furthermore, the Minister indicated that in order to reduce pollution from plastic shopping bags, there should be control at all ports of entry. To that effect, the South African Revenue Service in consultation with the Standards South African was controlling imports of plastic shopping bags into the country.

7.13 SUMMARY OF TENSIONS, DEBATES AND RESPONSES

Continued disagreements over the nature of policy regulatory instruments that could best address the problem associated with plastic shopping bags litter and waste emerged. Plastic shopping bags producers still wanted Government to relax the finalised May 2003 Plastic Bags Regulations further. To this end, the Plastic Converters Association sent representatives to the

UK to mobilise international support and lobby the South African Government against the revised law. Government refused to give in and the law was enforced resulting in Organised Industry revising its Buyisa-e-Bag initiative along the lines of the new developments. In addition, Government showed strong political will and commitment towards the enforcement of the regulations as revealed by the inspection of retailers readiness to implement the regulations that took place in various Metros including Cape Town, Durban and Johannesburg.

Tension also grew between the retail group Pick'n Pay and the media over its alleged silence on the proceeds from the sale of the Green Bag. The group had promised to donate R1 per sold green bag towards an environment initiative that was to be identified jointly with DEAT. The group responded and indicated that it had channelled R8.72 million towards the Kids in Parks environmental education programme, but not until the Business Report had run an editorial on the controversy. The media also featured prominently as a key actor with the power to lobby either for or against the Plastic Bags Regulations.

The aspect of depleted enforcement capacity in the DEAT was raised. This resulted in the amendment of the Environmental Management Act so as to make provision for the establishment of a fully-fledged Inspectorate Directorate. Debates about public education and awareness raising also emerged. The retailers did their part to educate their workers, especially the till operators and packers to ask if customers wanted a plastic shopping bag and to pack items economically. However, the Government could only manage to install a toll free number to assist in responding to queries from the public.

Another issue that caused debate was the so-called two months grace period that industry and retailers claim Government had given them to adjust to the requirements of the new law from the day it entered into force on 9 May. It emerged, however, that this was some calculated distortionary move by powerful actors, particularly Organised Industry (including retailers) as they capitalised on a legal loophole. Industry could 'not produce' the new plastic shopping bags because there were no specification in place as yet. However, as early as February 2003 (some three months before the regulations entered into force) some major plastic shopping bags producers were already manufacturing the specified bags.

Legal loopholes also emerged as Mr Price clothing retail chain and other allies refused to charge for plastic shopping bags citing that there was no law that forced them to do so. This move gained popular support from consumers with its representative body fully behind Mr Price. As a

result, all clothing retail chains dropped the charges permanently. Related to this development was the amendment of the Environmental Conservation Act to make provision for such environmental levies and force concerned actors and their actor/actant-networks to comply.

A plastic shopping bag 'price war' also erupted with the Pick'n Pay group at the centre of the controversy. The main argument was that consumers could not link the reduced food prices as promised in the Plastic Bags Agreement, an argument that was fully supported by the largest labour movement in the country, Cosatu. This resulted in a more than half price cuts in original prices of shopping bags.

Other controversies emerged regarding alternative carry facilities such as the biodegradable plastic shopping bag and the Green Bag. Plastic shopping bags producers indicated that the biodegradable bag would be costly to manufacture and that they did not have the necessary technology. However, some companies wanted to bring the initiative onboard, yet Government refused, basing its argument on the fact that the technology was new and its environmental impacts were not fully known. However, the biodegradable plastic shopping bags were produced, resulting in some kind of 'tacit' approval from Government. As for the Green Bag and other imported alternatives, producers feared competition from the outside world and this resulted in some schedules of the Customs and Excise Act being amended to cater for imported plastic shopping bags. Debates also emerged over Pick'n Pay's alleged lack of patriotism and 'sell-out' plan as it imported the green bag, a move that 'violated' the Proudly South African campaign to which it is a signatory.

The delayed establishment of Buyisa-e-Bag and the collection of the levy as producers held on to the levy for more than a year caused confusion. The producers did not want to release the levy into National Treasury arguing that the levy could be used for other initiatives that were not aligned to the cause. Once more, the amended Environmental Conservation Act had to force the producers to release the levy. Buyisa-e-Bag was finally established with a Government budget line.

Information generated from local authorities and Government clearly showed that the regulations had managed to reduce plastic shopping bags in the environment. The plastic shopping bags producers, however, indicated that this was achieved at a cost to labour and business. Demand for shopping plastic bags reduced to levels of about 83% on average and at least 1,000 full-time equivalent jobs were lost in the production sector alone. Other jobs were lost, particularly in the

informal sector and community recycling projects such as the Masithandane Women's Group of Grahamstown were severely impacted. The aspect of job loss split the South African population into two camps (including the media) as debates raged on regarding the sustainability of implementing policies such as the Plastic Bags Regulations and similar initiatives in the future.

7.14 CONCLUSION

This chapter presented the tensions, debates and responses during the implementation phase of the Plastic Bags Regulations. It emerged that although the regulations resulted in a significant reduction in plastic shopping bags getting into South Africa's environment, the major concern was for job losses and related social impacts as well as lost revenue and capital investment. Enforcement of the new law differed at various scales with all major producers adequately complying with the law. However, consumers felt that food prices were not reduced as was agreed in the Plastic Bag Agreement. At another level some clothing retailers refused to charge for the new plastic shopping bags and this resulted in all clothing retailers dropping the charge some few months after the enforcement date. A plastic bag price war also erupted in the food retail chains leading to price cuts of more than half the original prices. Retailer Pick'n Pay was at the centre of the controversy yet it led the retailers during the promulgation of the Plastic Bags Regulations. This means Pick'n Pay betrayed those actors it represented. The issue of alternative carry facilities became central, especially the degradable plastic shopping bags and the Green Bags, bringing a mixed actor-network. Once more, Pick'n Pay was alleged to have betrayed the Proudly South African Campaign that seeks to promote local South African products and create employment. Lastly, a number of environmental laws were amended including the 1989 Environmental Conservation Act, National Environmental Management Act of 1998 and the Revenue Laws amendment Act 2002.

The next chapter focuses on emerging issues arising from the research, particularly chapters five, six and seven that dealt with the presentation of data, analysis and discussion of findings. The issues are linked to chapters two and four that deliberated policy theories and international developments with major emphasis on complexities and uncertainties in environmental policy making processes. A series of conceptual frameworks are also presented, all of which draw on the analysed data and the discussions that followed thereafter. These conceptual frameworks are explained through a more explicit use of AANT to provide further insights into environmental policy processes as they relate to Plastic Bag Regulations and waste product regulation.

PART FIVE

EMERGING ISSUES, CONCLUSIONS, SUGGESTIONS AND REFLECTION ON THE RESEARCH PROCESS

PREAMBLE

This part presents emerging issues from the research. It is divided into two chapters that present: (1) a summary of findings and conclusions (chapter eight) and (2) suggestions and reflections on the research process (chapter nine). The summaries are derived from the tensions, debates and responses that emerged during the entire process surrounding the conceptualisation, formulation and implementation of South Africa's Plastic Bags Regulations. Conclusions are then drawn based on emerging issues mainly from the South African case (see chapters five, six and seven) as well as the international perspectives chapter that looked at the Irish and Australian experiences (see chapter four). The findings are presented in a series of conceptual frameworks informed by the actor/actant-network theory as they emerged around the actors, actants and actor/actant-networks. Suggestions are also provided in conclusion, including the manner in which the conceptual frameworks might be adapted on a spectrum and applied to research environmental policy processes at various scales both within and outside South Africa. To this end, chapter eight also partially addresses objective two that looks at identifying "actors, actants and actor/actant-networks that shaped and were being transformed by South Africa's Plastic Bags Regulations and explain the tensions, debates and responses arising in the policy processes" as well as the last two objectives focusing on (1) identifying environmental policy outputs and assess outcomes emerging from the formulation and implementation of South Africa's Plastic Bags Regulations; and (2) establishing patterns in environmental policy process reforms around South Africa's Plastic Bags Regulations. Chapter nine is dedicated to reflecting on the research process and assesses the extent to which the objectives were achieved and how issues pertaining to credibility as raised under section 3.9 were dealt with.

CHAPTER EIGHT

EMERGING ISSUES AND CONCLUSIONS

8.0 INTRODUCTION

This chapter presents emerging issues and conclusions drawn from the discussion and summaries of research findings (see chapters five, six and seven). The framework for the chapter is informed by the research goals (question, aim and, especially the objectives) as presented in section 1.9. In addition, the chapter addresses the methodological orientation that is informed by the application of the actor/actant-network theory (AANT) enquiry framework for both data generation and analysis. AANT, as applied in this research involved generating data ‘following’ the Plastic Bags Regulations as the unit of data generation and analysis or as token (see section 3.1). As for data analysis, AANT’s four moments of translations namely: *problematisation*, *interesement*, *enrolment* and *mobilisation* were used (section 3.3.2), particularly for the South African focus case study. Below are some of the key findings from this work.

1. A global-local (and vice versa) actor/actant-network dealing with environmental policy processes around the management of plastic shopping bags litter and waste was identified and this was particularly characterised by the Irish, Australian, German and South African experiences.
2. Up to four major actor-networks could be distinguished as those influencing environmental policy developments surrounding South Africa’s Plastic Bags Regulations. In line with this, four respective conceptual frameworks are developed to represent these actor-networks focussed on Government, Organised Business, Organised Labour and a *Mixed* actor-network framework.
3. Two key actant-networks were noticeable from the South African case study and in a similar manner, two conceptual frameworks were developed around the Integrated Pollution and Waste Management policy and the Plastic Bags Regulations narratives.
4. An overall actor/actant-network conceptual framework is then developed capturing the six conceptual frameworks discussed in ‘2’ and ‘3’ above.

5. Both the short and medium term policy outcomes were evaluated from the implementation of South Africa's Plastic Bags Regulations. The evaluation showed that a year later, there was an estimated 83% drop in plastic shopping bags consumption. However, this was overshadowed by significant job, revenue and equipment losses in the plastic shopping bags production sector.
6. A 15-year cycle of environmental policy making towards addressing plastic shopping bags litter and waste in South Africa emerged. The cycle was characterised by environmental policy reforms (including the amendments to the 1989 Act, and the National Environmental Management Act in 2003) and the setting up of new regulations, agreements and specifications to deal with the plastic shopping bags problem.
7. Issues of public awareness and education concerning the Plastic Bags Regulations were not adequately addressed, with the lead Government implementation agency, the Department of Environmental Affairs and Tourism failing to put in place a specific programme for this. In addition, Buyisa-e-Bag did not become operational as scheduled.

8.1 RESEARCH FOCUS

Before embarking on a detailed elaboration of key emerging issues and conclusions as highlighted in 8.0 above, it is important to re-cap on the research objectives as highlighted in section 1.9.3. Four objectives were set and these emphasised the following focus areas:

1. Analysis of selected international environmental policy processes around the management of plastic shopping bags litter and waste.
2. Identification of key actors, actants and actor/actant-networks shaping environmental policy process around South Africa's Plastic Bags Regulations.
3. Evaluation of environmental policy regulatory instruments (outputs) and outcomes emerging from South Africa's environmental policy processes surrounding the Plastic Bags Regulations.
4. Establishment of patterns in environmental policy process reforms around South Africa's Plastic Bags Regulations.

Issues emerging from the focus areas will now be considered and conclusions concurrently drawn. These are presented mainly in the form of conceptual *frameworks*. The decision to use the phrase *framework* as opposed to *model* is deliberate. This is so because I wish to avoid

making the research findings and conclusions appear rigid and law-like, an aspect aimed at addressing the problems associated with the naming of phenomena as discussed in section 3.3.4. The use of the term *framework* is also strategic in that it is an acknowledgement of the complexity and uncertainty associated with researching environmental policy processes (see section 2.6) as revealed, especially by events surrounding the management of plastic shopping bags litter and waste in South Africa (refer to chapters five, six and seven). As such, the conceptual *frameworks* are mere representations of more complex situations that emerged during the research process.

8.2 THE INTERNATIONAL-LOCAL INTERFACE

The findings reveal a complex web of linkages that touched on broader integrated pollution and waste management issues internationally to specific packaging and plastic litter and waste management policy frameworks at local (national) levels. Some of the specific international laws drawn upon in the development of the South African Plastic Bags Regulations include Germany's 1991 Ordinance on Packaging Waste (in which the Green Dot concept informed the e-Bag Initiative) and the European Union initiatives as regulated by the 1994 Directive on Packaging and Packaging Waste that was amended in 2001 (refer to section 2.4.5). Other international perspectives applied in the South African situation include the Irish Plastic Bag Levy of 2001 and the Australian debates around the Plastic Bag Bills of 2002 that were rejected in 2003 (see sections 4.1.2.1 & 4.4.5.2).

In drafting and finalising two key policy documents around waste management in South Africa (sections 5.5 & 5.6), namely: the 1999 National Waste Management Strategy and Action Plans and the 2000 White Paper on Integrated Pollution and Waste Management, the Department of Environmental Affairs and Tourism drew insights from various case studies drawn from different countries and continents. These included Africa (Botswana, Burkina Faso, Ghana, Kenya and Namibia), Europe (Denmark, Germany and Norway), Asia (Bangladesh and India) and Americas (the USA) (see section 2.4.5).

The international perspectives, especially the Irish and Australian experiences (chapter four), were selected for in depth analysis as they appeared to be key sources in the South African experience. The Irish experience dominated proceedings in both South Africa and Australia. However, although used as a landmark in regulating plastic shopping bags in both countries, the Irish model was received differently in the two countries: with almost a total adaptation and integration in South Africa (refer to section 6.3) and a total rejection in Australia (see section

4.4.5.3). The South African case study also revealed that elements from both the National Packaging Covenant and the National Environment Protection (Used Packaging) Measure from Australia were adapted by Organised Business when the e-Bag Initiative was first mooted in March 2002. A summary on the levels of adaptation and the cross-fertilisation of ideas from the three countries is presented in table 8.1.

Table 8.1: International-local interface in plastic shopping bags regulation

| <i>Parameter</i> | <i>Ireland</i> | <i>South Africa</i> | <i>Australia</i> |
|---------------------------------|--|---|--|
| Lead agents | Department of Environment and Local Government | Department of Environmental Affairs and Tourism (DEAT) | Department of Environment and Heritage |
| Legal framework | - 2001 Waste Management Amendment Act | - 2003 Environmental Conservation Amendment Act - 2003 Revenue Laws Amendment Act - 2003 National Environmental Management Amendment Act | - 1999 National Packaging Covenant - 1999 National Environment Protection (Used Packaging) Measure - 2003 Plastic bag bills rejected |
| Regulatory/policy instrument | - 2001 Plastic Bag Levy - 2001 Environment Fund | - 2002 Plastic Bag Agreement - 2003 Plastic Carrier Bags & Plastic Flat Bags - 2003 Compulsory Specifications for Plastic Carrier Bags & Plastic Flat Bags Regulations - 2004 Buyisa-e-Bag | - 2003 Industry and business self-regulated Code of Practice for Retail Plastic Bags Management accepted provisionally up to July 2005 |
| Charge or levy | 15 cents per plastic bag | 3 cents per plastic bag | None |
| Product standard | None | Minimum 24 microns | None |
| Green Bag | Source of origin and extensive campaign for its use | Adopted and extensively promoted by industry through Pick'n Pay Group | Adopted and central to the success or failure of the Code of Practice |
| Source of pressure to regulate | EU 1994/2001 Directive on Packaging and Packaging waste | - Poor waste management, especially in townships - Need to promote tourism | Media as informed by the Irish experience |
| Education and awareness raising | - 4 million brochures - Month long advert on TV and national radio - Outdoor posters - Lo Call (toll free) line | - Handful of tabloids outlining the Plastic Bag Agreement - Toll free (hotline) established - Buyisa-e-Bag established (but not fully operational) | - Plastic bag national campaigns - Promotion of both in and outside-retail collection and recycling infrastructure |
| Enforcement | - Local authorities - Retailers - Tax Commissioner | - Inspectorate from DEAT - Producers - Retailers - South African Revenue Services - Buyisa-e-Bag | - Local authorities - Clean Up Australia (NGO) - Retailers - National Packaging Covenant Council and related committees |
| Specialists | Used throughout | Used throughout | Used throughout |
| Blue Flag status | - 73 beaches as of 2004 | - 27 beaches as of 2004 | Expressed interest in 2004 |
| Results | -90% drop in demand since implementation -€3.5 million raised during the first four months and distributed to local authorities | - 92% drop (83% material equivalent) in demand after a year and a half - R20 million annual budget up to 2007 for Buyisa-e-Bag | - 7.3% drop in plastic shopping bags during the first six months of implementation |

What table 8.1 does not reflect is the manner in which the Australian experience was also informed by the South African experience (see section 6.2.2.5). As such, a web of relationships that are non-linear can be identified. Hence the international experience (EU and Irish) informed the local (South Africa), and in turn the local (South Africa) informed the international (Australian) experience and *vice versa*. Evidence of the South African experience also impacting on the Southern African Development Community (SADC) region emerged. Botswana, for example, was finalising its set of Plastic Bags Regulations, whilst Lesotho, Namibia and Swaziland indicated that they were monitoring the South African implementation progress before concrete decisions could be made to institute similar regulations in their respective countries (see section 2.4.5).

Another aspect evolved around the way in which local actors, actants and actor/actant-networks from South Africa (represented by the Plastics Converters Association) visited the UK to share local experiences with both a UK association (Packaging and Industrial Films Association) and the newly formed global lobby actor-network, the Carrier Bag Consortium in May 2003 (refer to section 7.1.1). Ideas on how to address plastic shopping bags litter and waste problems globally were shared. However, this initiative did not change proceedings during the implementation phase of South Africa's Plastic Bags Regulations.

Lastly, in as much as debates on sustainability around the command-and-control theory of regulation continue (see section 2.5.5.3), a 7.3% drop in demand of plastic shopping bags in Australia during the first six months of implementation, (compared to an average of 85% for Ireland and South Africa) proves the challenges associated with self-regulation (see table 8.1 above).

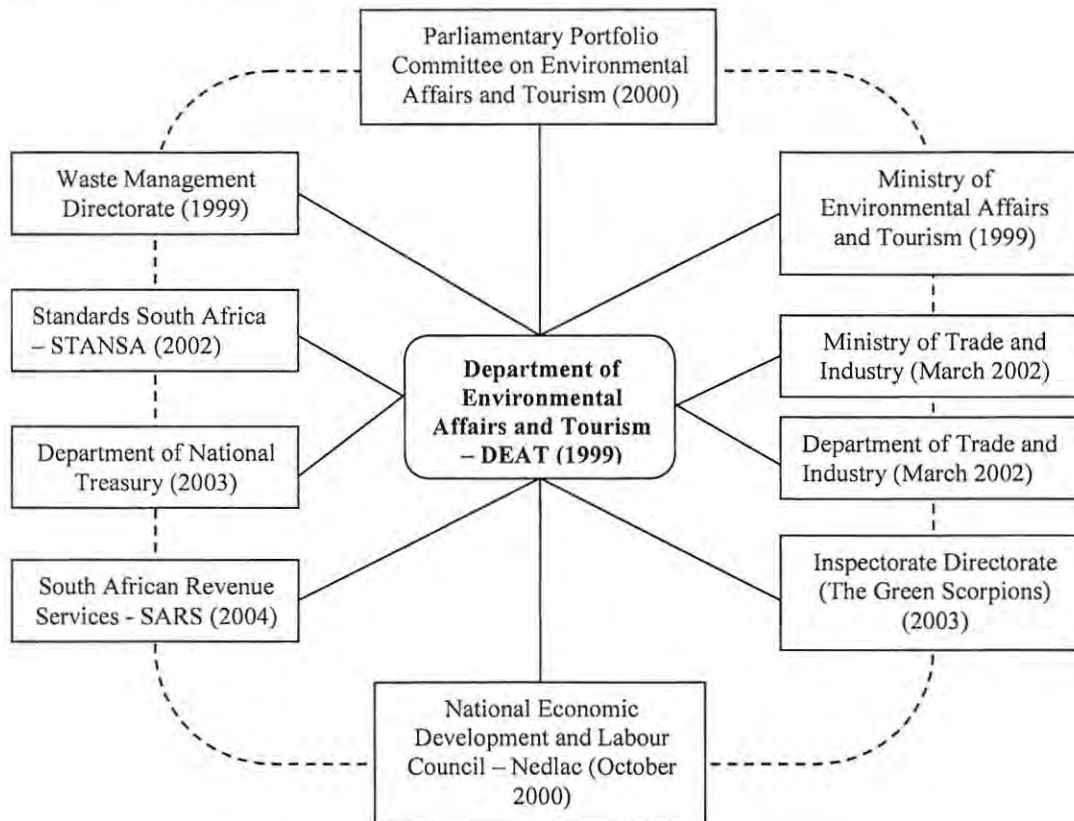
8.3 ACTOR-NETWORK FRAMEWORKS IDENTIFIED

As discussed in section 3.3 the concept *actor/actant-network theory* combines both actor-networks and actant-networks. Drawing on the same understanding, this section elaborates on *actor-network* conceptual frameworks that emerged in the South African case and the next deals with *actant-network* conceptual frameworks. As revealed by the research findings in chapters five to seven, four distinctive sets of actor-network conceptual frameworks were identified namely: Government, Organised Business, Organised Labour and Mixed. Each one of these actor-network conceptual frameworks is now discussed in depth below.

8.3.1 Government actor-network conceptual framework

The Government actor-network conceptual framework is presented in figure 8.1. As shown by the findings reported in chapter six, the Department of Environmental Affairs and Tourism (DEAT) emerged as the spokes organisation within this actor-network during most environmental policy process proceedings (see sections 6.2.2.7 & 7.3.1). The dates indicated in brackets in figure 8.1 indicate the time when other actors and their sub-actor-networks were recruited by DEAT into the proceedings.

Figure 8.1: Government actor-network conceptual framework



Since the then Minister of Environmental Affairs and Tourism, Valli Moosa made his policy statement to ban the use of plastic shopping bags in 1999 (see section 1.5.3), DEAT started mobilising other actors to support the proposal as they are Government's and overall lead environment agency in the country. Such actors included the Parliamentary Portfolio Committee on Environmental Affairs and Tourism and the National Economic Development and Labour Council that featured in the plastic bags discourse actively during 2000. DEAT networked resources and put the Minister's policy statement into action by developing the first set of the Plastic Bags Regulations of May 2000 as elaborated in section 6.1.

In terms of the methodological framework, the Plastic Bags Regulations became a quasi-object (see section 3.1) that was put into circulation by DEAT and started transforming the space around it leading to other actor-networks being formed around Organised Business and Organised Labour as will be discussed under sections 8.3.2 and 8.3.3. Although both Organised Business and Organised Labour raised concerns over potential job and business losses, the Government 'black-boxed' (downplayed) these concerns. Government's argument was that both business and labour were overstating the negative impacts that could result from the implementation of the Plastic Bags Regulations (see section 6.2.2.7). Along the way, the Government (represented by DEAT) was forced to regroup leading to further mobilisation and the recruitment of other actors from line ministries and departments (figure 8.1) as Organised Business and Organised Labour lobbied heavily against the proposed regulations.

The narrative that cemented the Government actor-network revolved around the authoritarian, command and control approach to regulation. In fact, this led to the first draft of the Plastic Bags Regulations of May 2000 being heavily oriented towards an implied complete ban on plastic shopping bags as no industry could manufacture (1) for profit and (2) in technical terms, plastic shopping bags of 80 microns. This position gradually faded as Government sought other ways of intervening through dialoguing with the major concerned stakeholders in the form of Organised Business and Organised Labour (refer to section 6.10). The two stakeholder actor-networks became known in Government circles as the Social Partners when they concluded the Plastic Bag Agreement in September 2002. Another landmark agreement was the formal acceptance of the Buyisa-e-Bag Section 21 Company proposed by Organised Business by the Government as well as the imposition of a levy on plastic shopping bags.

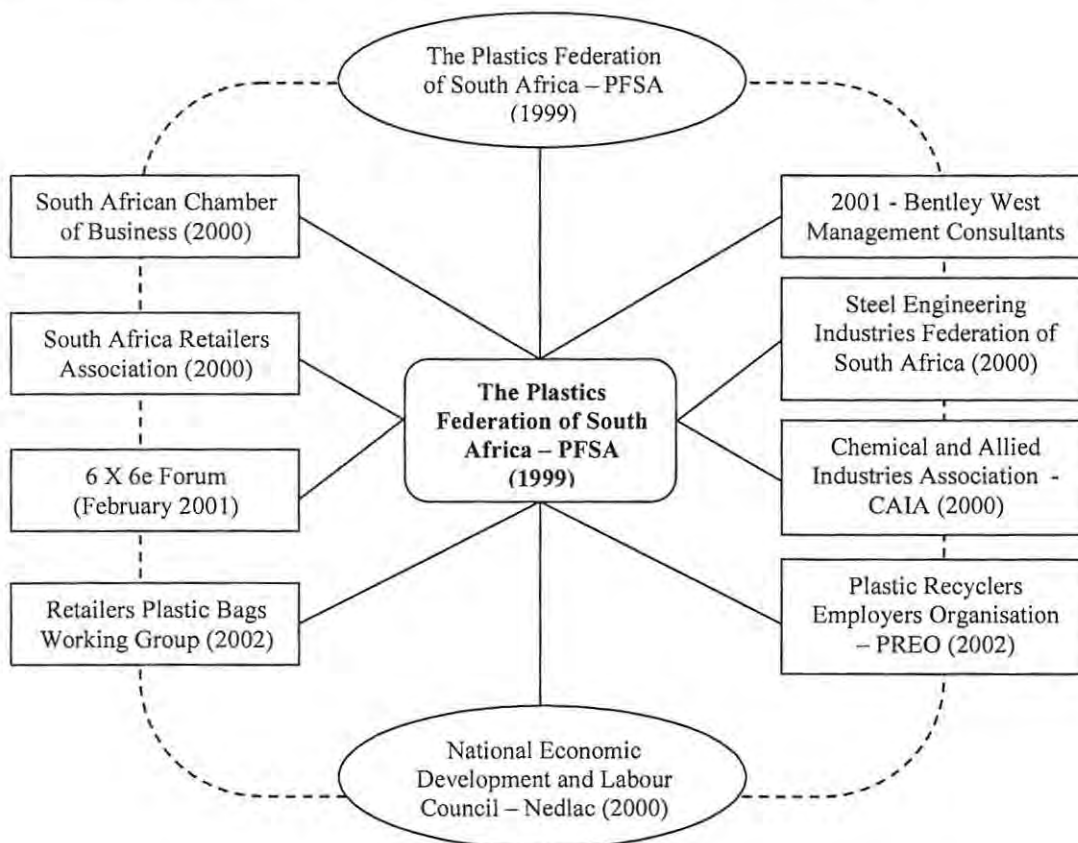
The Plastic Bag Agreement opened doors to the involvement of several other actors that performed different roles. The Standards South Africa, for example, had to put in place the Compulsory specifications for the Plastic Bags Regulations (6.11). The South African Revenue Services was involved in amending several acts pertaining to revenues, customs and excise duty regarding plastic shopping bags (see sections 7.8.3 & 7.8.4). The Department of National Treasury was latter involved when the decision to provide a budget line for Buyisa-e-Bag company was made by Government (refer to section 7.9). Compared to other actor-networks discussed below (for example Organised Business and Organised Labour), the Organised Government actor-network was ordered and solid, as it did not undergo drastic changes over time. The solid nature of the actor-network could be associated with the manner in which

Government operates as well as the fact that identified government departments have been in existence for many decades playing complementary roles in policy processes. In this regard, the Government actor-network resembles strong features of a *bureaucratic* policy network discussed under section 2.5.2.

8.3.2 Organised business actor-network conceptual framework

A second actor-network conceptual framework could be identified around Organised Business and it emerged in August 2000. This followed the consortium submission made by five business organisations discussed under section 6.2.1 that was led by the Plastics Federation of South Africa (PFSA). Since then, environmental policy processes pertaining to the Plastic Bags Regulations were handled through the PFSA (figure 8.2) as spokes organisation.

Figure 8.2: Organised Business actor-network conceptual framework



Five policy positions (narratives) brought Organised Business together. The first, which was never openly debated, was the fear of lost business and revenue from (a) a complete ban that was implied in the first set of the Plastic Bags Regulations and (b) reduced sales from the subsequent amendments of the Plastic Bags Regulations. This resulted in Organised Business engaging Bentley West Management Consultants in 2001 to advise on the best way to lobby the

Government as well as coming up with an alternative proposal to managing plastic shopping bags litter and waste (see section 6.3). The second narrative, which is also linked to the first concerned loss of equipment as many modern machines could not produce an 80 microns wall thickness plastic shopping bag (see section 6.2.2.1). The third narrative was around threatened jobs of over 74,000 workers (4,000 directly employed in the production sector and 70,000 packers in the retail sector). The fourth narrative was framed around the need to have education and awareness raising as key self-regulation policy instruments to address the problems of plastic shopping bags litter and waste. The fifth narrative, also closely related to all those above, centred on the alternative business plan to have the Buyisa-e-Bag Section 21 Company (refer to section 6.3).

What is of interest in the Organised Business actor-network (refer to table 8.2 above) is that two business entities: the South African Chamber of Business and the Steel Engineering Industries Federation of South Africa ceased being part of the proceedings immediately after the August 2000 submissions. Although this research could not adequately verify reasons as to why the South African Chamber of Business pulled out of the actor-network, it emerged that the Steel Engineering Industries Federation of South Africa pulled out after Government made it clear that construction-related plastics were not targeted under the proposed regulations. Hence the Organised Business actor-network might be described as conditional and fluid.

A third entity, the South African Retailers Association also collapsed mainly due to problems associated with its large scale as well as stiff competition in the sector among small through medium to large scale operators (refer to section 7.2.3). This made mobilisation and maintenance of the sub-actor-network difficult. However, the South African Retailers Association re-emerged as the Retail Plastic Bag Working Group that was represented by Pick'n Pay, Woolworths, Shoprite-Checkers and Clicks in 2002. The Retailers Plastic Bag Working Group represented about 40% of the retail outlet businesses in the country. Noticeable omissions from the working group were retail chains like Spar, Game, all fast foods outlets, Mr Price and the Edgars/Saleshouse/Jet group. As revealed in the research findings, some retailers that were not party to the Plastic Bag Agreement like Mr Price and KFC refused to sell the plastic shopping bags (see section 7.2.3). Others, like the Steers Group shifted to paper bags while others like Cardies opted for degradable plastic shopping bags (refer to section 7.3.1).

In addition, even retailers that were spearheading the lobbying such as Pick'n Pay took alternative routes that included the introduction of the controversial Green Bag as discussed

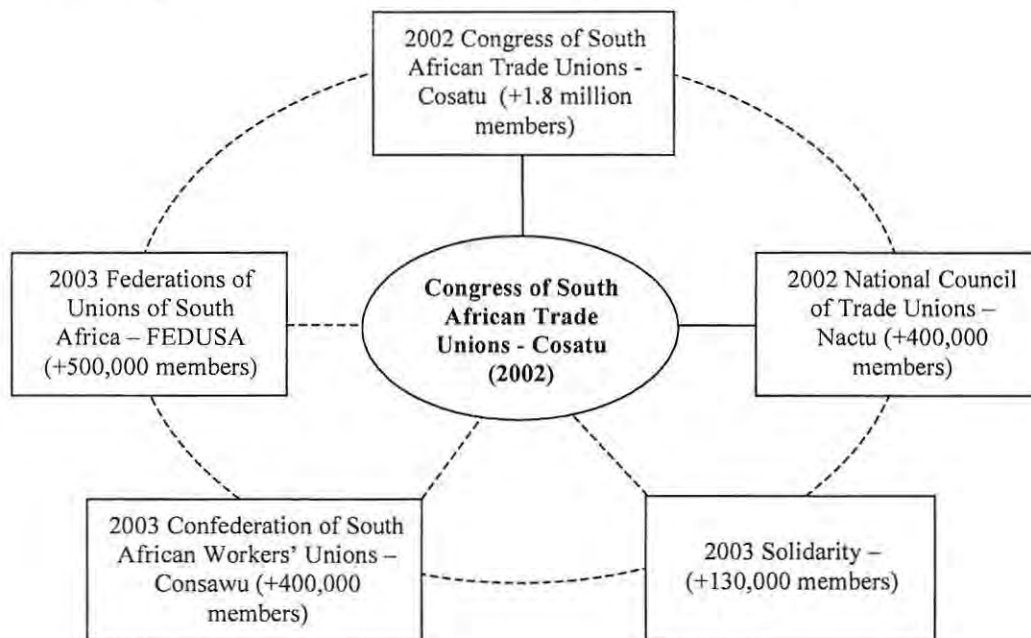
under section 7.3.2. This initiative led to the development of yet another actor-network that involved both the local and external producers of the Green Bags, DEAT, South African National Parks, Department of Education, Media and a number of local schools. These actors are now involved in the Kids in Parks National Programme that was launched in 2004 (see section 7.3.2).

The Organised Business actor-network resembles strong features of an *issue* policy network (refer to section 2.5.2). This decision has been reached given the fact that the policy network was society dominated and comprising more than three groups of actors. Furthermore, the role and power of the media in lobbying for a policy position came out clearly with Pick'n Pay having been forced to put its position concerning the donations clearly to the public.

8.3.3 Organised Labour actor-network conceptual framework

The findings show that an Organised Labour actor-network conceptual framework emerged as a strong network in 2002 as represented by the Congress of South African Trade Unions' (Cosatu) demands to have the Plastic Bags Regulations provisions for charging plastic shopping bags eased. Since then, a distinctive, but rather weak and chaotic actor-network framework developed (figure 8.3) including four other large labour movements in South Africa.

Figure 8.3: Organised Labour actor-network conceptual framework



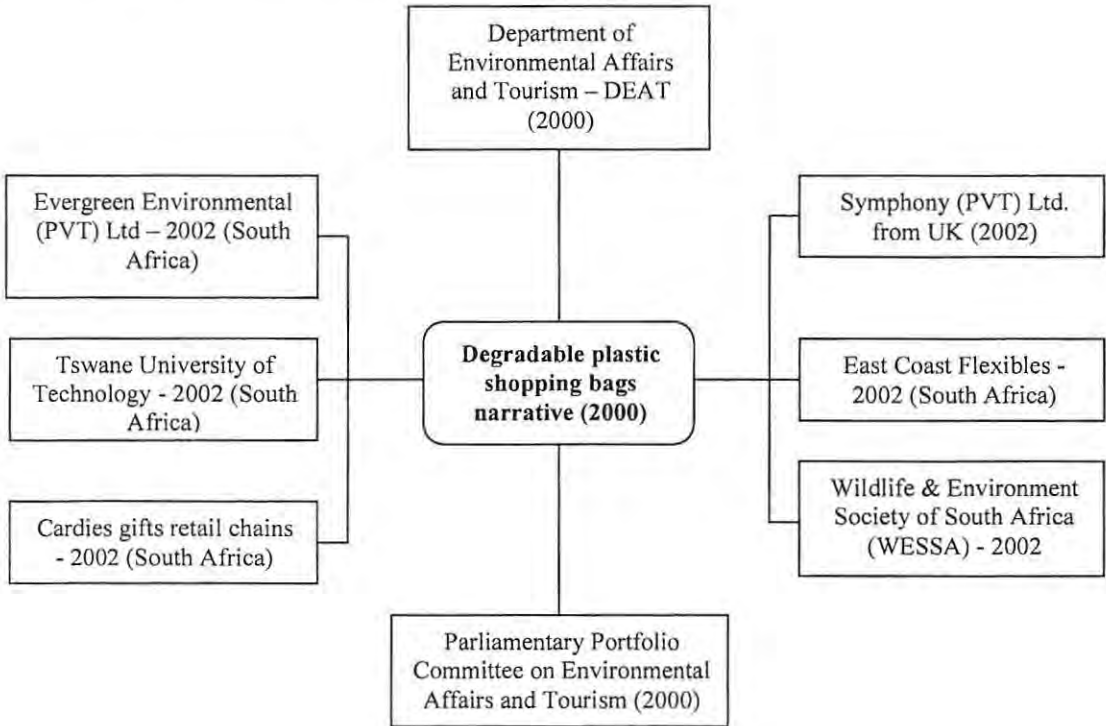
As indicated by the dotted line in figure 8.3, the relationships between Cosatu and other labour unions as well as inter-union links was not strong. In fact, the other labour unions accused Cosatu of mis-representation, thus *betrayal* in the AANT terminology (see section 3.43.2). Only Cosatu and the National Council of Trade Unions were recognised representatives of Organised Labour when the Plastic Bag Agreement was signed in September 2002. The narrative that brought the labour unions together was the fear of job losses as discussed under section 8.3.2.

The Organised Labour actor-network resembles strong features of a *captured* policy network discussed under section 2.5.2. This is so given the fact that the policy network was society dominated; yet comprising one major group, thus, Cosatu.

8.3.4 Mixed actor-network conceptual framework

In addition to the actor-networks identified above the research identified a diverse representation of actors. These included NGOs, Government, a university, a retail chain and private companies (figure 8.4), which I have termed a ‘Mixed’ actor-network. The mixed actor-network framework emerged around the need to promote the use of degradable plastic shopping bags in South Africa (see section 7.3.1).

Figure 8.4: Mixed actor-network conceptual framework



As such the degradable plastic shopping bag as an actant cemented the otherwise weak groupings of independent sub-actor-networks. The mixed actor-network was driven by two initiatives: one that was a joint venture between a United Kingdom based as well as a local South African company, and another, a wholly South African initiative as shown in figure 8.4.

However, what emerged from this actor-network framework is that Government did not authorise the production and distribution of degradable plastic shopping bags on a large scale. The reasons given were associated with the risks and discourses presented around the technology. Furthermore, the retail outlet supporting degradable shopping bags, Cardies, also pledged to support the producers on condition that they were doing it within the laws set regarding plastic shopping bags. The degradable plastic shopping bags debate resulted in tensions between Government and the owner of Evergreen Environmental which led to semi-personal attacks in the public media (see section 7.3.1). The two letters featured in the Mail & Guardian newspaper editions of 20 June and 2 July 2003 respectively. This is evidence that actor-networks can draw their power from the media. However, by the time of finalising this work in January 2005, Cardies was still distributing degradable bags for free.

The Mixed actor-network resembles strong features of a *corporatist* policy network (see section 2.5.2). This decision has been reached given the fact that the policy network was society dominated; yet comprising two major group, thus, Evergreen Environmental (PVT) Ltd and Symphony (PVT) Ltd.

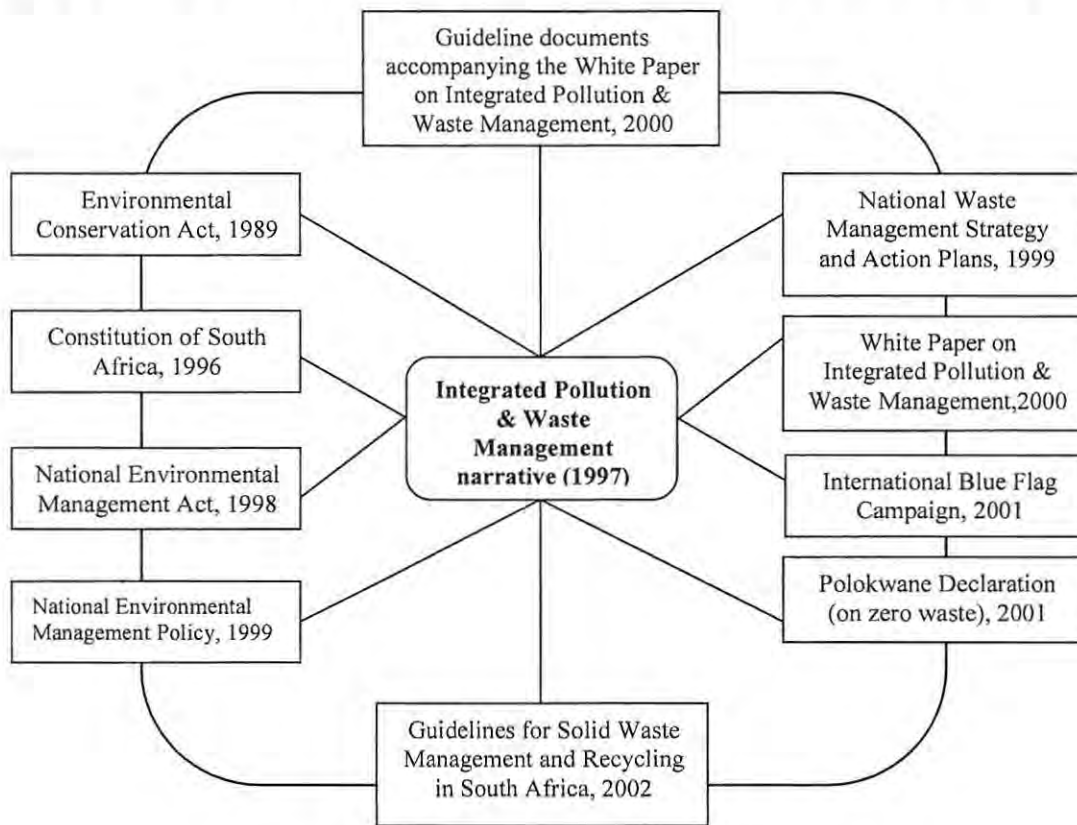
8.4 ACTANT-NETWORK FRAMEWORKS IDENTIFIED

Two major forms of actant-network conceptual frameworks could be distinguished. These included the Government's ongoing policy initiatives towards integrated pollution and waste management and another, specifically the environmental policy processes surrounding the plastic Bags Regulations. As discussed earlier under section 3.1 dealing with quasi-objects, actant-networks are put into circulation by human actors, upon which they can transform the spaces within the actor/actant-networks they operate in. The two actant-network conceptual frameworks are considered in detail below.

8.4.1 Integrated pollution and waste management actant-network conceptual framework

This actant-network framework emerged out of tracing environmental policies that shaped the integrated pollution and waste management narrative starting with the Environmental Conservation Act of 1989 (figure 8.5).

Figure 8.5: Integrated pollution and waste management actant-network framework



What is critical from this actant-network framework is the fact that the May 2000 Plastic Bags Regulations were promulgated under the 1989 Environmental Conservation Act (see section 5.1). In September 1999, the then Minister for Environmental Affairs and Tourism, Valli Moosa also proclaimed a policy statement at the same time when Government’s *new thinking* towards preventive rather than reactive strategies in waste management was born in the 1999 National Waste Management Strategy and Action Plans (section 5.3). Furthermore, the White Paper on Integrated Pollution and Waste Management of 2000 integrated the National Waste Management Strategy and Action Plans document and reinforced Government’s new paradigm in waste management (section 5.5). In 2001, the Polokwane Declaration brought an even higher level strategy for preventive measures in managing pollution and waste, which formalised the concept of *zero waste* in South Africa (section 5.6.5). Interviews with DEAT officials confirmed that the Plastic Bags Regulations was one of the policy instruments for putting the Polokwane Declaration into action as requested by The Republican President of South Africa in his Polokwane Waste Summit in September 2001. At the same time, the international Blue Flag status (section 6.4) was awarded to South Africa, which saw an increase in levels of education,

awareness and cleanliness in beachfronts of which plastic shopping bags were reported as constituting high percentages in the beach waste stream. The other links in the integrated pollution and waste management actant-network relate to the provisions of the National Environmental Management Act (NEMA) of 1998. Under NEMA, Government and its social partners (Organised Business and Organised Labour) concluded the Plastic Bag Agreement as discussed under section 5.3.3.

Effectively, the integrated pollution and waste management narrative and actant-network framework provided the context in which environmental policy processes surrounding the Plastic Bags Regulations were framed. It also reveals progressive development in environmental policy making as well as high levels of political support. However, as will be noted in the next section, dealing with findings and conclusions pertaining to the Plastic Bags Regulations actant-network framework, parts of the integrated pollution and waste management actant-network framework were significantly re-shaped by the Plastic Bags actant-network framework.

8.4.2 Plastic Bags Regulations actant-network conceptual framework

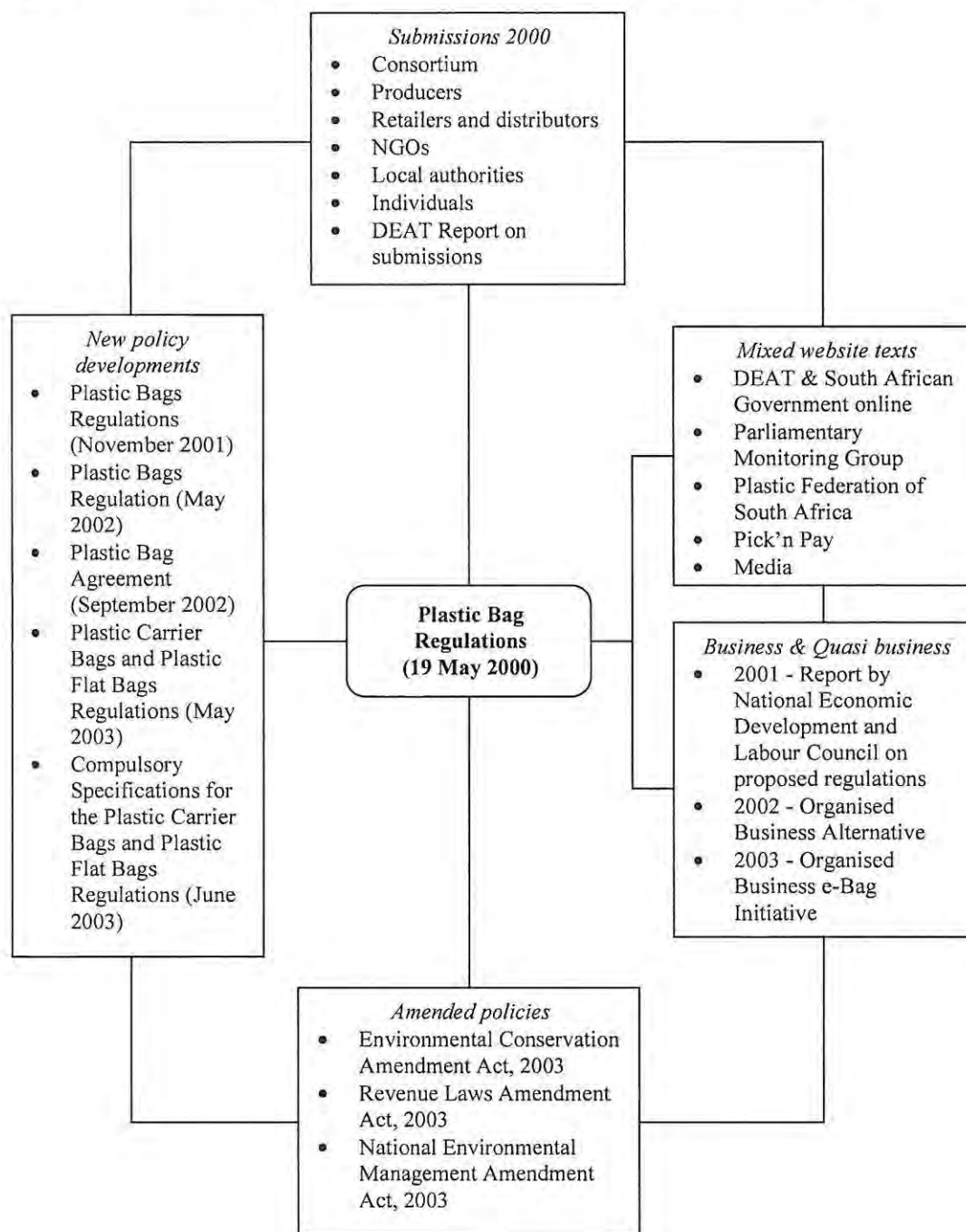
Although the Plastic Bags Regulations actant-network framework's birth point was the then Minister of Environmental Affairs and Tourism policy statement of intent to ban plastic shopping bags of September 1999, the central focus became the promulgation of the May 2000 Plastic Bags Regulations (figure 8.6).

The Plastic Bags Regulations actant-network conceptual framework revealed how the two-way, multi-layered relationship shaped by the Plastic Bags Regulations and other actants as indicated in figure 8.6 as well as the actor-networks discussed under 8.3.1 to 8.3.4 informs policy making. It also reveals dimensions of the tensions, debates and responses emerging from the entire policy process as actor-networks put various actants (including the Plastic Bags Regulations as token) into circulation. For example, the 2000 submissions led to the commissioning of the National Economic Development and Labour Council (Nedlac) to undertake a detailed socio-economic study on the proposed regulations. The Nedlac 2001 report's major findings illuminated threats to jobs, businesses, revenue loss and capital investment and led to the Government amending the proposed regulations internally in 2001 and as finalised in May 2002 (see section 6.5).

However, from an Organised Business perspective, the Nedlac report was not adequate (see section 6.3). As such, Organised Business came up with an alternative proposal; the e-Bag Initiative that it lobbied for until Government formally accepted it in September 2002 when the

Plastic Bag Agreement was signed (refer to section 6.10). The Plastic Bag Agreement meant that Government had to repeal the May 2002 Plastic Bags Regulations, an aspect that was done on 17 April 2003 leading to a new set of regulations being finalised on 9 May 2003. The Plastic Bag Agreement also resulted in the passing into law of the Compulsory specifications that were prepared by Standards South Africa from the Department of Trade and Industry in June 2003 (see section 7.2.2).

Figure 8.6: Plastic Bags Regulations actant-network conceptual framework



The new developments meant that a number of other environmental policies had to be amended so as to harmonise them with the new Plastic Bags Regulations and the Compulsory Specifications (see sections 7.8.1 to 7.8.4). Summary provisions for the amendments of key environmental policies are presented below.

- Environmental Conservation Amendment Act 2003: to permit the Minister of Environmental Affairs and Tourism to make regulations regarding specific waste and waste products; proclaim (in consultation with the Minister of Trade and Industry) a charge; and to cut short the period of public consultation and associated details in terms of waste and waste product regulations.
- Revenue Laws Amendment Act 2003: to permit National Treasury, through the South African Revenue Services to collect environmental levies such as the plastic bag levy of 3 cents per bag.
- Customs and Excise Act of 1964: for clearer definitions and descriptions on the schedule dealing with plastic shopping bags importation and countries to which the duty would apply.
- National Environmental Amendment Act 2003: to allow the 'Green Scorpions', thus, an Inspectorate Directorate to be established within DEAT to police and enforce all environmental regulations, including the Plastic Bags Regulations of May 2003.

Another aspect that emerged around the actant-networks and the manner in which they were inscribed and put into circulation is the role of websites (as other actants) used in *cementing* policy narratives for a given actor/actant-network. For example, the Plastics Federation of South Africa websites: <http://www.plasticsinfo.co.za/articles.asp> created a new link 'Plastic Bags' dedicated to regular updates regarding developments around the Plastic Bags Regulations. Very few people would browse such websites for updates if they are not members of a particular actor/actant-network. The reason I regularly visited the site is because I became enrolled as an actor through this research. The following are some of the updates that still appeared on the website as of 6 October 2004:

- Plastics Recycling in south Africa (17 November 2002)
- Promulgated Plastic Bag Regulations 09 May 2003 (15 May 2003)

- Clarity on Plastic Bag Regulations (21 May 2003)
- Plastic Bag Memorandum of Agreement (29 May 2003)
- Plastic Bag Compulsory specifications (23 June 2003)
- Plastic Bag – Industry position (29 July 2003)
- Plastic Bag Levy – current situation (23 May 2004)

Most of these documents carry full texts of the aspect being updated on. This way updates provided all the necessary details regarding a particular issue that would otherwise be difficult to retrieve from, especially Government offices. In this particular case all other statements; apart from the first and the last two on the list came in full text versions. Such texts imply that debates around specific issues concerning the Plastic Bags Regulations were well informed.

The media also played its role to either lobby for or against the Plastic Bags Regulations as well as highlighting developments in the policy reform process. Furthermore, the series of policy reform around the Plastic Bags Regulations tell us of the unforeseen, complex circumstances in environmental policy making.

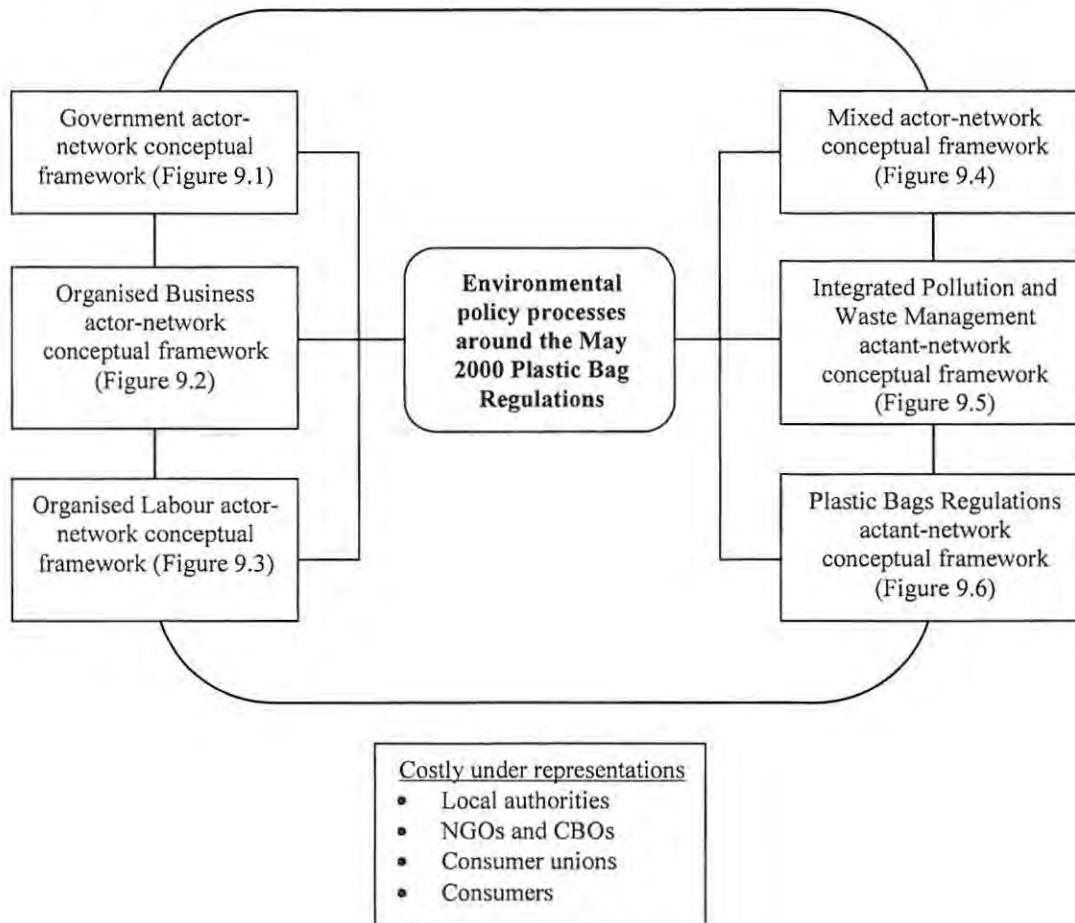
8.5 OVERALL ACTOR/ACTANT-NETWORK CONCEPTUAL FRAMEWORK

From the actor and actant-networks identified in 8.3 and 8.4 above, an overall environmental policy process actor/actant-network conceptual framework is presented below. The conceptual framework ties the diverse processes and networks together as they emerged around the Plastic Bags Regulations since they were first promulgated on 19 May 2000. Furthermore, the conceptual framework also presents actors, actants and their networks that were either marginalised or under represented in the process (figure 8.7).

The overall actor/actant-network conceptual framework reveals costly omissions, especially in terms of actors and actor-networks that were under represented. These include (figure 8.7) local authorities and civil society organisations such as non-governmental organisations (NGOs), community-based organisation (CBOs) and consumer organisations. The role of local authorities in implementing Government policy is significant because of the complementary nature of their operations. In both the Irish and Australian international experiences local governments were identified as key Government implementing partners (see chapter four). However, there appeared to be no place for local governments in the policy process in South Africa, an indication that in making the regulations, Government could have been biased towards controlling ‘the source’, thus, the producers at the national level rather than what took place at the local level. The voice of the South African Consumer Organisation appears to have been one of the weakest links and

it was sidelined in the policy process and yet the majority of people affected by the regulations (the poor, women and children) have their voices represented by such organisations.

Figure 8.7: Actor/actant-network conceptual framework around the Plastic Bags Regulations



The overall actor/actant-network conceptual framework reveals how resources are mobilised and power is distributed during environmental policy making. Ultimately it was Organised Business that had resources (mainly finance) to mobilise support for their Buyisa-e-Bag Initiative and have the original Plastic Bag Regulations repealed. Organised Business also had access to top government and political figures that ended up changing their original proposal to severely punish offenders from the business sector. The power of labour movements also stood out as Cosatu’s threats to strike forced audience with top government and political leaders too.

8.6 ASSESSMENT OF POLICY OUTPUTS (INSTRUMENTS)

Twice the Government failed to put in place environmental policy instruments that could effectively address problems associated with plastic shopping bags litter and waste in South Africa. This was evident in the rejected and repealed May 2000 and May 2002 Plastic Bags

Regulations respectively as outlined under sections 6.3, 6.7, 6.8 and 6.10. Effective policy instruments only emerged when Government signed the Plastic Bag Agreement with its Social Partners (Organised Business and Organised Labour) in September 2002. The Plastic Bag Agreement then gave effect to the May 2003 Plastic Carrier Bags and Plastic Flat Bags Regulations as well as the June 2003 Compulsory Specifications to Plastic Carrier Bags and Plastic Flat Bags Regulations. In addition, the Buyisa-e-Bag South Africa Section 21 Company was also registered in May 2004 although it was not effective. The fact that it took so long to register a company that was supposed to be at the forefront of plastic shopping bag litter and waste recycling shows the level of complexity associated with environmental policy making.

8.7 ASSESSMENT OF POLICY OUTCOMES

Policy outcomes (both anticipated and unanticipated) were considered within a short to medium term timeframe. To this end, the framework used in section 3.4 was revisited for assessment purposes (see table 8.2).

It should be noted that long-term outcomes were not assessed due to the level of complexity and uncertainty associated with environmental issues as well as the framework adopted for assessment, thus, the Real Time Evaluation (see section 2.5.6.3). The following long-term outcomes implied by the Plastic Bags Regulations may still need to be assessed in future:

- Zero plastic shopping bags in the environment
- No plastic shopping bags induced flooding
- More tourist flocking to South Africa with more beaches achieving International Blue Flag status
- Improved livelihoods through income poverty reduction, improved nutrition, healthy natural environments resulting from Buyisa-e-Bag outputs
- Informed citizenry in terms of sustainability issues and high levels of awareness leading to good practices in overall waste management

Table 8.2: Outcomes following the implementation of the Plastic Bags Regulations

| <i>Anticipated outcomes</i> | <i>Level of achievement/unanticipated outcomes</i> |
|---|---|
| Reduced plastic shopping bags into the environment | <ul style="list-style-type: none"> • Adequately achieved as an estimated 92% drop (83% for materials) in the number of plastic shopping bags emerged from the research |
| Buyisa-e-Bag Section 21 Company established to: <ul style="list-style-type: none"> • Spearhead recycling business • Educate the public and raise awareness • Clean-up hot spots • Co-ordinate recycling | <ul style="list-style-type: none"> • Only established a year later and still not operational • Its original strong business focus has been diluted • No education and awareness raising campaigns undertaken as of October 2004 • No cleaning up of hot spots as above • No coordination on recycling as above • Adequate re-use from the consumers (but not from Buyisa-e-Bag's initiatives) |
| Business viability – A 40% maximum drop in business predicted | <ul style="list-style-type: none"> • More than double the figure emerged as business plummeted by about 83% |
| No job losses in both the production and retail packaging sector until May 2008 | <ul style="list-style-type: none"> • About 1,000 jobs lost in the production sector • Insignificant losses reported from retail packers |
| Production of thicker plastic shopping bags | <ul style="list-style-type: none"> • Adequately covered |
| Promote Proudly South African theme when using alternative carry facilities | <ul style="list-style-type: none"> • Drastically violated with imports flooding the local market, especially from Pick'n Pay |
| Consensus between Government and Social Partners regarding the Plastic Bag Agreement implementation | <ul style="list-style-type: none"> • Cosatu accused Government of misleading retailers and manipulating facts regarding the Agreement |
| Punishment to offenders, be it producers or retailers | <ul style="list-style-type: none"> • None recorded from the research findings |
| Retail outlets selling new plastic shopping bags at prescribed prices | <ul style="list-style-type: none"> • Some retailers refused to charge and this resulted in all clothing retailers removing the charge • Grocery retailers involved in price war and this resulted in the price being cut by more than half |
| Reduced food prices | <ul style="list-style-type: none"> • Not adequately addressed and this resulted in the price war mentioned above • Consumers continuously querying issues around transparency in food price reductions |
| Payment of the levy by industry to the South African Revenue Services, which would in turn forward it to DEAT and from DEAT to Buyisa-e-Bag company | <ul style="list-style-type: none"> • Industry to pay to National Treasury and a R20 million budget line established annually for Buyisa-e-Bag provisionally up to 2007 |
| N/A | <ul style="list-style-type: none"> • Reduced livestock deaths reported • Reduced stormwater flooding • Cleaner beach fronts |

8.8 ENVIRONMENTAL POLICY REFORM

Although implied from some of the discussions under most of the sections covered above, the aspect of identifying environmental policy reform patterns surrounding the Plastic Bags Regulations of South Africa was laid down as one of the key outcomes from this work. A one and a half decade of policy making cycle resulting in the Plastic Carrier Bags and Plastic Flat Regulations of 2003 emerged. The overall cycle, is built around interwoven policy sub-cycles that can be summarised around policy legal frameworks and policy regulation (instruments) as follows:

Sub-cycle 1: Legal framework for general litter and waste management

- 1989 Environmental Conservation Act
- 1996 Constitution
- 1998 National Environmental Management Act
- 1999 National Waste Management Strategy and Action Plans
- 1999 Minister's statement of intent to ban plastic shopping bags
- 2000 White Paper on Integrated Pollution and Waste Management
- 2001 Polokwane Declaration (on zero waste)

Sub-cycle 2: Policy regulation (instruments)

- 2002 Plastic Bag Agreement
- 2003 Plastic Carrier Bags and Plastics Flat Bags Regulations
- 2003 Compulsory Specifications for Plastic Carrier Bags and Plastics Flat Bags Regulations

Sub-cycle 3: Legal framework for Plastic Bags Regulations

- 2003 Environmental Conservation Amendment Act
- 2003 Revenue Laws Amendment Act
- 2003 Amendment of Schedule 1 of the 1964 Customs and Excise Act
- 2003 National Environmental Management Amendment Act

Sub-cycle 4: Policy regulation (instruments)

- 2003 Environmental Levy (charge)
- 2004 Buyisa-e-Bag South Africa Section 21 Company
- Letters of Authority (for plastic shopping bags importation permits)

From the summary of policy sub-cycles provided above, a 15-year environmental policy cycle around the Plastic Bags Regulations emerged. The cycle started with 1989 Environmental Conservation Act and for analysis purposes, this ended in 2004 with the establishment of the Buyisa-e-Bag South Africa Section 21 Company. In addition, the policy and sub-cycles that emerged confirms the long periods associated with environmental policy and regulation. This is an aspect that was discussed under section 2.2.

8.9 PUBLIC PARTICIPATION AND AWARENESS

The concept of *participation* in environmental policy making remains tricky, especially if one has to ask how much participation is enough, and from which actors, actor-networks and actor/actant-networks participation is required. However, inferences for the South African case can be deduced from the Australian experience. A total of 99 public submissions were received in the South African case and yet 274 (almost three times as much) were tendered in the Australian case. Other details are that South Africa has a much larger population at about 45 million, and yet Australia has about half the figure at 19 million. Furthermore, the South African

Government gave 90 days in which submissions could be made; yet in Australia, a period of 70 days was given. The question then is, 'why fewer submissions against a bigger population and an extended submission period?' Of course these statistics are subject to a myriad of interpretations, but holding other parameters constant, a conclusion can be reached that participation and awareness in terms of citizenry engagement in environmental policy making in South Africa is still very low. This might not be surprising given the low levels of literacy, access to the Internet and the disempowerment hangover from the apartheid era that surrounds the South African populace (see section 1.2.2).

8.10 JUSTIFICATION FOR THE REGULATIONS

One question that might require addressing is whether there was adequate justification for the Plastic Bags Regulations or not? An attempt is made to address this question by comparing (holding other parameters constant) the plastic shopping bag litter and waste problem for Australia, Ireland and South Africa. The parameters I selected for this analysis include total population, surface area, per capita plastic shopping bag consumption, number of plastic shopping bags per square kilometre as well as the percentage of those employed in the plastic bag manufacturing sector (table 8.3).

Table 8.3: Comparison on plastic bag litter and waste problem

| <i>Parameter</i> | <i>Australia</i> | <i>Ireland</i> | <i>South Africa</i> |
|---|-------------------|----------------------|--|
| Surface area (square kilometres) | 7.69 million | 70,280 | 1.22 million |
| Total population (millions) | 19.0 | 3.9 | 44.8 |
| Annual bag consumption (billions) | 6.9 | 1.2 | 8.0 |
| Bag consumption/person/year | 363 | 308 | 178 |
| Bags/square kilometre | 897.3 | 17,074.6 | 6,557.4 |
| No. of converting companies (and total employment) | 2 main ones (400) | 4 (177) | 52 (4,000) |
| Total employment | 9,033,600 | 1,786,500 | 9,583,762 |
| % of those employed in the plastic bag sector to total employment | 0.004 | 0.001 | 0.042 |
| Employment in plastic bag sector as % of total population | 0.00211 | 0.00454 | 0.00893 |
| % recycled prior to measures | 4 | 1.2 | 1 |
| Responses and strategies reached | Voluntary code | Legislation and levy | Regulations, standard specifications and levy. |

* Demographic figures obtained the 2001 Census (Australia and South Africa) and 2002 Census for Ireland.

Analysed figures from table 8.4 regarding: (a) per capita plastic shopping bag consumption (178 for South Africa versus 363 and 308 for Australia and Ireland respectively), (b) plastic shopping bags per square kilometre (about 6,600 versus 900 and 17,100), (c) percentage of those employed in the plastic shopping bag production sector to total employment and the country

(0.042 versus the insignificant 0.004 and 0.001), and (d) percentage of those employed in the plastic shopping bag production sector to total population (about 0.009 versus 0.002 and 0.005) present a challenging scenario for interpreting the extent of the plastic shopping bag litter and waste problem in the country. As revealed by the case studies for Ireland and Australia, the aesthetic poverty, tourism and distribution of hot spots are generally similar to those in South Africa, less for the politically sensitive aspect that the plastic shopping bag problem could have been aggravated by the apartheid era history discussed earlier (refer to section 1.2.3). Another aspect for comparison is around waste management infrastructure, which was equally bad in Ireland and in South Africa.

If one is to take the environmental spread of the litter and waste problem, then Ireland had a serious problem to resolve relative to Australia and South Africa, with Australia virtually having an insignificant spread of the problem. The Australian situation also comes against a background of a best record in terms of plastic shopping bag recycling that was reported at 4% compared to Ireland's 1.2% and South Africa's 1%. This leaves the three countries with three major determining factors in the manner in which the plastic shopping bag management strategies were to be concluded, thus, (1) impact on employment and related social and political consequences, (2) loss of revenue, and (3) redundancy of capital equipment used in the production processes.

For South Africa, 4,000 jobs (representing a significant 0.042% of total employment) were threatened. If a broader picture is considered, the 4,000 people employed in the plastic shopping bag production sector also represented a significant 0.009% of the total population. This probably explains why Organised Business and Organised Labour were up in arms with Government over the proposed regulations. In my view, and in light of the quest for sustainability, labour and industry concerns were justified. The estimated total value of the raw materials suppliers and converters was about R550 million per year with some individual companies having annual turnover in excess of R200 million. Another look at the Irish experience reveals that the country was under pressure to perform in terms of waste management as required under the EU Directive on Packaging and Packaging Waste. Ireland was among the least complying nations at the time the plastic bag levy was proposed, yet evidence from this work shows that this model greatly influenced events around the South African policy. The irony is, however, that of the three countries under comparison, South Africa implemented the most stringent measures to address the plastic shopping bags litter and waste problem. This could probably have been influenced by global pressures to align with transnational trends in managing plastic wastes and a bid to increase tourism volumes as well as political pressure to address

waste management imbalances in formerly disadvantaged communities. However, as revealed in section 7.7, achievements in these respects were overshadowed by significant job losses in the plastic shopping bag production sector.

8.11 APPLICATION OF AANT'S MOMENTS OF TRANSLATION

Having a methodological contribution to environmental policy research through the application of the actor/actant-network theory (AANT) enquiry framework for both data generation and analysis was specified as one of the anticipated objectives of this work. The manner in which data was generated around the actors, actants and related networks has already been discussed under the sections dealing with the conceptual frameworks presented in figures 8.1-6. As such, that will not be repeated here. The following section deals with how, for analysis purposes, each of the four moments of translation in AANT (section 3.3.2) were applied to understand and enhance explanations emerging from the analysed data.

8.11.1 Problematising the plastic shopping bags

Lobbying against plastic shopping bags in the history of South African environmental governance was traced to as far back as 1987. This is the period recorded by the founder of the NGO, Plastics People. However, efforts from Plastic People to have plastic shopping bags on Government's policy agenda were not very successful though the 1989 Environmental Conservation Act incorporated a general section on litter abatement. Subsequent to this, the 1996 Constitution indirectly addressed the problem of plastic shopping bags as litter, waste and ultimate pollutant at an abstract level and this was reflected again in the 1998 National Environmental Act.

The main effort at putting plastic shopping bag litter and waste on the Government policy agenda was realised in 1999 and this time through two entities. Firstly, Government instituted the National Waste Management Strategy and Action Plans (see section 5.5). Secondly, then Minister of Environmental Affairs and Tourism proclaimed plastic shopping bags as an environmental threat and *problem* that needed regulation. The Minister summarised the extent of the problem by referring to it as the *national flower* (Gosling, 1999).

Constructing the problem of plastic shopping bags before Parliament in August 1999, Moosa was also cited by the Cape Times of the 16th August using typical problematisation terms such as "need to look for long-term sustainable solutions", "What about the accursed plastic bags? .. which have virtually become our national flower – either banning them completely, or severely

restricting their use”, and “regard tourism as a national priority” (Gosling, 1999). Constructing the problem in an informal media briefing in August 1999, Moosa was cited by the Cape Argus of 24 using problematisation terms such as “enormous expression of support” (from the public), DEAT had to do its “homework”, and “would like to see the plastic bag as we know it, not being used in this country.” (Yeld, 1999). From a report in the Daily Dispatch of 24 May 2000, the Minister also called upon all citizens to “clean-up, lest” South Africa “drown” in its “own garbage” (Sapa, 2000a). Since then, the issue of plastic shopping bags and the environment was placed in the media spotlight with several articles debating the impacts of plastic shopping bags litter and waste including transnational cases and examples such as those from Ireland, Germany, Denmark, Singapore, Malaysia and many more (refer to section 5.7.3).

Ten months down the line, the Government promulgated the Plastic Bags Regulations in May 2000 as discussed under section 6.1 with the key environmental issues and problems covered by the memorandum that explained the proposed regulations (appendix 6.1). The Government clearly identified the plastic shopping bag product as the real problem and as such it had to be regulated at ‘whatever’ cost. However, with the involvement of Organised Business and Organised Labour, the real problem was people (and not the plastic shopping bag) who needed to be ‘educated and made aware of the problems associated with the plastic shopping bags litter and waste’ at all cost. As revealed by the Plastic Bag Agreement, the two key narratives were later merged revealing synergies in problematisation.

The moment of problematisation was also characterised by non-linear relations between science and politics. For example, politics defined plastic shopping bags in the environment as a problem well before science did. It was only after a political decision to ban thin plastic shopping bags was made that science, through two scientific studies: the 2000 Plastics Federation of South Africa survey on *Plastics Recycling* in South Africa and the 2001 Nedlac report on the *Socio-economic Impacts of the Proposed Plastic Bag Regulations* was brought into focus (see section 6.2.3). This is when figures were proposed, among them, the fact that South Africa consumed about 8 billion plastic shopping bags annually and that only ‘3%’ of these found their way into the environment. Hence politics went well ahead of science. Another aspect related to the narrative is Government’s preferred future to solve the plastic shopping bags litter and waste problem. In as much as there was evidence, for example from the Irish experience (see section 4.1.2.1) that a mere levy could have addressed the problem, the politicians (Government) initially ‘chose’ to ignore this alternative.

8.11.2 Interessement and enrolment

Due to the close relationship between the moments of interessement and enrolment, these will be considered simultaneously. The moment of interessement involved the formation of actor/actant-networks to support the two original narratives around problematising the plastic shopping bags. Government, through the Department of Environmental Affairs and Tourism (DEAT) had to enrol other actors and actors/actant-networks that shared similar views from both within the line ministries and outside (see section 8.3.1 and figure 8.1). One of the actors and actor/actant-network enrolled was the NGO Plastics People that actively coordinated a two weeks long anti-plastic shopping bags campaign that included the June 2002 World Environment week in Cape Town. Other actors outside Government circles included the media (both print and electronic) and local authorities. Most local authorities supported the Government narrative and among those that clearly advocated for regulation were the Nelson Mandela Metro, Douglas (that even banned the use of shopping plastic bags before the regulations) and the Municipality of Queenstown (see section 7.1.3). Amongst the line ministries and departments, DEAT managed to enrol actors and actor/actant-networks (at times by default) from the Department of Industry and Trade, National Treasury, South African Revenue Services and Standards South Africa (section 8.3.1). However, it is of interest to note that Parliament did not totally agree with DEAT's proposal and referred the proposal for arbitration by the National Economic Development and Labour Council (6.2.2.7). This aspect reflects how interessement efforts can fail to convince and recruit allies to one actor-network's narrative.

On the other side, the interessement moment for the Organised Business actor/actant-network was marked by the need to have a strong submission following the promulgation of the May 2000 Plastic Bags Regulations. This resulted in a consortium submission that enrolled five key actors and actor/actant-networks as discussed under section 6.2.1. As the policy process continued and matured, other actors and actor/actant-networks such as the Retail Plastic Bag Working Group, Plastic Recycling Employers Organisation and even the semi-autonomous Organised Labour were enrolled whilst others like the South African Chamber of Business, South African Retailers' Association (partially) and the Steel Engineering Industries Federation of South Africa fell by the wayside.

What is of significance is the manner in which the Organised Business narrative shifted towards a purely business oriented approach in addressing the problem of plastic shopping bags. This resulted in the Buyisa-e-Bag South Africa initiative as discussed under 6.8. The Buyisa-e-Bag narrative suited the whole Social Partners actor/actant-network resulting in the Government

being isolated by its long-term key ally, Cosatu. This aspect shows how the moment of intersement succeeded in recruiting more actors and actor-networks to the Buyisa-e-Bag Initiative. It also reveals how the power of resourceful actor-networks such as Organised Labour was exerted on comparatively less resourceful and weaker actors and actor-networks, particularly Organised Labour.

8.11.3 Mobilisation

The moment of mobilisation during environmental policy processes surrounding the Plastic Bags Regulations 'followed' two key actor/actant-networks: (1) Government, led by DEAT and (2) Social Partners (Organised Business and Organised Labour), led by the Plastics Federation of South Africa. Government mobilised through the inscription process of creating new texts concerning the Plastic Bags Regulations that were constantly forwarded and made available to line ministries and departments as well as key actors and actor/actant-networks that included the media. In addition, all draft regulations, draft bills for those acts that needed amendment and their finalised versions were regularly posted on the Government website: <http://www.info.gov.za/documents/index.html> as well as the lead environmental agency (DEAT's) website: <http://www.environment.gov.za/>. By the time of finalising the write up in January 2005, these texts were still available on the two websites and will probably be there permanently for a record. This way, the websites, as actants, became an information hub. Mobilisation also took place through regular press statements and Parliamentary de-briefings that took place throughout the entire policy process. In instances where the Government thought there was need to counter negative press reports it issued press statements or even wrote response letters, as was the case with the Mail & Guardian story regarding biodegradable plastic shopping bags (see section 7.3.1).

As for the Social Partners actor/actant-network, mobilisation texts were also regularly posted on the Plastics Federation Website: <http://www.plasticsinfo.co.za/articles.asp> (refer to section 8.4) and some posted on Cosatu's website: <http://www.cosatu.org.za/>. Four key documents also emerged that enhanced mobilisation within the Social Partners actor/actant-network. These were:

- (1) November 2001 Plastics Federation of South Africa's survey on *Plastics Recycling* in South Africa,
- (2) 2001 Nedlac's report on *Socio-economic Impacts of the Proposed Plastic Bag Regulations*,
- (3) March 2002 Organised Business' *e-Bay Business Plan Alternative Proposal*, and
- (4) May 2003 *Buyisa-e-Bag Business Plan*.

However, from both the Government and Social Partners actor/actant-networks, the role of mailing lists, emails and phones (especially cell phones) in mobilisation cannot be underestimated. As researcher, I used these actants and their networks several times.

8.12 CONCLUSION

It was revealed that an international-local web of information sharing emerged around the plastic shopping bags litter and waste narrative as represented, especially by the EU, German, Bangladesh, UK, Irish, Australian, South Africa and Southern African Development Community experiences. Four conceptual frameworks around key actors and actor-networks were framed namely: Government, Organised Business, Organised Labour and Mixed. In terms of conceptual frameworks around key actants and actant-networks, two such sets were distinguished: the Integrated Pollution and Waste Management and the Plastic Bags Regulations. From two sets of conceptual frameworks identified above and their sub-frameworks, an overall conceptual framework including these was also developed.

The chapter closed by looking at how the actor/actant-network theory's four moments of translation: *problematization*, *interessement*, *enrolment* and *mobilisation* were applied during the entire research process for insights into understanding AANT in environmental policy processes surrounding waste management. It was revealed that the former Minister of Environmental Affairs and Tourism, Valli Moosa played a role in problematising the plastic shopping bags as litter and waste resulting in a well-oiled platform to ban or put in place stringent measures to regulate it. This narrative was opposed by Organised Business and Organised Labour, which felt that banning plastic shopping bags would result in severe negative economic and social impacts in terms of lost revenue and redundant equipment and retrenchment of thousands. Actors, actants and actor/actant-networks were then formed through the process of interessement and enrolled with several key documents, websites, mailing lists and related activities playing their role as actants to cement the narratives during the mobilisation process.

The next chapter presents a list of suggestions that are aimed at key actors and actor-networks that were involved in the policy process. Discussion on how several conceptual frameworks emerging from this chapter might be applied in different settings is presented. The chapter also outlines the challenges that emerged during the research process, particularly issues around methodology and ends by opening up directions for further research.

CHAPTER NINE

SUGGESTIONS AND REFLECTIONS ON THE RESEARCH PROCESS

9.0 INTRODUCTION

Based on the findings and conclusions of this research, a number of suggestions are made on how the findings might be used. Readers are encouraged to conceptualise these suggestions as lying on a continuum that assumes the application of the findings to understand and explain environmental policy making around a specific, localised waste product like the plastic bags, PET bottle, used oil, used tyres and many more, through a localised sectoral and/ or national application in researching environmental policy for integrated pollution and waste management or any other policy around environmental management thereof, to regional and international scales. In this regard, conceptual *frameworks* presented under sections 8.3.1 to 8.3.6 and in figures 8.1 to 8.6 respectively can be adapted and applied from a more or less *rigid*, through a *semi-rigid* to a *flexible* approach in researching environmental policy making. However, the degree of flexibility in applying the conceptual frameworks depends entirely on the extent to which such conceptual frameworks are removed from the South African context as explained in the next section.

9.1 EXAMPLE OF CONCEPTUAL FRAMEWORK ADAPTATION

Assuming further research is to be done to understand and explain environmental policy processes around managing glass or PET packaging in South Africa, the same actors, actants, and actor/actant-networks informing integrated pollution and waste management in the country, particularly central pieces of legislation will probably remain constant. For example, the provisions from the Environmental Conservation Amendment Act 2003, National Environmental Management Amendment Act 2003, Revenue Laws Amendment Act 2003, Environmental Management Policy 1999, White Paper on Integrated Pollution and Waste Management 2000, the Polokwane Declaration (on zero waste) and the Constitution of 1996 still need to be addressed. The lead agent, the Department of Environmental Affairs and Tourism (DEAT), Organised Business, Organised Labour and other key interested actors and their actor-networks are likely to remain constant too. Assuming the conceptual frameworks are to be adapted for studying environmental policy concerning used oil, tyres or mine waste in South Africa, a number of key pieces of legislation indicated above remain constant. However, a number of other key actors from the specialist sectors and actor-networks and probably specialist regulation such as Environmental Impact Assessment will emerge.

Assuming the conceptual frameworks are applied to researching environmental policy around the plastic shopping bags regulations or other packaging waste in the Southern African Development Community (SADC) region and selected member states like Botswana, the framework around key producers might remain largely unchanged. This is due to the fact that most producers with operations within the SADC region are South African based. The Nampak Group for example, operates in six out of the fourteen SADC countries with countries like Lesotho supplied directly by South African based companies. The same might also apply if the research is to be conducted in other African countries like Ethiopia, Kenya and Nigeria where the Group has other operations. The same principle also applies for key retail actor and actor/actant-networks that operate outlets within the SADC regions such as Pick'n Pay, Shoprite-Checkers, The Game, Mr Price, Spar, Clicks and fast food outlets. This is the kind of 'generalisation' to which the research findings (through the conceptual frameworks that emerged) can be applied in different contexts with varying flexibility.

The following section presents suggestions drawn from the research findings. The suggestions should be considered as further input into the South African actors and actor-networks and the development and re-working of actants and actant-networks around environmental policy making, especially those informing the Plastic Bags Regulations.

9.2 SUGGESTIONS

The following suggestions are primarily directed at the three major actor-networks that emerged during the research namely: Government, Organised Business and Organised Labour. The suggestions are dealt with under specific headings that include among them: timing and cooperative environmental governance in waste management, call for a comprehensive approach to managing packaging wastes, participation of the disempowered, mitigation against unanticipated negative impacts resulting from the implementation of the regulations and call to embrace a relational orientation when addressing waste management issues.

9.2.1 Timing and cooperative environmental governance in waste management

1. The concept of all inclusive, cooperative (stakeholder) environmental governance can be enhanced in the future by early engagement right from the stages when, especially, Government proclaims a certain waste product or group of products as an environmental problem or crisis. This suggestion was based on the fact that social partners during the

Plastic Bags Regulation process only got involved when they were gazetted for public comment on 19 May 2000.

2. As many key actors and actor-networks (stakeholders) as possible should be involved in the policy process. This suggestion is made in line with the manner in which 60% of retailers, three labour unions, local governments, non-governmental organisations, consumer bodies and community-based organisations were marginalised during proceeds that resulted in the signing of the Plastic Bag Agreement.
3. Local authorities are key actors and actor/actant-networks in environmental policy making around waste, particularly as they are the ones that have been battling with plastic bags litter and waste at a local level, and will continue to do so in the future. As such, a deliberate effort should be made to actively involve them.

9.2.2 Comprehensive approach to managing packaging waste

4. Based on the Irish and Australian experience, the Government and a proposed enlarged actor-network of Social Partners might wish to think of developing more comprehensive legislation dealing with packaging waste. To this end, lessons from the Plastic Bags Regulation can produce useful inputs for example on the key actors, actants and resultant actor/actant-networks and the manner these are constituted, break up and reconstituted.
5. The idea of Buyisa-e-Bag remains noble and this can be enhanced by making it an all inclusive Section 21 Company responsible for the management of other packaging litter and waste that is not adequately covered under business oriented recycling initiatives such as Collect-a-Can, Nampak Tissue and Mondi Paper. This step might also enhance the economic viability of Buyisa-e-Bag.

9.2.3 Audit on impacts associated with the Plastic Bags Regulations

6. The proposed detailed study on the impacts of the Plastic Bags Regulations by the Department of Environmental Affairs and Tourism should be given top priority. Such a study is critical as a source of information and as reference point in terms of the fusion of command-and-control and self-regulation approaches to managing specific waste products. In addition, the study will also help to clear the air as many citizens are still

awaiting a formal assessment of the success or failure of the Plastic Bags Regulations. The study will also be a useful reference document for SADC governments that are waiting to implement similar initiatives in their respective countries.

9.2.4 Issues regarding participation of the disempowered

7. New ways of encouraging active participation of ordinary citizens, especially those formerly disempowered by over 300 years of apartheid and colonisation in South Africa (the poor and women) should be found. Although the Government's official position as revealed in many environmental policy documents reviewed clearly stipulate that they should be involved, this did not come about during the Plastic Bags Regulations. Such new thinking should be made against the background that public participation time during the development of environmental policy regulatory instruments has been reduced to only 30 days. Pro-active public education and awareness programmes might need to be developed, especially given the birth of Buyisa-e-Bag of which part of its mandate is education and awareness raising around waste management.
8. NGOs and CBOs should continue pulling resources together and make effective and continuous representation, especially during the drafting phases of environmental policy regulation phase. This is critical to fostering an open democracy and strengthening consumer voices, given that all other environmental policy frameworks in the country such as the National Environmental Management Act 2003, National Environmental Policy and the White Paper on Integrated Pollution and Waste Management have been confirmed as having produced following the all inclusive Consultative National Environmental Policy Process (CONEPP).

9.2.5 New thinking around zero waste

9. The concept of zero waste has gained global momentum. It is fast becoming one of the preferred futures against increasing environmental complexities and uncertainties regarding climate change and ozone depletion. As such, South African actors and actor/actant-networks are encouraged to continue working towards finding sustainability thresholds when addressing integrated pollution and waste management issues and problems.

9.2.6 Mitigating and compensating against job losses

10. In order to alleviate the negative economic and social impacts that resulted from the retrenchment of workers in the plastic shopping bags producing sector, Buyisa-e-Bag is strongly encouraged to identify such people and whenever possible prioritise them when providing employment, as contained in the September 2002 Plastic Bag Agreement. DEAT, as lead environment agent is encouraged to oversee the implementation of this principle.

9.2.7 Use of AANT in environmental policy process research

11. As a relatively new methodology in policy research in South Africa and the region, researchers are encouraged to use AANT to further their studies in environmental and other related fields so as to refine this work and explore its strengths in tracing actors, actants and actor/actant-networks.

9.3 REFLECTION ON THE RESEARCH PROCESS

This section comes in three parts. The first part looks at the extent to which the methodology was applied and how it ‘played out’ during the research process (with a special emphasis on how issues pertaining to validity of research findings were addressed), the second focuses on assessing the extent to which the research aim and objectives were achieved and the third looks at potential areas for further research.

9.3.1 Methodological framework

The methodology used was the actor/actant-network theory (AANT). Of critical consideration here is the need to reflect on how validity threats (aspects around the credibility of research findings) were addressed. In section 3.3.1 a number of validity threats were spelt out. These included the need to be aware of the fact that AANT is not about *traced networks* but a *network-tracing* activity and the necessity to accord *fair and same* treatment to *actants* and *actors* based on AANT’s three assumptions of *agnosticism*, *generalised symmetry* and *free association*.

To accomplish the notion of network-tracing as opposed to traced networks, this research applied Creswell’s (2003) data analysis framework (see section 3.9). The framework, which captures significant aspects of grounded theory in analysing qualitative data allowed coding and the categorisation of data as it emerged from the analysis. From this process, networks could be

traced as they emerged resulting in the construction of several conceptual frameworks leading to theory building (see sections 8.3.1 to 8.3.6).

A fair treatment of both actants and actors was achieved by the realisation that these had a complementary role to play in the process with the Plastic Bags Regulations having been identified as token actant (refer to section 3.1). Since the token actant and other related minor actants could not put themselves into circulation, I constantly reminded myself of the intimacy between actants and actor-networks such as those that were put into motion by actants like DEAT, Organised Business and Organised Labour. In addition, AANT's three major assumptions spelt out above (i.e., *agnosticism*, *generalised symmetry* and *free association*) were carefully integrated into the research. Impartiality (agnosticism) was key to analysing issues emerging from the key actors, actants and their networks. Conflicting viewpoints of both actors and actants were explained, a typical example being the Pick'n Pay-media 'war' considered in section 7.3.2. Such conflicting viewpoints were explained through the use of abstract and neutral vocabulary (generalised symmetry) and where necessary quoting the exact words and avoiding biased commentary. In addition, through an analysis of power relations in the context of the AANT, key actors, actants and actor/actant-networks including those disempowered through marginalisation, such as community and consumer groups and local authorities were identified (see section 8. 6 and figure 8.8). AANT's four moments of translation were also helpful in analysing what I might term 'petty' narratives or story lines that helped me to build the 'grand' narrative that unfolded around the whole environmental policy process surrounding the Plastic Bags Regulations. To permit free association, all *a priori* distinctions between the technological/natural and the social were avoided.

To further enhance rigour and validity through peer review, a deliberate move was also undertaken to publish around both the core and peripheral aspects of my research. This was done as a precautionary measure to refine my research process, and pilot-tested AANT as a relatively new methodology for researching environmental policy and environmental education in South Africa and the SADC region. To this end one journal article that focused on identifying the emerging actors, actants and actor/actant-networks in environmental policy making around the Plastic Bags Regulations entitled *Understanding South Africa's Waste Management Policy Implementation: Emerging Stakeholder Participation Paradoxes* was produced. The full version of this paper appeared in the Southern African Journal of Environmental Education (2003, Volume 20). The preliminary findings of this paper also helped me to purposively sample respondents from the actor/actant-networks as well as sample actants. Other publications (see

titles and abstracts in appendix 9.1) including peer reviewed papers in international conference proceedings, a book review and a poster that was presented to the architect of the Plastic Bags Regulations, then Minister of Environmental Affairs and Tourism, Valli Moosa.

Levels of engagement in the research process were also guided by the realisation that environmental policy research involved touching on complex phenomena as set out by the conceptual framework that emerged from the literature review as presented in section 2.12. I was also guided by the realisation that AANT was an open process enquiry framework that could not be restricted to theory verification alone but also theory building (see section 3.3.4). As such, I constantly reminded myself of an obligation not only to verify and apply AANT's components as they emerged during the research process, but also to have time to let data and the analysis process 'talk to me' as I interrogated findings and made conclusions. This process led me to construct a number of conceptual frameworks (see section 8.3.1 to 8.3.6 and figures 8.1 to 8.8). These frameworks contributed to understanding and explaining environmental policy processes around South Africa's Plastic Bags Regulations and similar contexts both within and outside the country.

One major source of surprise was the ease at which data sources could be reached. The availability of key data sources online, combined with the use of emails and interviews made this possible. This gave me adequate time to analyse data and gain more useful insights. The Internet also allowed me to retrieve key historical policy data and information from as far back as 1994, an aspect that added value to the research as a continuous flow of information and data was obtained. Given such a scenario, tracing tensions, debates and ultimate responses concerning different 'petty' and 'grand' narratives became more manageable and very interesting.

Another aspect that surprised me was to realise how much rapport was able to establish with key informants, among them, the Director for Waste Management in DEAT whom at one stage (8 September 2004) responded to my email and wrote "please phone me at 012-310-3648". My earlier email had requested an update regarding the operation of the Buyisa-e-Bag South Africa company, which I got after calling him. Similar rapport was developed with other key informants from organisations that I regularly interacted with including the Nampak Group (that sponsored my study) and the Plastic Federation of South Africa. Some of the data that could otherwise have been classified as sensitive, was obtained by email or telephone. Such data included figures concerning retrenchments, demand on plastic shopping bags and budget line for the Buyisa-e-Bag South Africa company.

A major challenge was the difficulties in providing empirical evidence to ‘measure’ relationships and networks. To this end, I relied heavily on thick, rich descriptions of phenomena. This is an aspect that complements policy and qualitative research oriented studies like this one.

9.3.2 Extent to which research aim and objectives were addressed

The research aim was spelt out as “to understand and explain how environmental policy processes around South Africa’s Plastic Bags Regulations shaped and were being shaped by actors, actants and actor/actant-networks, emphasising on the need to articulate *tensions, debates* and *responses*”. By and large this aim has been achieved as the findings and emerging issues and conclusions thoroughly investigated and explained narratives concerning the actors, actants and actor/actant-networks in the study. The varying degrees to which the set research objectives were addressed are presented in their sequence below. Through the AANT emerging framework, I have been able to describe environmental policy processes in some detail.

9.3.2.1 Objective 1: Analysis of international perspectives in plastic shopping bags regulation

The objective was “to analyse selected international environmental policy processes surrounding plastic shopping bags litter and waste regulation and how these influenced developments in South Africa”. The motive behind this objective was to have a broader view on what was taking place in other countries and at the same time enrich understanding and where possible extrapolate information that could be used to enhance explanations that would emerge from the South African situation. This objective was addressed by reviewing examples from the EU, SADC, Germany and other selected countries (see section 2.4.5) as well as deliberating on two detailed cases that looked at environmental policy processes informing the Irish and Australian plastic shopping bag litter and waste regulations (see chapter four). The relationships and the manner in which the international perspectives informed developments in South Africa and vice versa were also established and clearly articulated and were presented in section 8.2.

9.3.2.2 Objective 2: Determination of actors, actants and actor/actant-networks

The full objective was “to identify actors, actants and actor/actant-networks that shaped and were being transformed by South Africa’s Plastic Bags Regulations and explain the tensions, debates and responses arising in the policy processes”. This objective was fundamental to this work and was addressed in chapters five to nine. Among some of the key actors and actor-networks that emerged are DEAT, Organised Business and Organised Labour. Similarly, key actants and actant-networks that emerged were shaped around Government’s Integrated Pollution and Waste

Management initiative and the resultant Plastic Bags Regulations. Objective '2' was also addressed through the identification of AANT (see sections 3.1 & 3.3) as the appropriate methodological framework to this research. However, there were some challenges too. The major challenge was the difficulty associated with the need to establish cut-off points in the extent to which certain actors, actants and actor/actant-networks could be traced as well as the multi-layered relationships that emerged. This was so due to the fact that so many actors, actants and their actor/actant-network webs could still be traced had resources that included money and time permitted. Another challenge concerns the dynamic nature of researching environmental policy that plays out in a very complex and uncertain context. For example, more actors, actants and actor/actant-networks were emerging as the Plastic Bags Regulations were being implemented. An example is the proposal for a Waste Management Bill that is expected to go before Parliament in mid 2005.

9.3.2.3 Objective 3: Evaluating policy regulatory instruments and outcomes

Objective three laid down a task "to identify environmental policy outputs and evaluate outcomes emerging from the formulation and implementation of South Africa's Plastic Bags Regulations". In addressing this objective, policy instruments that emerged from the policy process were identified as articulated under section 8.7. However, the major limitation regarding the policy outcomes was in assessing long-term impacts associated with the implementation of the Plastic Bags Regulations or lack thereof. This is due to the complexity and uncertainty surrounding environmental policy processes as elaborated upon in section 2.1.

9.3.2.4 Objective 4: Establish patterns in environmental policy process reforms

The need "to establish patterns in environmental policy process reforms around South Africa's Plastic Bags Regulations" was also set as the fourth objective. The patterns were established and these came in the form of one 15-year 'grand' policy cycle that was built around what I called policy sub-cycles that numbered up to four (section 8.9) based on the establishment of policy frameworks and policy regulatory instruments.

9.3.3 Potential areas for further research

Since research is a process, there is no way in which I could claim that this research exhausted every facet related to environmental policy processes around South Africa's Plastic Bag Regulations. After all, the topic had to be streamlined to suit the resources available, especially time and money. The production of this thesis therefore, is only one of the many actants that can emerge from both ongoing and future research in this area. Hence, the thesis should be

considered as one of the many contributions that might focus on the subject area. Given the long-term nature of environmental policy cycles, and very high levels of complexity and uncertainty, some areas that might need further research are listed below:

- 1) The extent to which the ultimate *zero* plastic shopping bags litter and waste status in South Africa's environments will be achieved as well as the ultimate feasibility of this goal.
- 2) Issues around both direct and indirect benefits associated with good environmental stewardship around the Plastic Bags Regulations such as:
 - a) Reduction in plastic shopping bags induced flooding and associated financial benefits, particularly for local authorities and Government.
 - b) Monetary, social and political value (if any) associated with tourism and the plastic shopping bags litter and waste management in South Africa.
- 3) Educational and awareness raising amongst the South African citizenry and the benefits for sustainability around waste management and overall environmental management.
- 4) Ethics and legal implications regarding cross-border trade in old thin plastic shopping bags.
- 5) Social-economic impacts associated with the Plastic Bags Regulations, including impacts related specifically to community-based recycling initiatives like the Masithandane Women's Group of Grahamstown.
- 6) Ways of strengthening consumer voices in the voices of the disempowered in environmental policy processes
- 7) Different features of actor-networks, including funding of Organised Labour.
- 8) Sustainability interests of different actor-networks in environmental policy making.
- 9) Continued application of the actor/actant-network theory in researching environment related policy topics with emphasis on tracing power relations and how they influence ANNT's moments of translation as well as the role of the media and how actor resources are mobilised.

9.4 FINAL REFLECTION

This research contributed new knowledge on environmental policy processes surrounding new trends towards waste product regulation in South Africa. The study identified key actor-network conceptual frameworks as comprising Government (led by the Department of Environmental Affairs and Tourism) Organised Business, Organised Labour and Mixed. It also presented two key actant-network conceptual frameworks: the Integrated Pollution and Waste Management, and the Plastic Bags Regulations. The research also elaborated on how these key conceptual frameworks could be adopted to research environmental policy processes both within and outside their context.

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Interview FF16. (2-3-2004). Recycling in Grahamstown.

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Interview FF19. (2-12-2004). Environmental policy processes surrounding plastic bags regulations.

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Interview FF20. (3-11-2004). Environmental policy processes surrounding plastic bags regulations.

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Interview FF22. (3-15-2004). Environmental policy processes surrounding plastic bags regulations.

Ref Type: Personal Communication

Interview FF7. (2-17-2003). Exploratory.

Ref Type: Personal Communication

Interview FF8. (3-23-2003). Waste management audit for Makana Local Municipality.

Ref Type: Personal Communication

Interview FF9. (5-19-2003). Responses during implementation.

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Appendix 3.1: Selected key websites visited

| Focus | Organisation and website address |
|-------------------------|---|
| Ireland and Australia | <ul style="list-style-type: none"> • Department of Environment, Heritage and Local Government: http://www.environ.ie • 10Steps: http://www.10steps.ie/10steps.html • Irish Government online legislation: http://www.irlgov.ie/topics/display.asp?Key=Legislation • Department of the Environment and Heritage: http://www.deh.gov.au • Australian Government online legislation: http://www.scaleplus.law.gov.au/ • Clean Up Australia: http://www.cleanup.com.au • Australian Chamber of Commerce and Industry: http://www.acci.asn.au |
| South Africa | <p><i>Government and quasi-government</i></p> <ul style="list-style-type: none"> • South African Government online documents: http://www.info.gov.za/documents/index.html • Department of Environmental Affairs and Tourism: http://www.environment.gov.za/ • National Economic Development and Labour Council: http://www.nedlac.org.za <p><i>Media</i></p> <ul style="list-style-type: none"> • Business Day: http://www.bday.co.za/ • Business Report: http://www.busrep.co.za/ • Daily Dispatch: http://www.dispatch.co.za/ • The Herald: http://www.theherald.co.za/ • Independent online (consortium of up to 12 papers): http://www.iol.co.za/ • Mail & Guardian: http://www.mg.co.za/ • The Natal Witness: http://www.witness.co.za/ • News 24: http://www.news24.com/ • SABCNews: http://www.sabcnews.com/ • Sowetan: http://www.sowetan.co.za/ • Sunday Times: http://www.sundaytimes.co.za/ <p><i>Private</i></p> <ul style="list-style-type: none"> • Plastics Federation of South Africa: http://www.plasticsinfo.co.za/ • Pick' n Pay: http://www.picknpay.co.za/ or http://www.mypnp.com/ • Packaging Council of south Africa: http://www.packagingsa.co.za/ • Nampak: http://www.nampak.co.za/ • Chemical and allied Industries associations: http://www.caia.co.za/ • South African Chamber of Business: http://www.sacob.co.za/ • Steel Engineering Industries Federation of South Africa: http://www.seifsa.co.za/ <p><i>Non-governmental and quasi non-governmental organisations</i></p> <ul style="list-style-type: none"> • Parliamentary Monitoring Group: http://www.pmg.org.za/ • Congress of South African Trade Unions: http://www.cosatu.org.za • Industrial Environmental Forum: http://www.ief.co.za/ • Institute of Waste Management Southern Africa: http://www.iwmsa.co.za/ |
| Mailing lists and other | <ul style="list-style-type: none"> • Wastewise: etcw@mst.dk • European Environmental Press: news@eep.org • PlasticsNet: info@plasticsnet.com • Blue Flag Organisation: http://www.blueflag.org/ |

Appendix 3.2: Organisations granting interviews and email responses

| <i>Analysis code</i> | <i>Date</i> | <i>Organisation</i> | <i>Location</i> | <i>Nature of business</i> |
|-------------------------|-------------|--|-----------------|---------------------------|
| Individual face-to-face | | | | |
| Interview FF1* | 03-02-03 | Packaging Council of South Africa | Johannesburg | Umbrella Organisation |
| Interview FF2* | 04-02-03 | Nampak Head Office | Johannesburg | Packaging |
| Interview FF3 | 05-02-03 | Nampak Polycyclers | Johannesburg | Recyclers |
| Interview FF4 | 05-02-03 | Nampak Polyfoil | Johannesburg | Producers |
| Interview FF5 | 06-02-03 | Nampak Tissue | Johannesburg | Producers |
| Interview FF6 | 06-02-03 | Collect-a-Can | Vereniging | Recyclers |
| Interview FF7* | 17-02-03 | Dept. of Environmental Affairs and Tourism | Pretoria | Lead environment agency |
| Interview FF8 | 23-03-03 | Makana Municipality | Grahamstown | Local authority |
| Interview FF9 | 19-05-03 | Spar | Grahamstown | Grocery retail |
| Interview FF10 | 20-05-03 | Checkers | Grahamstown | Grocery retail |
| Interview FF11 | 21-05-03 | Shoprite | Grahamstown | Grocery retail |
| Interview FF12 | 19-09-03 | Environmental Justice Network Forum | Johannesburg | Lobby NGO |
| Interview FF13 | 10-11-03 | Pick'n Pay | Grahamstown | Grocery retail |
| Interview FF14 | 21-11-03 | Govan Mbeki Municipality | Vereniging | Local authority |
| Interview FF15 | 04-12-03 | Grahamstown Recycling | Grahamstown | Collector |
| Interview FF16 | 03-02-04 | Grahamstown Feeding Association | Grahamstown | CBO |
| Interview FF17 | 12-02-04 | N. Mandela Metropolitan Municipality | Port Elizabeth | Local authority |
| Interview FF18 | 12-02-04 | N. Mandela Metropolitan Municipality | Port Elizabeth | Local authority |
| Interview FF19 | 12-02-04 | N. Mandela Metropolitan Municipality | Port Elizabeth | Local authority |
| Interview FF20 | 11-03-04 | Dept. of Environmental Affairs and Tourism | Pretoria | Lead environment agency |
| Interview FF21 | 15-03-04 | Goodyear South Africa | Port Elizabeth | Tire manufacturer |
| Interview FF22 | 15-03-04 | City of Cape Town | Cape Town | Local authority |
| Interview FF23* | 16-03-04 | Fairest Cape | Cape Town | NGO |
| Interview FF24 | 16-03-04 | Woolworths | Cape Town | Clothing retail |
| * Fully transcribed | | | | |
| Focus group | | | | |
| <i>Analysis code</i> | <i>Date</i> | <i>Organisation</i> | <i>Location</i> | <i>Nature of business</i> |
| Interview FG* | 30-01-04 | Masithandane Women's Group | Grahamstown | Recyclers/CBO |
| * Fully transcribed | | | | |
| Telephone interviews | | | | |
| <i>Analysis code</i> | <i>Date</i> | <i>Organisation</i> | <i>Location</i> | <i>Nature of business</i> |
| Interview T1 | 13-02-04 | All Waste | Johannesburg | Recycler |
| Interview T2 | 13-02-04 | Atlantic Recycling | Cape Town | Recycler |
| Interview T3 | 13-02-04 | Collectall Plastics | East London | Producer |
| Interview T4 | 13-02-04 | DJ Waste | Cape Town | Recycler |
| Interview T5 | 13-02-04 | Jan Sak | Johannesburg | Recycler |
| Interview T6 | 13-02-04 | Jimcas | Johannesburg | Producer |
| Interview T7 | 13-02-04 | LH Ward Recycling | Pretoria | Recycler |
| Interview T8 | 13-02-04 | Southern Cape Recycling | George | Recycler |
| Interview T9 | 13-02-04 | Papermill Man Taylor | Johannesburg | Recycler |
| Interview T10 | 13-02-04 | Reclamation Group | Amatikulu | Recycler |
| Interview T11 | 16-02-04 | Nampak Polyfoil | Johannesburg | Producer |
| Interview T12 | 16-02-04 | Nampak Polyfoil | Cape Town | Producer |
| Interview T13 | 16-02-04 | Astrapak Films | Johannesburg | Producer |
| Interview T14 | 16-02-04 | Plastics Federation of South Africa | Johannesburg | Umbrella body |

| | | | | |
|---------------------------------|-------------|--|-----------------|---|
| Interview T15 | 17-02-04 | Packaging Council of South Africa | Johannesburg | Umbrella body |
| Interview T16 | 17-02-04 | ITB Manufacturing | Durban | Producer |
| Interview T17 | 17-02-04 | Athpak | Johannesburg | Collector |
| Interview T18 | 17-02-04 | Poly Recycling | Cape Town | Recycler |
| Interview T19 | 17-02-04 | Rhino Plastics | Cape Town | Recycler |
| Interview T20 | 17-02-04 | Captain Waste | Cape Town | Recycler |
| Interview T21 | 17-02-04 | Beli Industries | Johannesburg | Producer |
| Interview T22 | 17-02-04 | L2 Plastics | Pretoria | Producer |
| Interview T23 | 17-02-04 | The Waste Company | Johannesburg | Collector |
| Interview T24 | 17-02-04 | Triangle Waste Recycling | Johannesburg | Recycler |
| Interview T25 | 17-02-04 | Transpaco | Johannesburg | Producer |
| Interview T26 | 17-02-04 | RR Agencies | Port Elizabeth | Collector |
| Interview T27 | 26-02-04 | Dow Chemicals | Johannesburg | Material producer |
| Interview T28 | 25-03-04 | Solidi Engineering | Johannesburg | Producer |
| Interview T29 | 08-09-04 | Dept. of Environmental Affairs and Tourism | Pretoria | Lead environment agency |
| Interview T30 | 08-09-04 | Buyisa-e-Bag (Pvt) Ltd. | Pretoria | Section 21 Company established to manage plastic bags |
| Interview T31 | 08-09-04 | Plastics Federation of South Africa | Johannesburg | Umbrella body |
| Selected e-mails with rich data | | | | |
| <i>Analysis code</i> | <i>Date</i> | <i>Organisation</i> | <i>Location</i> | <i>Nature of business</i> |
| Email 1 | 16-05-03 | Dept. of Environmental Affairs and Tourism | Pretoria | Lead environment agency |
| Email 2 | 08-08-03 | Nedlac | Pretoria | Quasi-Government department |
| Email 3 | 28-07-03 | Waste Department | Botswana | Government department |
| Email 4 | 28-08-03 | Dept. of Environmental Affairs and Tourism | Pretoria | Lead environment agency |
| Email 5 | 29-08-03 | Waste Department | Botswana | Government department |
| Email 6 | 01-09-03 | Nampak Head Office | Johannesburg | Producer |
| Email 7 | 01-10-03 | Dept. of Environmental Affairs and Tourism | Pretoria | Lead environment agency |
| Email 8 | 27-11-03 | South African Revenue Services | Pretoria | Government Department |
| Email 9 | 02-02-04 | EnviroServ | Cape Town | Consultants |
| Email 10 | 03-02-04 | South African Recycling Association | Johannesburg | Recyclers |
| Email 11 | 03-02-04 | Lombards and Associates | Durban | Consultants |
| Email 12 | 12-03-04 | City of Cape Town | Cape Town | Local authority |
| Email 13 | 16-02-04 | Nampak Polyfoil | Cape Town | Producer |
| Email 14 | 10-08-04 | Department of Environment and Heritage | Australia | Lead environment agency |
| Email 15 | 05-07-04 | Poloandfriends | Cape Town | Lobby NGO |

Appendix 3.3: Raw Nvivo codes used for data analysis

| No. | Code (Node according to NVivo Language) | Character's Coded | Paragraphs Coded | Passages Coded ¹⁰ |
|-----|---|-------------------|------------------|------------------------------|
| 1 | Figures | 19734 | 158 | 97 |
| 2 | Jobs lost | 11372 | 87 | 58 |
| 3 | Enforcement | 7880 | 50 | 30 |
| 4 | Alternatives to plastic bags | 4278 | 29 | 26 |
| 5 | Food prices | 5611 | 36 | 26 |
| 6 | Awareness raising | 6408 | 39 | 26 |
| 7 | Environmental benefits | 5273 | 44 | 26 |
| 8 | Local authorities | 9324 | 89 | 25 |
| 9 | Severe conflicts with Government | 10402 | 48 | 25 |
| 10 | Consumers and poverty | 4311 | 33 | 23 |
| 11 | Industry during regulation | 12949 | 66 | 23 |
| 12 | International cases | 9876 | 68 | 21 |
| 13 | Public against regulations | 3099 | 23 | 21 |
| 14 | 'Plastic Bag War' | 6349 | 47 | 19 |
| 15 | Jobs created & Buyisa-e-Bag | 4353 | 35 | 17 |
| 16 | Why regulate plastic bags | 3935 | 27 | 16 |
| 17 | Submissions on regulation ~2000~ | 15908 | 103 | 15 |
| 18 | Co-operative approach | 3145 | 18 | 13 |
| 19 | Degradable plastics bags | 4839 | 44 | 13 |
| 20 | Hotline | 2631 | 17 | 12 |
| 21 | Impacts of regulations | 3302 | 17 | 12 |
| 22 | Mr Price | 4571 | 39 | 11 |
| 23 | Other waste products | 3688 | 21 | 11 |
| 24 | Clean up campaigns | 2672 | 20 | 9 |
| 25 | Grace period | 1687 | 12 | 9 |
| 26 | Polokwane Declaration | 4631 | 17 | 9 |
| 27 | For plastic bags | 1877 | 15 | 9 |
| 28 | Scientists & consultants' views | 2410 | 18 | 8 |
| 29 | Anti-plastic campaign | 2826 | 16 | 7 |
| 30 | Plastic Enviromark | 3816 | 32 | 7 |
| 31 | Rebel retailers | 1076 | 8 | 7 |
| 32 | Retailers after regulation | 1934 | 15 | 7 |
| 33 | Industry before regulations | 2861 | 16 | 7 |
| 34 | Original position from Moosa | 2337 | 13 | 7 |
| 35 | CBOs before regulations | 3066 | 15 | 6 |
| 36 | Labour after regulations | 7030 | 37 | 6 |
| 37 | Crisis meeting on price war | 2942 | 31 | 5 |
| 38 | Environment court | 2551 | 13 | 5 |
| 39 | Manufacturing equipment loss | 749 | 5 | 5 |
| 40 | Labour during regulation | 4771 | 21 | 5 |
| 41 | Political support | 1408 | 5 | 5 |
| 42 | Plastic Bag Agreement | 1649 | 7 | 5 |
| 43 | DEAT during regulations | 1679 | 3 | 4 |
| 44 | Greening SA & SD | 1569 | 12 | 4 |
| 45 | Plastic bags and tourism | 631 | 7 | 4 |

¹⁰ Parameter used to sort Codes on descending order

| | | | | |
|----|-------------------------------------|------|----|---|
| 46 | Uses of old bags | 839 | 5 | 4 |
| 47 | Retailers before regulation | 1574 | 12 | 4 |
| 48 | Public Assessment | 1027 | 5 | 4 |
| 49 | Imports | 912 | 7 | 4 |
| 50 | NGOs before regulation | 1970 | 10 | 4 |
| 51 | Constitutional links | 886 | 3 | 3 |
| 52 | Parliamentary Environment Committee | 1989 | 16 | 3 |
| 53 | Partners | 1121 | 4 | 3 |
| 54 | Old plastic bag stock | 1111 | 9 | 3 |
| 55 | Health | 2569 | 26 | 3 |
| 56 | Key actors | 644 | 9 | 3 |
| 57 | Old bags sold | 523 | 3 | 3 |
| 58 | Increased theft in retail outlets | 835 | 8 | 3 |
| 59 | Consumer bodies | 826 | 4 | 2 |
| 60 | Policy reforms | 1802 | 4 | 2 |
| 61 | Township issues | 741 | 2 | 2 |
| 62 | Win-win situation | 997 | 7 | 2 |
| 63 | South African Revenue Services | 475 | 2 | 2 |
| 64 | Procedure of government | 996 | 3 | 2 |
| 65 | Industry after regulations | 363 | 2 | 2 |
| 66 | NGOs during regulation | 624 | 4 | 2 |
| 67 | New plastic bag standards | 1163 | 7 | 2 |
| 68 | IP & WM | 763 | 3 | 2 |
| 69 | External lobbying | 431 | 2 | 2 |
| 70 | Gender & age | 411 | 3 | 2 |
| 71 | 45 kg plastic out of Indian cow | 794 | 8 | 1 |
| 72 | PREO Annual General Meeting 02-04 | 2642 | 34 | 1 |
| 73 | Retail Plastic Bag Forum | 209 | 1 | 1 |
| 74 | PFSA statement 28-07-03 | 2027 | 29 | 1 |
| 75 | Donations from PBR proceeds | 948 | 4 | 1 |
| 76 | Nedlac | 347 | 2 | 1 |
| 77 | International Blue Flags | 3909 | 24 | 1 |
| 78 | DEAT before regulations | 569 | 1 | 1 |
| 79 | Amendment of Conservation Act | 535 | 3 | 1 |
| 80 | CBOs after regulations | 362 | 3 | 1 |
| 81 | DEAT 2004 Study | 168 | 1 | 1 |
| 82 | DEAT after regulations | 145 | 1 | 1 |

Appendix 3.4: Sample for NVivo Node Coding Report for code 'Figures'

NVivo revision 2.0.161 Licensee: Godwell

Project: GN's analysed data
User: Administrator
Date: 2004/09/03 - 02:40:08

Node: Figures
Created: 2004/09/01 - 02:52:04
Modified: 2004/09/03 - 12:42:00
Documents in Set: All Documents
Document 1 of 27 DEAT on PBags 1999-14 November 2003

656: Cape Argus, 29 May 2003

657: An estimated four million pieces of litter are dumped in the city each day - half of them plastic- and the new plastic bag regulations to reduce litter are a "bold initiative" in line with international best practice, city authorities say.

658: The City of Cape Town's solid waste branch points out that the city spends R184 m (or more than R168m depending on how the costs are calculated) a year to clean up illegally dumped material.

659: Solid waste spokesperson Saliem Haider said about 238 kg of plastic found their way to stormwater drains each day causing environmental damage and requiring cost clean-ups.

Passage 2 of 11 Section 1.1.1.2, Para 684, 93 chars.

684: "Gauteng produces five million tons of waste a year. This costs the government R800 million.

Passage 3 of 11 Section 1.1.1.2, Paras 744 to 745, 233 chars.

744: Makwakwa said the department realized there were not enough inspectors to ensure compliance with the new law.

745: Only four inspectors had been appointed by the SA Bureau of Standards (SABS), and they would not begin work until June 19.

Passage 4 of 11 Section 1.1.1.2, Paras 749 to 751, 455 chars.

749: Last week, retailers reported the sales of new bags were high and growing.

750: Pick 'n Pay sold out more than 300 000 eco-bags, made of polypropylene, and has ordered more. The group's purchasing director, Graeme Laithwaite, said: "Whatever I ordered has not been enough. I'm getting hundreds of calls from stores saying that they must have more stock."

751: Deabreu said: "The demand for new thicker plastic bags, as well as the eco-friendly bags, has been high."

Passage 5 of 11 Section 1.1.1.2, Para 858, 199 chars.

858: But we are a long way yet from being world leaders. That's because only a fraction of the 566 million tons of municipal waste generated every year in South Africa is recycled or reclaimed in any way.

Passage 6 of 11 Section 1.1.1.2, Paras 869 to 870, 498 chars.

869: "Proper refuse collection is an essential service and a basic right. At the moment, 40 percent of South Africa's people do not have a proper domestic refuse collection system, which means that waste piles up around homes, degrades their environments and affects their health. We have a national obligation to ensure that minimum standards for waste management are met.

870: "We have to act before it's too late," said Moosa. - Valli Moosa, Minister of the Department of Environmental Affairs and Tourism

Passage 7 of 11 Section 1.1.1.2, Paras 915 to 917, 301 chars.

915: Pretoria News, 08 April 2003

916: Consumers will have to pay for their thicker plastic shopping bags from next month when the government's ban on thin plastic bags come into force.

917: Shoppers will have to pay 49c each for thicker plastic bags, which could add several rands a weekly trip to the supermarket.

Passage 8 of 11 Section 1.1.1.2, Para 922, 225 chars.

922: "A large 24-litre bag will cost 46c with VAT, which will be the one most commonly used at supermarkets. A medium-sized 12-litre bag will be 31c and a smaller eight-litre bag will be 25c. These are all new sizes," Moore said.

923:

Passage 9 of 11 Section 1.1.1.2, Paras 942 to 943, 467 chars.

942: Econo Recycling works closely with non-governmental organisations, 40 schools from surrounding communities and a Christian community radio station - which all promote environmental education.

943: Last year saw the Bergvliet High School raising R96 000 from collecting plastic bottles for recycling, the United Projects Forum (UPF) has a workforce of 140 people who collect plastic bottles, and the CCFM uses its shows to educate communities on environmental management.

Passage 10 of 11 Section 1.1.1.2, Para 952, 235 chars.

952: Consumers will have to bear the cost of the new bags, the rationale being that if people are charged for them - 46c for the 24 litre bag, 31c for thr 12 litre and 25c for the 8 litre - they will be more likely to reuse or recycle them.

Passage 11 of 11 Section 1.1.1.2, Para 953, 237 chars.

Appendix 6.1: Plastic Bags Regulation of May 2000

Source: <http://www.environment.gov.za/>, 5 January 2004

NOTICE 1994 OF 2000

DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND TOURISM

PROPOSED REGULATIONS UNDER SECTION 24 OF THE ENVIRONMENT CONSERVATION ACT (ACT NO. 73 OF 1989)

The Minister of Environmental Affairs and Tourism intends making regulations under Section 24(1) (a) and (k) of the Environment Conservation Act (Act No. 73 of 1989) as set out in the Schedule hereto. Interested Parties are requested to submit comments in connection with the proposed regulations within 3 months from the date of publication of this notice. Comments must be submitted to the Director-General, Department of Environmental Affairs and Tourism, Private Bag X447, Pretoria 0001.

All correspondence should be clearly marked for the attention of the Director: Integrated Pollution Prevention and Waste Management, Telephone (012) 310-3654; Fax (012) 322-1167; email: wscott@ozone.pwv.gov.za

DR CRISPIAN OLIVER

DIRECTOR-GENERAL: ENVIRONMENTAL AFFAIRS AND TOURISM

SCHEDULE

PLASTIC BAG REGULATIONS

1. Definition

In these regulations "the Act" means the Environment Conservation Act (Act No 73 of 1989) and any word or expression to which a meaning has been assigned in the Act shall bear the meaning so assigned to it in these regulations and, unless the context indicates otherwise –

1. "carry bag" means a plastic bag or a plastic packet which is distributed to a consumer.
2. "distribute" means making carry bags directly or indirectly available and without charge to consumers for the packaging or carrying of goods purchased by consumers and "distribution" has a corresponding meaning.
3. "supply" means distribution of or trading in carry bags.
4. "trading" means the sale of carry bags as a commodity to any person (including, but not limited to manufacturers, wholesalers and retailers of goods).

2. Prohibition on the supply of carry bags

1. With effect from 1 January 2001 no person may supply carry bags of a thickness of less than 30 microns.

2. With effect from 1 June 2001 no person may supply carry bags of a thickness of less than 80 microns.

3. Offences and penalties

Any person who contravenes any provision of these regulations is guilty of an offence and liable, on a first conviction, to a fine not exceeding R10 000 or imprisonment for a period not exceeding one year or to both such fine and such imprisonment, and in the case of a second or subsequent conviction to a fine not exceeding R100 000 or to imprisonment not exceeding ten years or to both such fine and such imprisonment.

EXPLANATORY MEMORANDUM

The collection and disposal of plastic bags is a growing problem in South Africa. The use and free availability of plastic bags has increased significantly in recent years and large amounts of bags have resulted in pollution and degradation of the environment. Thin non-reusable bags are indiscriminately dumped and not collected for recycling or disposal since they have little commercial value. The problem is severe in low-income areas where waste collection services are inadequate. The aim of the regulations is to restrict the production of non-reusable plastic shopping bags and to promote re-use and recycling.

Appendix 6.2: Plastic Bags Regulations of November 2001 (never published)

Source: Fieldwork, March 2003

The Minister of Environmental Affairs and Tourism has, under section 24(d) of the Environment Conservation Act, 1989 (Act No. 73 of 1989), made the regulations as set out in the schedule hereto.

SCHEDULE PLASTIC BAG REGULATIONS

1. Definitions

In these regulations the Act means the Environment Conservation Act (Act No. 73 of 1989) and any word or expression to which a meaning has been assigned in the Act shall bear the meaning so assigned to it in these regulations and, unless the context indicates otherwise -

"**distribute**" means making plastic bags directly or indirectly available to consumers for the packaging or carrying of goods purchased by consumers in the Republic of South Africa and distribution has a corresponding meaning;

"**plastic bag**" means a plastic bag or a plastic packet, made of plastic film, which is distributed to a consumer; and includes flat bags and carrier bags;

"**competent authority**" means the competent authority to whom the administration of this Act has, under section 235(8) of the Constitution of the Republic of South Africa, 1993 (Act No. 200 of 1993) been assigned in that province;

"**trading**" means the sale of plastic bags as a commodity to any person (including, but not limited to manufacturers, wholesalers and retailers of goods) for use in the Republic of South Africa.

2. Prohibition of certain plastics

2. (1) Any manufacturing, trade, and commercial distribution of plastic bags, for use within the Republic of South Africa, with wall thickness less than 80 micrometres (microns), is hereby prohibited. The prohibition contemplated in this sub-regulation shall come into effect one year from the date of publication of this notice.

2. (2) In enforcing these regulations, and at the discretion of the authorised person, a tolerance of 10% micrometre (microns) variation in the measurement of the minimum thickness may be permitted to make allowance for variability of thickness of plastic film produced under the normal operating conditions by machinery that is set to produce film of minimum thickness. The term plastic film is used in the context of the customs tariff line headings used to cover plastic bags.

3. Administration of these regulations

3. (1) The regulations in this schedule apply throughout the Republic of South Africa and are administered in the territory by the competent authority.

3. (2) Any person authorized thereto, in writing, by the competent authority may, after reasonable notice to the owner or occupier of any land, at any reasonable time enter upon that land in order to determine whether the provisions of these regulations have been complied with, as contemplated in s. 41A of the Act.

4. Offences and penalties

4. (1) Any person who contravenes any provision of these regulations shall be guilty of an offence and liable on conviction to a fine not exceeding R100 000 or to imprisonment for a

period not exceeding 10 years, or to both such fine and such imprisonment, and to a fine not exceeding three times the commercial value of any thing in respect of which the offence was committed, and, in the event of a continuing contravention, to a fine not exceeding R250 or to imprisonment for a period of not exceeding 20 days or to both such fine and such imprisonment in respect of every day on which such contravention continues.

EXPLANATORY MEMORANDUM

The collection and disposal of plastic bags is a growing problem in South Africa. The use of plastic bags made of thin plastic film has increased significantly in recent years and the discarding of large numbers of bags has resulted in pollution and degradation of the environment. Thin non-reusable bags are indiscriminately dumped and not collected for recycling or disposal because the thin plastic film they are made of has little commercial value, either as a cost to the consumer, or a raw material for recyclers. The problem is severe in low-income areas where waste collection services are inadequate. The primary aim of the regulations is to restrict the production of non-reusable plastic bags, and unnecessary use of excessive amounts of disposable thin plastic film for packaging.

Source: <http://www.environment.gov.za/>, 7 September 2004

GOVERNMENT NOTICE
DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND TOURISM

No. R..... 2002

**REGULATIONS UNDER SECTION 24(d) OF THE ENVIRONMENT CONSERVATION
ACT (ACT NO. 73 OF 1989)**

The Minister of Environmental Affairs and Tourism has, under section 24(d) of the Environment Conservation Act, 1989 (Act No. 73 of 1989), made the regulations as set out in the schedule hereto.

M.V. Moosa
MINISTER OF ENVIRONMENTAL AFFAIRS AND TOURISM

SCHEDULE

PLASTIC BAGS REGULATIONS

Definitions

1. In these regulations any word or expression to which a meaning has been assigned in the Environment Conservation Act, 1989 (Act No. 73 of 1989) (hereinafter referred to as "the Act") shall bear the meaning so assigned to it in the Act, and, unless the context indicates otherwise --

"commercial distribution" means making plastic bags directly or indirectly available for packaging or carrying goods or carrying of waste and distribution has a corresponding meaning;

"mark" whether used in a compound with any other word or not, includes any symbol, sign, drawing, design, badge, emblem, representation, heading, name, word, signature, letter or numeral, or any combination of two or more thereof;

"plastic bag" means --

(a) a plastic carrier bag with handles which is designed for the general purpose of carrying goods purchased by consumers;

(b) a plastic flat bag constructed with no gussets or handles which is designed for the general purpose of carrying goods purchased by consumers; and

(c) a plastic refuse bag which is designed for the general purpose of carrying waste;

"plastic bread wrapping" means --

(a) a flimsy bread bag with a wall thickness between 5 and 10 micrometres, which is designed for the purpose of packaging bread;

(b) a shrinklene bread bag with a width of 500 millimetres and a wall thickness between 8 to 12 micrometres, which is designed for the purpose of packaging bread; and

(c) a bread bag, which is wicketed, with a wall thickness between 25 and 30 micrometres, which is designed for the purpose of packaging bread;

"plastic film" means a thin, unwoven membraneous skin or layer of flexible material made of polymers of ethylene or propylene and combinations thereof; and

"trade" means the sale of plastic bags to any person, including but not limited to manufacturers, wholesalers and retailers of goods, for use in the Republic of South Africa.

Prohibition of certain plastic bags

2.

(1) The manufacture, trade and commercial distribution of plastic bags, made of plastic film, for use within the Republic of South Africa, with a wall thickness of less than 80 micrometres is hereby prohibited.

(2) Notwithstanding subsection (1), plastic bags, made of plastic film, with a wall thickness of between 30 and 80 micrometres may be manufactured, traded and commercially distributed, for use within the Republic of South Africa, provided they do not, unless required by law, have printing, painting or marks of any kind.

(3) Notwithstanding subsection (1), bread bags, made of plastic film, with a wall thickness of between 25 and 80 micrometres may be manufactured, traded and commercially distributed, for use within the Republic of South Africa, if they do not, unless required by law, have printing, painting or marks of any kind.

(4) The prohibition contemplated in subsection (1) will not apply to shrinklene and flimsy bread bags, made of plastic film.

Offences and penalties

3.

(1) Any person who contravenes regulation 2(1) shall be guilty of an offence and liable on conviction --

(a) to a fine not exceeding R100 000; or

(b) to imprisonment for a period not exceeding 10 years; or

(c) to both such a fine and such imprisonment; and

(d) to a fine not exceeding three times the commercial value of any thing in respect of which the offence was committed.

(2) Any person convicted of an offence in terms of these regulations, and who after such conviction persists in the act or omission, which constituted such offence, shall be guilty of a continuing offence and liable on conviction to a fine not exceeding R250 or to imprisonment for a period not exceeding 20 days or to both such fine and such imprisonment in respect of every day on which such offence continues.

Commencement date

4. These regulations come into effect one year from the date of publication of this notice.

EXPLANATORY MEMORANDUM

The collection and disposal of plastic bags is a growing waste problem in South Africa. The use of plastic bags made of thin plastic film has increased significantly in recent years. The discarding of large numbers of bags results in the degradation of the environment. Thin non-reusable bags are indiscriminately dumped and not collected for recycling or disposal because the thin plastic film they are made of has little commercial value, either as a cost to the consumer, or a raw material for recyclers. The problem is severe in low-income areas where waste collection services are inadequate.

Appendix 7.1: Compulsory Specification for Plastic Carrier Bags and Flat Bags

Source: <http://www.info.gov.za/gazette/regulation/2003/24734h.pdf>, 23 September 2004

Government Gazette 25082 No. R. 867 20 June 2003

STANDARDS ACT, 1993

COMPULSORY SPECIFICATION FOR PLASTIC CARRIER BAGS AND FLAT BAGS

I, Alexander Erwin, Minister of Trade and Industry, hereby under section 22 (1)(a)(i) and (8) of the Standards Act, 1993 (Act No. 29 of 1993), and on recommendation of the Council of the South African Bureau of Standards, declare the specification for plastic carrier bags and flat bags as set out in the Schedule to be a compulsory specification with effect from date of publication of this notice.

A Erwin Minister of Trade and Industry

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SCHEDULE

COMPULSORY SPECIFICATION FOR PLASTIC CARRIER BAGS AND FLAT BAGS

1 Scope

- 1.1 This standard specifies requirements for carrier bags and flat bags that are made from thermoplastic materials.
- 1.2 This standard covers plastic carrier bags and flat bags, both domestically produced and imported, for use within the Republic of South Africa.
- 1.3 This standard covers the thickness and printing requirements of these bags.
- 1.4 This standard does not cover bread bags, refuse bags, bin liners, household plastic bags, or primary packaging such as barrier bags.
- 1.5 This standard does not cover plastic bags for export.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this standard. All standards are subject to revision and, since any reference to a standard is deemed to be a reference to the latest edition of that standard, parties to agreements based on this standard are encouraged to take steps to ensure the use of the most recent edition of the standard indicated below. Information on currently valid national and international standards can be obtained from Standards South Africa.

SANS 4591, Plastics - Film and sheeting - Determination of average thickness of a sample, and average thickness and yield of a roll, by gravimetric techniques (gravimetric thickness).

3 Definitions

For the purpose of this standard, the following definitions apply:

3.1 barrier bag

thin or flimsy bag, used to separate incompatible products at the final point of sale, for health, hygiene or transport purposes.

3.2 carrier bag

bag constructed with handles, and with or without gussets

3.3 commercial distribution

practice of making plastic bags directly or indirectly available for packaging or carrying of goods

3.4 flat bag

bag constructed without handles, and with or without gussets

3.5 plastic film

continuous, thin, non-woven membraneous skin, or layer of flexible material, made of thermoplastic materials

3.6 primary packaging

packaging that is in direct contact with the product, and the purpose of which is to contain the product during transport, or handling, to the point of distribution or use

3.7 trade

the sale of plastic bags to any person including, but not limited to, manufacturers, wholesalers and retailers of goods, for use in the Republic of South Africa.

4 Requirements

4.1 Construction and materials

Plastic bags, offered for trade or commercial distribution as carrier bags or flat bags, shall be made from plastic film consisting of polyethylene or polypropylene.

4.2 Film thickness

When the film thickness of a carrier bag or flat bag is measured in accordance with 6.1, no individual thickness measurement shall be less than 24 microns.

5 Printing requirements

5.1 Types of ink

5.1.1 Ink used for printing on plastic carrier bags or flat bags shall be classified as one of the following types:

- Type A: Ink that is a single resin based system, based on a co-solvent polyamide.
- Type B: Ink that does not comply with the requirements for type A.

5.1.2 When compliance with the requirements for type A ink is claimed (see 5.1.1), the claimant shall supply a declaration of conformity with the requirements for type A with each consignment or batch of bags.

5.1.3 When dried ink is tested in accordance with 6.2, type A ink shall not exhibit any change of colour.

5.2 Permitted coverage of printing

5.2.1 For ink of type A, the mass percentage of dried solids of the printed ink, relative to the mass of an unprinted bag, shall not exceed 2,25%.

5.2.2 For ink of type B, the mass percentage of dried solids of the printed ink, relative to the mass of an unprinted bag, shall not exceed 1,125%.

6 Test methods

6.1 Film thickness

Measure the thickness of the plastic film using the method described in SANS 4591, and check the results for compliance with 4.2.

6.2 Type of ink (nitrocellulose spot test)

6.2.1 Principle

A solution of diphenylamine in concentrated sulphuric acid is used to indicate the presence of nitrocellulose. The reagent causes an almost instantaneous formation of a dark blue colour on contact with nitrocellulose.

CAUTION - The substances used for this test are extremely dangerous. Gloves and safety glasses should be used throughout the preparation and use of this solution.

6.2.2 Preparation of test solution

6.2.2.1 Carefully mix together the following ingredients, in a conical flask whilst cooling the flask under running water:

- a) 0,5 g diphenylamine (C₁₂ H₁₁ N);
- b) 10,0 g water; and
- c) 30,0 g concentrated sulphuric acid (98%)

CAUTION - Add the acid slowly to the water.

6.2.2.2 Carefully add a further 60,0 g of concentrated sulphuric acid, and mix gently.

6.2.2.3 Transfer the contents of the flask to a dark glass bottle, and label and date the bottle.

NOTE - The solution should have a shelf life of approximately one month. The solution will initially be a yellow/orange colour, and it should be discarded and prepared afresh if it shows any signs of discolouration (which would probably indicate a reaction with light, oxidation or contamination).

6.2.3 Procedure

6.2.3.1 Place one drop of the test solution on a sample of the dried ink to be tested.

6.2.3.2 Check after 30 s for any colour change.

NOTE - If the colour changes to dark blue, it indicates the presence of nitrocellulose.

7 Consignment slips and markings

7.1 The following information shall be provided, either in print on each bag, or in the form of a consignment slip included with every consignment or batch of bags:

- a) the name of the manufacturer, importer or distributor (who shall be domiciled in South Africa); and
- b) the country of origin.

7.2 All markings on the consignment slips (or bags) shall be in the English language, at least.

End

Appendix 7.2: Degradable plastic shopping bags in South Africa

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| <p><i>Can SA Afford the New Bag Law?</i></p> <p>Mail & Guardian (20 June 2003)</p> <p>Felix De Kleijn</p> <p>According to Bill Naude, chairperson of the Plastics Federation, demand for plastic bags has fallen by up to 90% since the government introduced legislation making the use of heavier gauge carrier bags compulsory. Plastic bag manufacturers hope consumers have overreacted and that more will be prepared to pay for bags in time. But a year after a similar "Plastax" of -15c was introduced on bags in Ireland demand fell by 90% in that country. The Irish industry only comprises four companies employing 177 people. South Africa, on the other hand, has a mature industry employing more than 4 000 people. The Department of Environmental Affairs and Tourism claims the new regulations have succeeded and that the plastic bag agreement is good for the economy. But does it honestly believe that no workers will lose their jobs, when bag production by South Africa's largest manufacturer is down by 70%? When the new legislation was introduced the department said 1 800 to 3 800 jobs would be created in the recycling industry. How, when the demand for plastic bags continues to drop? The agreement provides for the creation of a not-for-profit company funded by a 2c levy on bags, which among other things, will promote efficiency in the use and disposal of bags and create between 180 and 220 permanent jobs. With a drop in demand, where will it find the funding? The department claims that by making carrier bags slightly thicker and controlling the use of printing ink, value is added in terms of recovery and recycling. The question is, how much? Two hundred thousand thinner bags, at five grams each, are required for a ton of plastic. Post-consumer plastic film fetches about R1 000 a ton, as it is heavily contaminated. The mandatory increase in gauge means 100 000 bags still have to be collected for a ton of plastic - hardly stimulating recycling. If the government and industry were serious about recycling they would assign the bags a real value and agree to pay for returns. But this would cost money. Scavengers for recyclables concentrate on landfill sites where thicker bags are in a lower state of entropy. The benefits of pulling bags out of the dump need to be measured against the health risk - whether bags are thin or thick, contamination is a problem. The collection of plastic bag litter will likely be left to municipalities. Voluntary clean-ups account for less than 5% of beach litter collected, and the figure is probably much lower for roadside litter. In addition, the thick bags will last much longer outdoors. The department claims the regulations will modernise the economy and increase South Africa's competitiveness. The opposite is true. Plastic bags started out at a 30-micron thickness in the 1980s, but because of advances in materials and processes have now been reduced to 17-microns or less.</p> <p>This global trend of "dematerialisation" is an example of the "reduce" principle. The regulations are a step backwards, and will make South African bag exports uncompetitive. One intention of the regulations is the re-use of the thicker bags. However, the thin bag was extensively reused as a kitchen tidy bag. A major constraint on the re-use of plastic bags is contamination from meat and milk spills and leakage from detergents. Here, the gauge does not make a difference. Thin bags fulfil an important role in separating detergents and meat from other groceries. I have heard that one supermarket packs meat and dairy products in thin bags before repacking them into the customers' re-usable bags. How would the department respond to this? Less than 40% of retailers signed the agreement to charge for bags and reduce the price</p> | <p><i>Bag agreement is working</i></p> <p>Mail & Guardian (2 July 2003)</p> <p>Crispian Olver</p> <p>Felix de Klein's question, "Can South Africa afford the new bag law?" (June 20), deserves serious attention. One should note that De Klein has a vested interest, not only as a consumer but also as a businessman who wants to sell a product of somewhat dubious worth. He makes a "degradable" plastic bag that "dries up like a leaf". De Klein claims it decomposes more quickly than ordinary bags and would be a marvel for the environment. He made representations to Parliament's portfolio committee and to industry earlier this year, and has asked the government to delay implementing the regulations to give time to test his product. Unfortunately, De Klein has so far failed to prove the worth of his product or to convince business to buy it. In pushing the government to revisit the law, he spuriously engages in a discourse on the plastic bag regulations. He has backed his argument by referring to job losses, health hazards and economic growth. We are then asked to believe his comments are genuine concerns. The so-called degradable plastic bags do not degrade completely to water and carbon dioxide, as De Klein claims. They degrade into tiny pieces of polyethylene, creating the "white dust" problem currently experienced in China. We cannot afford to solve problems with other problems. Until proven technology that ensures these plastics successfully degrade is available, it would be irresponsible to distribute biodegradable bags on a large scale here. De Klein casts aspersions on the success of the plastic bag agreement. In fact, its implementation has been enormously successful, and the reduction in plastic bags from the waste stream is already significant. The intrinsic value of plastic bags has increased because they are now backed by a responsible recycling initiative that was previously absent. Now that the real cost of plastic bags is evident, we</p> |
|---|---|

of goods accordingly. This means large retailers must subsidise food prices to the tune of more than R200-million every year. According to Minister of Environmental Affairs and Tourism Mohammed Valli Moosa, the government will not monitor the regulations. We can only hope retailers act with integrity and reduce food prices with their savings. What of the other 60% of retailers? Many seem to have jumped on the bandwagon and are charging for bags. They have no obligation to reduce prices with the money they save. They are enjoying a "double dip" - charging for bags that used to be free and making a profit on them. This will increase inflation and hit the man in the street. It appears the minister is not interested in legislating on this point. The elements of the agreement that require regulation do not include charging for the bags, which is a matter of negotiation between the large retailers, the government and labour. The retailers would have you believe that the cost of the 24-litre bag is 46c - 38c plus the 2c levy, plus 5c VAT. It would be interesting to calculate the true cost after volume discounts and other rebates. The large retailers agreed on three standard sizes of bags at standard prices, as they were terrified that one retailer may charge less and that the public would switch allegiance to that store. The retail industry employs 70 000 packers, most of them casuals. The agreement obliges the retailers to retain their jobs. But the 60% of retailers that did not sign the agreement have no obligation to retain the packers. Can the country afford the additional unemployment? Paper bags use more resources, cause more pollution during production and transport and take up more landfill space than plastic bags. But paper bags are not regulated. Already several retailers have moved across to paper bags. Does the department believe the manufacture of paper bags should be promoted? By reducing its lifetime, plastic bag litter can be managed at acceptable levels. Since the United States legislated that beverage ring carriers must be photodegradable, there has been a tenfold reduction in these articles observed as litter. Plastic bags in South Africa make up only 5% to 10% of roadside litter and 2% of beach litter. A tenfold reduction would surely reduce them to a manageable level.

Felix de Kleijn is managing director of the company Evergreen Environmental

can make informed choices about their use. The issue of job losses in the industry is a serious one. In partnership with business and labour, the department is looking at all possible mechanisms to prevent them. We must, however, realise that plastic bag extrusion and manufacture is not labour-intensive. The threatened jobs are made up three or four times over in the growing plastics recycling industry. We have created a non-profit company called "Buyisa-e- Bag" in partnership with business and labour, and allocated seed funding up front while the industry starts to collect levies. Through this, a number of jobs will be created, together with opportunities in the bigger recycling industry. The plastic bags agreement has worked because South Africans have responded positively and because of the partnership between the government, business and labour in implementing it. This unique feature of the initiative seems to have been missed by De Klein in his ill-disguised effort to sell his product.

Crispian Olver is Director General of the Department of Environmental Affairs and Tourism

Plastics Federation of South Africa

Reg. No. 79/06067/08
(incorporated association not for gain)

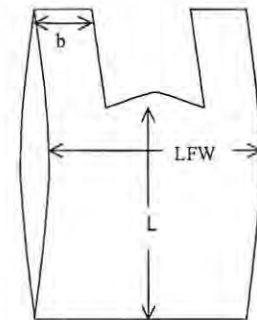
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17 July 2003

Size of gusseted bags

The legislation on plastic bags created a need for a quick method to determine the size of gusseted bags in litres.

Following the attached picture, the volume of the bag would be determined as follows:



$$\text{Volume (litres)} = \text{LFW} \times \text{L} \times 2b \text{ (cm}^3\text{)} \div 1000$$

Where: LFW = Layflat width
L = Height of bag to beginning of handle
b = gusset depth

To illustrate, If the LFW = 30 cm, the gusset 10 cm and the height up to the beginning of the handle = 40 cm, the volume of the bag would be:

$$\text{Volume in litres} = 30 \times 40 \times (2 \times 10) \text{ cm}^3 \div 1000 = 24 \text{ litres}$$

Size of flat bags

The volume of a flat bag is considerable less than for a gusseted bag and will always depends on the contents and the amount of corner space lost, i.e. the effective volume would be less than the calculated volume.

$$\text{Volume (litres)} = \text{LFW} \times \text{LFW} \times \text{length (cm}^3) \div 3141$$

Where: LFW = Layflat width
L = Height of bag

To illustrate, If the LFW = 30 cm and the length of the bag 40 cm, the volume of the bag would be:

$$\text{Volume in litres} = 30 \times 30 \times 40 \text{ cm}^3 \div 3141 = 11 \text{ litres}$$

Please do not hesitate to contact the PFSA if anything in this document, or else, needs to be verified.

Peer Reviewed International Conference Proceedings and Posters

1. **Nhamo, G.** (2004). *Racing towards zero plastic waste in South Africa: The environment-industry interface*. Paper to be presented during International Waste Congress and Exhibition, October 11-15 2004, Sun City: South Africa. Available on CD-Rom ISBN 1-920-01722-4.

ABSTRACT

This paper draws our attention to emerging issues pertaining to zero waste policy in South Africa. The main focus is to establish how the Plastic Carrier Bags and Plastic Flat Bags Regulations (hereby referred to as the Plastic Bags Regulations) have addressed sustainability aspects pertaining to the environment-industry interface. To the best of my knowledge, and as revealed by the literature, South Africa has scored a first in the Southern African Development Community region by regulating the thickness and imposing a levy on shopping plastic bags. As such other countries in the region are closely monitoring progress as they plan to duplicate or adapt the same orientation once it proves a success.

The Plastic Bags Regulations ban the production and distribution of 'free' thin film shopping plastic bags of between 14-17 microns in favour of the new 24 microns. In addition, the customers are now buying the new shopping plastic bags with a 3 cents levy per bag going towards an environment fund to sustain a non-profit (Section 21) company. It is hoped that this would significantly reduce shopping plastic bags litter in the environment through minimisation, re-use and recycling.

However, with an unexpected average drop in shopping plastic bags demand of between 80% and 90%, jobs from both the formal and non-formal sectors have been lost. Some companies have already scaled down operations resulting in huge cuts in sales. This has resulted in severe negative socio-economic impacts, especially to those formerly disadvantaged in South Africa. If the situation remains as it stands, more job losses and company closures may result in further unintended outcomes, particularly on the socio-economic front rendering such development unsustainable. It is in this context that this paper seeks to reveal the challenges we face in future regarding drawing a sustainability threshold concerning the environment-industry interface in relation to the management of plastic waste in South Africa.

KEYWORDS

South Africa, zero plastic waste, Plastic Bags Regulations, levy, environment-industry interface, sustainability threshold

2. **Nhamo, G.** (2004). *Generating environmental policy data through the Internet: A case from South Africa* Paper Presented During the EEASA 22nd International Conference, 29 March – 2 April, Treverton: South Africa. pp. 209-214.

ABSTRACT

Internet-based research has gained significant ground in the past few years. This is happening in the face of reduced research funding and vast opportunities presented by the Internet (World Wide Web -WWW and electronic mail - email). After a brief background to the role of Internet in research, this paper focuses on how the Internet has been used as a research method to gather both secondary and primary data in my research with a critical focus on methodological dilemmas associated with this type of research method. It also spells out how these dilemmas have been dealt with. My research is focusing on understanding policy processes surrounding the implementation of South Africa's 2003 Plastic Bags Regulations. The Internet has proved to be a valid tool in generating both the historical and contemporary data regarding the tensions and debates surrounding the new law as well as a practical approach to generating environmental education data. The paper therefore presents some of the analysed data and opens up debate on Internet-based research for environmental policy, taking cognisance that we are preparing to enter into "A Decade of Environmental Education for Sustainable Development" in 2005.

Key words: Internet-based research, methodological dilemmas, policy research, South Africa

3. **Nhamo, G.** (2003). *The Influence of Actor-networks on environmental policy knowledge construction in Africa*. Paper presented during the Council for the Development of Social Science Research in Africa (CODESRIA) International 30th Anniversary Conference, 08-11 December, Dakar, Senegal. <http://www.codesria.org/Links/conferences/dakar/nhamo.pdf>

ABSTRACT

This paper has been drawn up to stimulate debate towards a re-view of processes leading to environmental policy knowledge construction in Africa. The main assumption is that the intellectualisation of knowledge construction by African and other scholars, as influenced by various dominant actor-networks has largely addressed foreign rather than authentic local (African) environmental realities. Such intellectualisation, I argue, has inevitably led to the production of largely Euro-centric and Americanised forms of environmental policy knowledge, which add little value to the notions of *nationalism and Pan-Africanism* in environmental policy. The actor-network theory framework (incorporating the Advocacy Coalition Framework) is used to interrogate how environmental policy knowledge is being constructed in Africa, particularly, aspects surrounding the Soil Fertility Initiative for Africa. As such, I challenge African intellectuals to be well grounded in and reflect upon circumstances under which we are producing various forms of environmental policy knowledge. My thesis calls for our re-positioning from default logic that makes us create blind spots when shaping environmental policy knowledge.

Key words: intellectualisation, environmental policy, actor-networks, local (African) realities, Soil Fertility Initiative, Euro-centric and Americanised.

4. **Nhamo, G.** (2003). *Social Marketing: Can it Enhance Re-use and Recycling at Household Level in the SADC Region?* Paper Presented During The EEASA 21st International Conference, 22-26 June, Hotel Safari, Windhoek: Namibia. pp.246-250

ABSTRACT

Social marketing strategies are increasingly being applied to address issues pertaining to waste re-use and recycling at household level. However, the concept of social marketing is rather new in environmental management and education in the Southern African Development Community (SADC) region. Social marketing aims to sell an idea and/or practice. In selling a practice, social marketing is considered a catalyst that enables social transformation. Social transformation, thus, goes beyond imparting knowledge, changing attitudes and raising awareness as perceived by many environmental educators. An analysis on how social marketing strategies may influence waste re-use and recycling at household level in the SADC region is therefore the core issue in this discussion.

Book Reviews

Nhamo, G. (2003). Book Review on *Understanding Environmental Policy Processes: Cases from Africa* by James Keeley and Ian Scoones. **Southern Africa Journal of Environmental Education.** (20) pp. 152-155.

PLASTIC BAGS

REGULATIONS, COMPLIANCE, TENSIONS AND RESPONSES¹

¹ Godwell Nhamo (PhD student, Rhodes University, Environmental Education) June, 2003

History of plastic bags in retail outlets prior to 8 May, 2003



Packing into old bags

Notice on recycling

Public returns old bags

A new era: Raising public awareness after the proclamation of the new regulations on 9 May, 2003



Selected retail outlets in Grahamstown

Challenges created by the new regulations for the future



Loss of income from crafts

Recyclables at Grahamstown landfill site

Plastic bag alternatives (Impact on labour and industry)

