



**LOOKING THROUGH JANICKE AND WEIDNER COUNTRY CAPACITY  
FOR ENVIRONMENTAL POLICY AND MANAGEMENT:  
A COMPARATIVE ENVIRONMENTAL MANAGEMENT ANALYSIS: the  
case of Denmark and Cameroon**



by

**Elvis Atangache Ndifor, B.S.**

**Thesis**

Presented to the Department of Development and Planning at Aalborg University in Denmark in Partial Fulfillment of the Requirements for the Master degree of Engineering in Environmental Management

**Aalborg University at Denmark**

**March, 2008**

**Title:** Looking through Janicke and Weidner country capacity for environmental policy and management: A comparative environmental management analysis: the case of Denmark and Cameroon

**Theme:** Environmental Management Analysis within Companies in a Country Perspective

**Project period:** 4<sup>th</sup> of September 2007 – 10<sup>th</sup> March 2008

**Programme:** Environmental Management, 10<sup>th</sup> Semester

by

**Elvis Atangache Ndifor**

Master of Science degree of Engineering in Environmental Management

(M.S E. EM), Aalborg University at Denmark, 2008

**Supervisor:** Per Christensen

**Numbers printed:** 3

**Number of pages:** 182

**Number of Appendices:** 3

### Synopsis

This thesis report is a result of a comparison in environmental policy and management between Denmark and Cameroon. Its focus is on a cattle slaughterhouse and printing plant companies each from Denmark and Cameroon and the researcher aim is to find out why is the environmental management in companies in Denmark different from that of Cameroon.

Materials used in this research were obtained from interviews with the case companies' plant/general managers and Environmental coordinators from both Denmark and Cameroon. Additional information was also obtained from literature study of environmental management and the Danish Crown website.

For the analysis of the case countries as well as case companies, two theories were used, Janicke and Weidner country Capacity for Environmental Policy and Management concept and Scott Institutional Theory.

Finally, the usefulness of Janicke and Weidner capacity model was used to proffer different in environmental management as well as recommendations for both case countries and companies. These recommendations are aimed at highlighting the strengths, weaknesses, opportunities and threats, the case countries might face if an environmental policy is to be develop and implemented as well as the different factors influencing the institutional framework conditions at the case companies for the implementation of the case countries environmental permits.

## **Preface**

This thesis report is prepared by Elvis Atangache Ndifor during the 10<sup>th</sup> semester of the study programme Environmental Management, in the department of Development and Planning at Aalborg University, in the fall of 2007.

In this report, the literature sources are prepared in accordance with the 15<sup>th</sup> edition of the Chicago Style Reference, where the author's surname, year of publication and page number is referred to. In case of more than three authors the primary author's name is given along with "et al". For a publication where no author is given, the organization behind the publication is noted. If the year of publication is not stated it will be referred to as "n.d". Figures and tables are numbered according to the number of the chapter and a continuous number.

All organizations mentioned in this report are described in a list of organization following the table of contents, and appendices are available at the end of the report. The quotes and statements obtained through interviews have all been approved by the interviewees.

## Acknowledgements

During the preparation of the report, the author contacted a number of persons and would like to thank them for their support. These persons are: Dingha Sybil and Ntungfor Oliver, Cameroon contact correspondents for the Limbe Presprint plant and Bamenda CAMSUS cattle slaughterhouse plant respectively. Mr. W. Steidle and Mr. Luma, the general and maintenance managers respectively of the Presbyterian printing plant Limbe Cameroon, Mr. Moti Joseph, the plant manager and the chief butcher of CAMSUS cattle slaughterhouse Bamenda, Cameroon, Gert Jacobsen, Plant manager/environmental coordinator of Nordjyske Medier newspaper printing plant, Lars Thygsen, Environmental Technician of Danish Crown Aalborg, Claus Nielsen, Environmental Manager, Danish Crown headquarter, Randers. My special thanks also go to the family of Agnethe Madsen, for their financial and moral supports to me throughout my study period in Denmark.

I am sincerely grateful to Per Christensen, Professor, Aalborg University, Faculty of Engineering and Science, Department of Development and Planning, for his comments and suggestions, patience and innumerable support during the supervision.

Finally, my profound gratitude goes to the entire staff of the Department of Development and Planning at Aalborg University for equipping me with the essential knowledge and skills as an Environmental Manager.

I am responsible for all errors and omissions in this study.

Elvis Atangache Ndifor

Aalborg, March 2008

## Tables and Figures

### Table of Figures

|             |  |     |
|-------------|--|-----|
| Figure 1.1  | Sustainable Development.....   | 6   |
| Figure 1.2  | Steps towards sustainability.....  | 8   |
| Figure 1.3  | ISO 14001 and the Darning Cycle.....   | 12  |
| Figure 2.1  | Input materials and output emissions for paper production.....   | 21  |
| Figure 2.2  | Chemicals and energy used for transportation for newspaper production and distribution.....                                  | 23  |
| Figure 3.1  | Types of information in the project.....   | 31  |
| Figure 3.2  | A summary of the features found in the research design.....  | 33  |
| Figure 3.3  | Convergence multiple sources of evidence.....  | 34  |
| Figure 4.1  | Institutional capacity building and involvement of the stakeholders for environmental works within the case countries.....   | 41  |
| Figure 4.2  | The model of policy Explanation.....   | 43  |
| Figure 4.3  | Institutional capacity-building and involvement of stakeholders in environmental works with the case companies.....          | 53  |
| Figure 6.1a | Danish Crown Organizational chart Pre 2000.....  | 96  |
| Figure 6.2a | Danish Crown Organizational chart Post 2000.....   | 97  |
| Figure 6.3a | Danish Crown's Danish Departments.....   | 99  |
| Figure 6.4a | Input materials and output environmental impacts.....  | 109 |
| Figure 6.5a | Organizational structure of Nordjyske Medier.....  | 111 |
| Figure 6.6a | Typical main parts of a Computer-to Plate process.....   | 117 |
| Figure 6.7a | Nordjyske Medier Computer-to-plate prepress showing digital computer-to-plate setup and the chemical used.....               | 117 |
| Figure 6.8a | Nordjyske Medier newsprint production at the printing room showing various steps necessary for newsprint to be obtained..... | 119 |
| Figure 6.9a | The packaging and distribution department.....   | 119 |
| Figure 6.1b | CAMSUS Organizational Structure.....   | 121 |
| Figure 6.2b | The general outlook of CAMSUS slaughterhouse.....  | 123 |

|              |  |     |
|--------------|--|-----|
| Figure 6.3b  | CAMSUS cattle rest apartment.....  | 125 |
| Figure 6.4b  | Manual/hides removal and evisceration by a butcher.....  | 125 |
| Figure 6.5b  | Butchers emptying of manure from paunch and intestines/method of transportation to the markets and selling of edible offal at the slaughterhouse respectively..... | 126 |
| Figure 6.6b  | Carcasses hang over al rail ready for inspection.....  | 126 |
| Figure 6.7b  | Different methods of collection and disposal of waste manure and by-products.....  | 127 |
| Figure 6.8b  | CAMSUS cattle slaughterhouse input and output environmental impacts.....   | 127 |
| Figure 6.9b  | Presprint organizational structure.....  | 132 |
| Figure 6.10b | The general outlook of Presprint Limbe.....  | 132 |
| Figure 6.11b | Presprint typesetting room and the film developer.....   | 131 |
| Figure 6.12b | Presprint fixer and different colour vanish and glue employed.....   | 134 |
| Figure 6.13b | Pipes from the film developer to the bio-plant treatment plant.....  | 134 |
| Figure 6.14b | Presprint Limbe input materials and output environmental impacts.....  | 135 |
| Figure 6.15b | Presprint waste aluminum plates.....   | 137 |
| Figure 6.16b | The LUC waste disposal landfill.....   | 137 |
| Figure 6.17b | Open burning of waste films along the Limbe coastline.....   | 138 |
| Figure 6.18b | Presprint waste treatment bio-plant.....   | 138 |
| Figure 6.19b | Presprint offset printing technology.....  | 139 |

**Table of Tables**

|            |  |     |
|------------|--|-----|
| Table 1.1  | Linkages between business strategies and economic benefits.....          | 9   |
| Table 4.1  | The Characteristics of Scott’s Institutional Pillars.....                | 53  |
| Table 5.1  | Producers of petroleum effluents in Douala.....                          | 78  |
| Table 6.1a | Key figures of Danish Crown.....   | 98  |
| Table 6.2a | Danish Crown’s environmental activities from 1999-2005.....              | 104 |
| Table 6.3a | Nordjyske Medier health and safety management organizational scheme..... | 114 |

|            |  |     |
|------------|--|-----|
| Table 6.4a | Input materials and output environmental impacts from newspaper production.....                    | 120 |
| Table 7.1  | Denmark and Cameroon established environmental institutions since 1970....                         | 141 |
| Table 7.2  | The involvement of Denmark and Cameroon media and green organizations in environmental issues..... | 142 |
| Table 7.3  | Denmark and Cameroon statistic on economic innovation firms.....                                   | 145 |
| Table 7.4  | Indicators of Denmark and Cameroon.....  | 147 |
| Table 7.5  | Denmark and Cameroon strategy for environmental management.....                                    | 147 |
| Table 8.1  | Denmark and Cameroon case companies regulative institutions.....                                   | 158 |
| Table 8.2  | Denmark and Cameroon case companies cultural-cognitive institutions.....                           | 158 |
| Table 8.3  | Denmark and Cameroon case companies normative institutions.....                                    | 159 |
| Table 8.4  | Denmark and Cameroon case companies institutional framework conditions...                          | 161 |
| Appendix A | Resume of Company self policing system/self-checking   |     |
| Appendix B | Account for Company environmental conditions from 2001-2005  |     |
| Appendix C | A common questionnaire for all case companies  |     |

## ABBREVIATIONS

|       |  |
|-------|--|
| BSE   | Bovine Spongiform Encephalopathy                       |
| BOC   | Biochemical Oxygen Content                             |
| EMS   | Environmental Management System                        |
| EMAS  | Eco- Management and Audit Scheme                       |
| ISO   | International Standardisation Organisation             |
| OECD  | Organisation for Economic Co-operation and Development |
| MINEP | Ministry of Nature and Protection                      |
| UNIDO | United Nation Industrial Development Organisation      |

