

Determinants of Sustainable Procurement Practices at the Water Sector Institutions in Nairobi, Kenya

Bob Evans Ochieng

School of Business and Human Resource Development,

Rongo University,

P.O. Box 103-40404, Rongo, Kenya



Abstract - For quite a number of years, a challenge on procurement practice has been widely and extensively experienced, more especially where companies do not take into consideration the effect of procurement on the environment. It is for this reason that modern procurement seeks to address and mitigate these challenges by setting up policies based on observations from practice of the same such that by way of adherence to these internationally recognized standards procurement practices, long term adverse effects of the environment are reduced. This research therefore sought to explore the determinants of sustainable procurement practices, to identify the impacts that sustainable procurement practices have in public water institutions, to establish the different sustainable procurement practices used by the public organizations, and to establish out the challenges of adopting sustainable procurement practices by public organizations in Kenya. The study revealed that the push to comply to new regulations, client expectations, reduction in cost of production to produce more affordable goods and services as well as reduction of costs of operation were the major determinants for sustainable procurement practices. The study therefore recommends that the government needs to enact environmental legislations and policies that promote sustainable procurement and those that already have such policies need to be reviewed and revised to integrate sustainable procurement issues and other sustainability issues.

Keywords – Determinants; Sustainable; Procurement; Practices.

I. INTRODUCTION

Governments spend between 12% to 30% of their Gross Domestic Product (GDP) buying goods, services and infrastructure, goods and services typically account for 10-15% of GDP for developed countries and as much as 20% for developing countries ([1]). This clearly indicates the power of the public purse as an enabler in ensuring markets transition towards a greener economy. It is important to note however, that the current world consumption and production levels are 25 percent higher than the earth's sustainable carrying capacity ([2]).

Procurement is the acquisition by purchase, rental, lease, hire purchase, license, tenancy, franchise, or by any other

contractual means of any type of works, assets, services, or goods including livestock or any combination ([3]). Public procurement is the acquisition of goods and services and works by a procuring entity using public funds ([4]). Sustainable procurement is thus the application of sustainable development principles in the procurement function. Sustainable procurement isn't simply about being "green". Sustainable procurement is about: socially and ethically responsible purchasing, minimizing environmental impact through the supply chain, delivering economically sound solutions and good business practice ([5]). Sustainable procurement draws its roots from the broad concept of sustainable development but the focus of sustainable procurement is far broader than just the

development, it aims at meeting the diverse needs of all people in existing and future communities, promoting personal wellbeing, social cohesion and inclusion, and creating equal opportunity ([5]).

Public procurement in Kenya has come a long way and evolved from a system with no regulations governing its operations to an orderly legally regulated procurement system. The commendable steps have been advanced since the enactment of the Public Procurement and Disposal Act of 2005 which became operational on 1st January, 2007 with the gazettelement of the Public Procurement and Disposal Regulations, 2006. The Public Procurement and Disposal Act, 2005 created the Public Procurement Oversight Authority (PPOA), the Public Procurement Advisory Board (PPAB) and the continuance of the Public Procurement Complaints, Review and Appeals Board as the Public Procurement Administrative Review Board (PPARB). The public buying in Kenya has been used as a medium to achieve various social objectives, such as, reducing unemployment, providing employment to disabled individuals, youth, and women and to marginalized areas and regions in the country, promoting gender and ethnic equality. In general, the focus has largely been on social aspects of sustainability, other aspects need equally the same emphasis as the latter ([6]).

Sustainability has fast tracked to becoming an essential market force that is being driven by customers, shareholders and stakeholders increasingly changing demands as a result of being informed more than before. In the contemporary society, a business that is purely driven by maximizing profits without due consideration for its environmental impact stands meager chances of prospering in a sustainable future. Corporate leaders continue to face the challenge of running competitive and profitable organizations while meeting broad social and ethical responsibilities ([7]).

Stephen and Walker (2007) assert that there exist substantial differences across public sector agencies in the nature of sustainable procurement practices ([8]). They propose that Local authorities are predominantly robust on buying from local and small suppliers relative to other sectors. Health, on the other hand looks generally lower in many categories and education appears to have something of prominence on environmental aspects of sustainable procurement. Cost and top management support were the leading barriers to sustainable procurement.

Sustainable procurement practices have been implemented through various approaches as product lifecycle concept, the cycle starts at the designing of product. Literatures related to green design emphasize both environmentally conscious design and life cycle assessment/analysis ([9]). The study had the following specific objectives. Firstly, to identify the impacts that sustainable procurement practices have in public water institutions in Kenya. Secondly, to establish the different sustainable procurement practices used by the public organizations in Kenya. Thirdly, to establish out the challenges of adopting sustainable procurement practices by public organizations in Kenya.

II. MATERIALS AND METHODS

The researcher used case study which is an empirical inquiry that “investigates a contemporary phenomenon within its real-life context especially when the boundaries between phenomenon and context are not clearly evident” ([10]). The design of the study involved examining sustainable procurement practices, determinants and SP implementation challenges of public water sector institutions. It was therefore most appropriate to use case study design since the study sought to examine the practices of a single sector ([11]). The population of this study consisted of procurement professionals from water sector institutions in Nairobi. This study adapted a census study of all the water sector institutions. Efficiency was improved in a census, in that more information could be obtained by using the approach. The study utilized primary data which was obtained through use of structured and semi-structured questionnaires which were issued to procurement professionals and picked up later by the researchers. Closed-ended questions were used to capture the ‘respondents’ perception of the various variables that constituted sustainable procurement practices at the public water sector institutions for the research to achieve its objectives. Primary data was collected by the use of semi-structured questionnaires because it gives firsthand information and saves time ([12]).

III. RESULTS AND DISCUSSIONS

The research data was collected using closed ended questionnaires that were covering the three different dimensions of sustainable procurement being the focus of the study. This made it possible to get clear responses from the procurement professionals on their perception of sustainable procurement in the public water sector institutions in Kenya. The questionnaires were distributed to public procurement professionals according to their

different levels of management in the public water sector institutions and collected in the same manner and the analysis of the data was based on a general weight of 1 to 5 (5- excellent, 4-very good, 3-good, 2-fair and 1-poor / 5-a great deal, 4-much, 3-somewhat, 2- little and 1-never / 5- always, 4-very often, 3- seldom , 2-rarely and 1-never / 5- very important, 4- important, 3-moderately important, 2-of little importance and 1-unimportant).

3.1 General Information

The data was collected from 83 (81.4%) out of the target population of 102 procurement professionals from the public water sector institutions. The questionnaires were collected according to the three levels of management as summarized in Table 1. The proportion of feedback from the procurement professionals responses of 83% as indicated in Table 1 is a fair representation since there were an equal number of feedbacks from all the three levels of management.

Table 1: Levels of management

Respondents levels of management	Target	Achieved	Percent
Junior Level Management	34	26	76.5
Middle level Management	34	31	91.2
Top level Management	34	26	76.5
Total	102	83	81.4

3.2 Factors affecting Sustainable Procurement

The study sought to establish the determinants of sustainable procurement practices by public organizations in Kenya. The respondents were asked to state the extent to which various factors drive sustainable procurement practices at their organization. The factors were put in a scale of 1-5 where 1 meant never, 2- little, 3- somewhat, 4- much and 5- a great deal in driving sustainable procurement practices in the organizations (Table 2).

The table shows various ranked determinants of sustainable procurement. The respondents expressed much confidence in four (4) factors which they considered as major determinants to sustainable procurement determinants. These are; compliance to new regulations with the highest mean of 4.45 (std dev of 0.75), meeting clients expectations with a mean of 4.29 (std dev 0.922), reducing costs of services/products with a mean of 4.22 (std dev 0.70) and provision of 25 operational cost savings with a mean of 4.04 (std dev 0.90). This implies that in

most organizations sustainable procurement was majorly driven by regulatory requirements and client expectations which are external forces and cost implications which are internal forces. Fourteen factors were ranked fairly with means ranging from 3.96 to 3.08.

These were; provision of new market opportunities, anticipation of resources scarcity/depletion, avoidance of supply chain disruption, avoidance of risk to brand image, presenting an environmental/ socially responsible image, influencing suppliers in developing environmentally friendly goods, developing competitive advantage, industrial professional group activities, cost for disposal of hazardous materials, the right thing to do for the planet and society, respond to investors' pressure, influence of own suppliers, cost of environmentally friendly materials and goods and culture of the organization in promoting environmental responsibility.

Response to increased activism from NGOs and social media was never considered as a driver to sustainable procurement with a mean of 2.97 (std dev 1.402). Overly, the ranking of the SP determinants has a mean of 3.55. The research findings are consistent with arguments that state that the government has the biggest role to play in implementing sustainable procurement practices in both private and public sector through regulating the environment ([13],[14],[15]). Moreover, scholars supported efficiency, competitiveness and reduction of cost as determinants of sustainable procurement ([16],[17],[18]). Their findings are comparable to the findings of this study which consider reduction of services/products costs and operational cost savings as major determinants of sustainable procurement ([16],[17],[18]). However, contrary to a study which showed that strong media attention and growing awareness among customers greatly influenced the need for sustainability procurement, this study found out that increased activism from NGO's and social media had no influence on the need for implementation of sustainable procurement ([17]).

Table 2 : Procurement Professionals perception of determinants of Sustainable Procurement

	Mean	Std Dev
Compliance to new regulations	4.45	0.75
Meet your clients expectations	4.29	0.67
Reduce costs of services/products	4.22	0.70
Provides operational cost savings	4.04	0.90

Provides new market opportunities	3.96	0.67
Anticipating resources scarcity/depletion	3.71	0.97
Avoid supply chain disruption	3.66	1.24
Avoid risk to brand image	3.61	1.01
Presenting an environmental/socially responsible image	3.57	1.10
Influence suppliers in developing environmentally friendly goods	3.43	0.95
Develop competitive advantage compared to competition	3.43	1.03
Industrial professional group activities	3.30	0.95
Cost for disposal of hazardous materials	3.28	0.75
This is the right thing to do for the planet and society	3.27	1.43
Respond to investor's pressure	3.27	1.06
Influence of your own suppliers that provide goods and services to your organizations	3.17	1.20
Cost of environmentally friendly materials and goods	3.13	0.93
Culture of the organization promotes environmental responsibility	3.08	1.17
Respond to increased activism from NGOs and social media	2.58	1.43

3.3 Policies monitoring and managing supply chain

The study sought to examine the policies that monitor and manage supply chain in the public sector. The respondents were asked to indicate their levels of agreement on the extent to which the policies monitor and manage supply chains on the scale of 1-5 where 1- never, 2 –rarely, 3- seldom, 4-very often and 5- always. The

dimensions used in the research to evaluate the extent to which policies monitor and manage supply chain regarding environmental issues are; applying of environmental criteria when making purchasing decisions, purchasing “green” (recyclable, reusable, non-toxic, bio-degradable, and made from 100% post-consumer recycled materials) supplies, products and materials and partnering with sustainable suppliers or utilize suppliers who share in the sustainability commitment as highlighted in Table 3.

In table 3, applying of environmental criteria when making purchasing decisions is rated highly by a mean of 3.71 (std dev 1.08), followed by purchasing “green” supplies, products and materials with a mean of 3.04 (std dev 0.99) and lastly partnering with sustainable suppliers who share in the sustainability commitment with a mean of 2.95 (std dev 1.45). The averages among the three policies are regarded highly by a mean of 3.23 indicating policies regarding environmental issues in monitoring and managing supply chains is high with a mean consistently higher than 3.0.

The findings of this study are in harmony with argument that sustainable procurement practices should match with policies and best practices laid down by organizations ([19]). Firstly, the need to conform with and surpass all relevant legislation and regulatory requirements including environmental, social, health and safety policies. Secondly, it is to cut on environmental impact while maximizing economic and social advantage through entrenching appropriate sustainability standards within the procurement practice.

Table 3 : Policies monitoring and managing supply chain

To what extent do the following policies monitor and manage your supply chain regarding environmental issues?	Mean	Std Dev
We apply environmental criteria when making purchasing decisions.	3.71	1.08
We apply “green” (recyclable, reusable, non-toxic, bio-degradable, and made from 100% post-consumer recycled materials)	3.04	0.99
We partner with sustainable	2.95	1.45

3.4 Challenges encountered in implementing Sustainable Procurement Policy

The study sought to establish challenges facing the implementation of sustainable procurement practices (Table 4). The respondents were asked to rank the challenges encountered in the implementation of SP practices to a scale of 1-5 where 1- never, 2 – rarely, 3- seldom, 4-very often and 5- always. Implementation challenges dimensions used in the study include; lack of budget for internal or external support, resistance from suppliers, lack of support from the top management, lack of internal expertise on sustainability topics, contradictory objectives (short-term savings versus qualitative or longer term results), lack of metrics (KPI) to measure and monitor progress, lack of information on suppliers corporate social responsibilities practices, inadequate training of procurement staff, failure to have effective monitoring and evaluation of procurement activities, lack of information and knowledge about the environmental impact of the company, lack of relevant legislation and legal enforcement, high prices of green products, unavailability of green products in the local market and lack of environmental specifications on products offered.

Most respondents acknowledged that they encountered the following challenges occasionally in the process of implementing sustainable procurement practices. These were; lack of budget for internal or external support (3.49), lack of metrics (KPI) to measure and monitor progress(3.42), high prices of green products (3.40), unavailability of green products in the local market (3.18), lack of support from the top management (3.10), resistance from suppliers (3.10), lack of relevant legislation and legal enforcement (3.08), lack of internal expertise on sustainability topics (3.07), contradictory objectives (3.07) and lack of information on suppliers corporate social responsibilities practices (3.00). On the other hand, lack of information and knowledge about the environmental impact of the company (2.94), failure to have effective monitoring and evaluation (2.93), inadequate training of procurement staff (2.83) and lack of environmental specifications on products offered (2.71) were hardly faced.

This study identified lack of information on supplier's corporate social responsibilities as one of the challenges. Similarly, studies identified lack of social drive as a challenge in their study arguing that private actors are never monitored to ensure that they have policies on CSR

practices ([20]). Additionally, scholars in their study found that inherent conflicts between sustainable procurement objective and other objectives bring difficulties when implementing policies ([21]). This concurs with this study findings which found out that contradictory objectives was one of the challenges faced.

Table 4: Respondents perception on implementation challenges of Sustainable Procurement

How often do you encounter the following challenges in Implementing your Sustainable Procurement policy?	Mean	STD DEV
Lack of budget for internal or external support	3.49	1.16
Lack of metrics (KPI) to measure and monitor progress	3.42	1.48
High prices of green products	3.40	1.13
Unavailability of green products in the local market	3.18	1.04
Lack of support from top management	3.10	1.09
Resistance from suppliers	3.10	1.10
Lack of relevant legislation and legal enforcement	3.08	1.08
Lack of internal expertise on Sustainability topics	3.07	1.43
Contradictory objectives	3.07	1.46
Lack of information on suppliers Corporate Social Responsibilities practices	3.00	1.33
Lack of information and knowledge about the environmental of the company	2.94	1.19
Failure to have effective monitoring and evaluation	2.93	1.13
Inadequate training of procurement staff	2.83	1.21
Lack of environmental specifications on products offered	2.71	1.23

3.5 Progress on the challenges encountered in implementing Sustainable Procurement Policy

The research sought to establish the level of progress made in dealing with challenges facing SP practices (Table 5). The respondents were asked to rank which issues and challenges that they (organization) have made significant improvement or compacted it. The factors considered in evaluating the progress made in mitigating the challenges faced in implementing sustainable procurement practices are the same as the ones used in Table 4 above.

Respondent perception to mitigating of challenges to the implementation of sustainable procurement practices has generally been rated low with the highest rating being significant progress in existence of environmental specifications on products offered with a mean of 2.76 (std dev 0.96) followed by existence of ethical behavior and low corruption with a mean of 2.71 (std dev 1.04). Incompetency of procurement staff with a mean of 2.29 (Std dev 0.96) falls in the middle. The lowest ranked is contradicting objectives having a mean of 2.08 (STD dev 0.83). The grand mean 2.38 is generally low indicating that the organizations have made little or no effort to counter the challenges they have been facing towards the implementation of sustainable procurement practices.

Table 5 : Progress the organization has been able to make in 2014

Which issues/challenges that the organization has been able to make significant progress in 2013 and to what extent?	Mean	STD DEV
Lack of environmental specifications on products offered	2.76	0.96
Existence of unethical behavior and corruption	2.71	1.04
Failure to have effective monitoring and evaluation	2.65	1.04
Lack of support from the top management	2.64	0.97
Lack of information and knowledge about environmental impact	2.60	0.96
Lack of governmental legal enforcement	2.57	1.06
Unclear ownership of this process	2.46	0.82
Lack of relevant legislation	2.43	1.08
Existence of political interference	2.35	1.09
Incompetency of procurement staff	2.29	0.96
High prices of green products	2.29	1.03
Lack of budget for internal or external support	2.29	0.99
Lack of information on suppliers CSR	2.28	0.94
Availability of green products in the local market	2.25	0.96
Inadequate training of procurement staff in our organization has affected the implementation of SPP	2.20	1.04
Resistance from suppliers	2.16	0.83
Lack of metrics (KPI)	2.16	0.80
Lack of internal expertise on Sustainability topics	2.13	0.97
Contradictory objectives	2.08	0.83

3.6 Sustainable Procurement Objectives in the Public Sector

The research further sought to establish sustainable procurement objectives that are important in the public sector (Table 6). The respondents were asked to rank their procurement objectives followed by ranking the SP practices implemented to a scale of 1-5, where 1- unimportant, 2- of little importance, 3-moderately important, 4- important and 5- very important. According to this research, the dimensions used to evaluate the SP objectives are; savings and cost reduction, reducing supply chain risks, contributing to the development of innovative products/services, compliance to preference and reservation regulation of 2011, implementing sustainable procurement practices and compliance to other new regulations.

From the research findings, savings and cost reduction objective was appraised as important with a mean of 4.14. The following four (4) objectives were considered to be of moderate importance. These are; reducing supply chain risks, contribution towards the development of innovative products/services, compliance to preference and reservation regulation of 2011 and implementation of sustainable procurement practices while compliance to other new regulations was considered unimportance with a mean of 2.99. This study finding are consistent with study findings which supported cost savings as an important objective to sustainable procurement practices that is proposed procuring goods and services that are more efficient to operate and thereby reduce operating costs ([22]). Additionally, the study findings are also in line with study findings which proposed support to small business activity in Scotland, local industries in Costa Rica and financial savings ([23]).

Table 6 Sustainable Procurement Objectives in the Public Sector

	Mean	STD DEV
Savings & Cost reduction	4.14	0.93
Reduce supply chain risks	3.84	0.90
Contribute to the development of innovative product/services	3.65	1.03
Compliance to preference and reservation regulation of 2011	3.55	1.59
Implement Sustainable Procurement Practices	3.48	1.06
Compliance to other New regulations	2.99	1.29
Grand Mean	3.61	

3.7 Green procurement practices implemented

The research further sought to establish sustainable procurement practices that were implemented in the public sector (Table 7). The respondents were asked to rank their sustainable procurement practices implemented to a scale of 1-5, where 1- not considering it, 2- planning to consider it, 3- considering it currently, 4- initiating implementation and 5- implementing successfully.

Most public organization were considering implementing the following green procurement practices which were; giving preference to youth, women and people with disabilities access public procurement, establishing supplier engagement, the need for cost-effective requirements, measuring performance, including sustainability issues in the procurement process, regular review/audit processes of systems internally, supporting the inclusion of sustainability aspects, sharing the organization drive, responsibility and commitment of SPP, developing bias for products that disclose their environmental effect, developing environmental awareness

to staff through training, making the commitment public, ensuring requirements (design specification), adopting the "buy sustainable - quick wins" and have processes or systems implemented with a mean ranging from 3.93 to 3.05. The organizations were further planning to consider environmental audit for suppliers, insisting on procuring green products for reuse, recycling, ISO certification 14001 with means ranging from 2.98, 2.84 and 2.71 respectively. There was a general appreciation of SP practices implemented evidenced by the consistent grand mean of 3.37.

Contrary to this study, which found out that most public organizations were planning to considered insisting on procuring green products for reuse and recycle, a study was carried out on Wal-Mart found out that the company was very keen on procuring 100% renewable energy, creating zero waste and selling products that are environmental friendly ([24]).

Table 7 : Procurement professional's perception in regard to tangibles

	Mean	Std Dev
Giving preference to Youth, Women and People with Disabilities access public procurement	3.93	1.15
Working with Suppliers (Establish published supplier engagement program including 'meet the buyer' events)	3.88	0.90
The need for cost-effective requirements	3.80	1.24
Measuring Performance (measure against sustainable procurement Criteria in the Best Practice Indicators and the Procurement Capability Assessment model)	3.78	0.95
Sustainability in the Procurement process	3.78	0.98
Your organization makes use of collaborative contracts and framework	3.60	1.04
Regularly review/audit your processes of systems internally	3.53	1.07
Supporting the inclusion of sustainability aspects	3.52	0.79
Organization shares the drive, responsibility and the commitment of SP	3.30	0.97
Developing a bias for products that disclose their environmental effect	3.28	0.75
Develop environmental awareness to staff through training	3.22	1.02
Making the Commitment Public	3.19	1.44
Ensuring requirements (design specification)	3.16	1.27
Adopting the "Buy Sustainable – Quick Wins"	3.12	1.05
Have processes or systems implemented	3.05	1.31
Environmental Audit for suppliers	2.98	1.24
Insist on procuring green products for reuse, recycle among others	2.84	1.19
ISO Certification 14001	2.71	1.25

IV. CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

The study concluded that sustainable procurement practices are being considered in the public sector organizations. Sustainable procurement delivers savings and cost reduction objective to public organizations thus public sector institution which are considering SP have put their SP objectives at the core of their operations and incorporate them as at strategic levels of their organization. The study nevertheless, highlights that there are many challenges to SP practices implementation in the public sector institutions. In tracing the progress made in handling the challenges however, the study concludes that minimal progress has so far been realized in resolving the challenges. The study further concludes that organizations sustainable procurement agenda needs be engraved in its organizational policy to succeed. Very few organization however, have put in place a policy committing their organizations to a program of environmental improvement. A lot of improvements need to be done to improve the progress in handling implementation challenges to sustainable procurement practices.

4.2 Recommendations

The study makes a number of recommendations for policy and for practice. With so much built up pressure on the environment warranting for sustainable solutions for the planet, there is need for public sector institutions in Kenya to adopt sustainable procurement practices. The legislature needs to enact laws to govern sustainable procurement and such laws be enforced to enhance compliance. Implementation process faces many challenges which have slowed down the progress. The study recommends sustainable procurement practices to be studied and analyzed critically to identify sources and causes of implementation challenges in an effort to minimize the hurdles of implementation. The study as well recommends that the government needs to enact environmental legislations and policies that promote sustainable procurement and those that already have such policies need to be reviewed and revised to integrate sustainable procurement issues and other sustainability issues.

REFERENCES

- [1] United Nations Office for Project Services (2013) 2012 Annual Statistical Report on United Nations Procurement New York, NY : UNOPS.
- [2] Schaefer, F., Luksch, U., Steinbach, N., Cabeça, J. & Hanauer, J. (2006), Ecological Footprint and Biocapacity: The world's ability to regenerate resources and absorb waste in a limited time period, Luxembourg: Office for Official Publications of the European Communities.
- [3] Public Procurement and Disposal Act (2005). Government Press. Nairobi.
- [4] World Bank (2005). Public Sector Procurement, Washington. DC, USA
- [5] Chartered Institute of Purchasing and Supply (CIPS) (2014). Sustainable and ethical procurement, viewed 17 July 2014, from <https://www.cips.org/en/Knowledge/Procurement-topics-and-skills/Sustainability/Sustainable-and-Ethical-Procurement/>
- [6] Public Procurement Oversight Authority (PPOA).(2014). Annual Report. Nairobi: PPOA.
- [7] Morimoto, E. (2005). Sustainable Procurement as a Competitive Advantage. International Journal of Purchasing Research. University of Queensland.
- [8] Stephen B., & Helen W., (2007). Sustainable Procurement Practice in the Public Sector: An International Comparative Study, University of Bath, School of Management. Working Paper Series.16
- [9] Srivastara, S. K. (2007). Green Supply-Chain Management: A State-of-The-Art Literature Review. International Journal of Management Reviews, 9 (1), 53-80.
- [10] Yin, R. (2003). Case study research : Design and methods (3rd ed). London, Sage.
- [11] Kothari, C. R. (2004). Research Methodology : Methods and Techniques (2nd ed.). New Delhi: New Age International Publishers.
- [12] Bryman, A., & Bell, E. (2015). Business research methods. Oxford: Oxford University Press.
- [13] Helen, W., & Stephen, B. (2007). Sustainable Procurement in the United Kingdom Public Sector. University of Bath, School of Management Working Paper Series, 15.
- [14] Belfitt et al. (2011). Sustainable Procurement – Challenges for Construction Practice. University of Reading; United Kingdom.
- [15] McCrudden, C. (2004). Using Public Procurement to Achieve Social Outcomes. Natural Resources Forum, 28(4):257-267.
- [16] Duber-Smith, D. C. (2005). The Green Imperative. Soap, Perfumery, and Cosmetics, 78(8), 24-26.
- [17] Stevels, A. (2002). Green Supply Chain Management Much More Than Questionnaires and ISO 14.001. IEEE, 96-100.

- [18] Gunther, M. (2006). The Green Machine. Fortune Magazine.
- [19] Vincent J. M., & Abbie, C. (2014). Sustainable Procurement Policy and strategy. University of Greenwich. University of Greenwich Procurement & Business Services.
- [20] Knorrnga, P. & Helmsing, A.H.J. (2008) 'Beyond an Enemy Perception: Unpacking and Engaging the Private Sector' Development and Change 39(6): 1053 1062.
- [21] Cao, F., Yuying, Y., & Fen, Z. (2012), Towards Sustainable Public Procurement In China: Policy And Regulatory Framework, Current Developments And The Case For A Consolidated Green Public Procurement Code. Law School of Central University of Finance and Economics, China.
- [22] Queensland Government Chief Procurement Office (2012) Sustainable procurement. A working definition. Retrieved:
<http://www.hpw.qld.gov.au/SiteCollectionDocuments/SustainableProcurementDefinition.pdf>
- [23] Lemmet, S., (2012). The Impacts of Sustainable Procurement. Eight illustrative Case Studies. UNEP Division of Technology, Industry and Economics.
- [24] Plambeck, E. (2007) The Greening of Wal-Mart's Supply Chain, Supply Chain Management Review, July 1.