Addis Ababa University, College of Business & Economics ,School of Commerce
Department of Logistics & Supply Chain Management

Green Procurement: The Practice & Challenges in three Selected UN Agencies in Ethiopia

By:

Achamyeleh Begashaw: GSE/ 0743/06

Advisor:

Berhanu Denu (PhD)

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Achamyeleh Begashaw (GSE/0743/06)

Approved by Board of Examiners and Advisor:

Advisor: Dr. Berhanu Denu Signature_____ Date _____

Examiner: _____ Signature_____ Date _____

Examiner: _____ Signature_____ Date _____

Declaration

Addis Ababa University, College of Business & Economics, School Commerce

Department of Logistics & Supply Chain Management

This is to certify that the thesis prepared by Achamyeleh Begashaw, entitled: **Green Procurement: The Practice & Challenges in three selected UN Agencies in Ethiopia** and submitted in partial fulfillment of the requirements for the Degree of Masters of Arts Art in Logistics and Supply Chain Management. This work is original in nature and has not been presented for a degree in any University and it complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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This is to certify that Achamyeleh Begashaw has carried out this research work on the topic entitled **"Green Procurement: The Practice and the Challenges in Three Selected UN Agencies in Ethiopia"** under my supervision. This work is original in nature and has not been presented for a degree in any University and it can be submitted for the partial fulfillment of the requirements for the award of the degree of Masters of Art in Logistics and Supply Chain Management.

Advisor: Dr. Berhanu Denu Signature_____ Date _____

Abstract

The main objective of this research is to assess the practice and challenges of Green Procurement in three selected UN agencies in Ethiopia namely UNECA, UNDP & UNOPS. The gap identified in this research is the implementation problem of green procurement in the procurement activities at sourcing, bid evaluation and technical evaluation stages. According to the preliminary interview conducted at the beginning of the research stage the main reasons for the gap was lack of management support and the awareness level of procurement practitioners and employees. The researcher employed mixed research design method to assess the practice by raising four basic questions that revolve around awareness, management support and challenges of green procurement. The researcher developed his tools based on the four basic questions and the required information was retrieved from the respondents. The respondents were the procurement practitioners, requistioners, technical evaluation committee, procurement cases reviewing committees and employees who works in the area of climate change. The data collected through structured questionnaire analyzed using descriptive statistical technique which includes frequencies & mean using and tables along with the interview**.** *From this particular research in adequate management support and lack of awareness is found to be one of the reasons for the implementation problem. In addition to this additional reasons are identified. These are the usage of whole life cycle approach is complex particularly for the environmental attributes of the product and the member states are not in agreement to fully implement the green procurement concept since it discriminates vendors from the developing nations. The researcher also comes up with some possible suggestions & recommendations so as to tackle the problems. These are, arrange capacity development and awareness creation programme for both the procurement practitioners and vendors and integrating sustainable procurement rules with main procurement rules.*

Key Words: Green Procurement, Sustainable Procurement

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Last but not least, I want to give credit for my procurement unit colleagues of UNDP & UNECA for their unreserved support particularly in forwarding the link of the questionnaire to many respondents and for their moral support.

Achamyeleh Begashaw

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Acronyms

UN: United Nations

UNDP: United Nations Development Programme

UNECA: United Nations Economic *Commission* for Africa

UNEP: United Nations Environmental Programme

UNOPS: United Nations Office for Projects Support

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Chapter 1

1. 1 Background of the Research Project

Nowadays climate change is an issue for the world. Due to the rapid growth of population, advancement of technology, competition for resources among countries particularly the developed nations makes the world to be exposed for environmental degradation, deforestation, carbon emission, disposal of waste and the like. In order to minimize the adverse effects of climate change countries are working aggressively but the result is not as expected.

UN is one of the leading organization for this particular initiative through its agencies like UNEP and UNDP. The recent climate change summit (COP21) was supported or sponsored by the UN. The summit was held in Paris in the presence of more than 189 leaders of countries and high level delegations to agree on a new global climate change agreement. This clearly shows that how climate change is an issue in today's world and the magnitude of the problem. For the researcher, it is found to be an attractive topic to conduct this thesis that deals with Green Procurement in the UN context since the place is a green pasture for this particular subject and helps to get the real picture of green procurement and the practice.

It is important to ensure that the procurement processes have to be environmentally friendly and climate neutral, a process we can call "Green Procurement". Factors such as the efficient use of energy and resources, reclamation of mined sites, reforestation and eliminating wasteful practices that could lead to global warming and environmental pollution should be adopted. We need to develop sustainable procurement guidelines which will establish the criteria that may be used by any organization or procurement entity for the procurement of local order categories of goods, works and services in the world at large. While procuring goods from suppliers it is advisable to have a green procurement policy and guideline to ensure the items will be environmentally friendly.

1.2. Statement of the Problem

Some researches were conducted in green or sustainable procurement but it is not as expected levels as compared to the magnitude of the problem and the importance of the subject matter in recent days. Among the few research studies the majority is on public procurement. As per Islam and Siwar (2013) no study has been conducted to examine about the extent to which sustainable procurement policies and practices are embedded within the practice of public procurement professionals between developed and developing countries. Since the UN is one of the leading agencies in the world on the area of greening, the researcher found it important to conduct this research in the UN working environment to examine the practice and the challenges of green procurement.

UN is one of the leading organizations in the world in introducing the green procurement policy. In addition to this UN allocates & invests quite a big amount of money for the procurement of goods and services every year. Drafting a policy is not the only solution however, as a leading organization in the world UN is expected to practice green procurement in its internal operation and leading by example is one of the recommended leadership style in these days. As per the researcher experience and prior observation there is a big gap between the policy and the practice of green procurement in the UN. In this research the researcher will identify the root cause of the implementation problem. The implementation problem might emanates from the policy side, the procurement personnel's, requistioners or lack of management support. The researcher will assess all this areas and come up with possible recommendations.

A study that was conducted by Abdul Aziz Muniru (2013) with the main objective of assessing the practice and challenges of procurement practices in Ghana in relation to sustainable consideration identified some challenges. The study revealed that, low technical and management capacity, low multi stakeholder approach, higher initial cost of green products, lack of social drive as well as difficulties in ICT application, are major factors that are preventing the easy attainment of sustainable procurement in Ghana. Limited knowledge was observed in the application of sustainable procurement strategies in the procurement process.

Schrijver (2009) conducted a study to find the key sustainable issues and problem areas for governments in the implementation of Green Public Procurement processes for civil engineering construction projects. According to the findings of the research the real problems are found at the

operational level. Defining the sustainable project values for a specific project is found to be difficult. Besides that, the assessment of sustainability in a project proposal was considered to be complex,

Another study was conducted by Roy (2014) with an objective of identifying the extent to which sustainable procurement practices have been implemented, drivers of sustainable procurement and the challenges facing the implementation of sustainable procurement in an effort to contribute towards implementation of sustainable procurement practices in the public sector to help preserve the environment. According to the research findings lack of budget for internal or external support, lack of metrics (KPI) to measure and monitor progress, high prices of green products, unavailability of green products in the local market, lack of support from the top management, resistance from suppliers, lack of relevant legislation and legal enforcement, lack of internal expertise on sustainability topics, contradictory objectives and lack of information on suppliers corporate social responsibilities practices are some of the challenges reflected in the paper.

According to the UN Procurement Hand Book (2012), which was produced by the Interagency Procurement Working Group, the main barriers to achieving sustainable procurement appear are habit and the difficulty in changing procurement behavior, lack of suppliers of sustainable assets, suppliers or services, complexity of comparing costing/value for money assessments, the difficulty of including factors broader than environmental considerations and a perception that the process and outcomes are more costly or time consuming.

As per the preliminary interview conducted with some of the procurement practitioners in these three UN agencies the implementation problem emanates from lack of management support, the awareness level of the procurement practitioners and lack of clear sourcing strategy and evaluation criteria. According to the International Institute of Sustainable Development, some of the challenges of green procurement are lack of corporate commitment from all levels, including senior management and purchasing agents, insufficient knowledge of green procurement, lack of acceptable alternatives to the present product and the perception that green products are more expensive than conventional alternatives.

In addition to this, it is found to be a good practice to conduct a research to know the practice of green procurement in UN agencies that operate in Ethiopia. Since the UN agencies have a policy or written documents on this particular issue the research findings will help as a reference for the upcoming researches that will be conducted on similar subject matters.

The researcher is interested to examine the current practice of Green procurement in the UN context specifically to three selected UN organizations and Agencies that operate in Ethiopia, UNECA, and UNDP & UNOPS. The policy and the practice will be reviewed to know and identify the opportunities, the challenges and the way forward. Green procurement needs to be secured in the organization through policies and the organizational structure. Many UN agencies in Ethiopia have not fully implemented green procurement processes in determining the demand specification and supplier evaluation. This problems needs to be dealt with first, before green procurement processes can be effectively implemented.

While conducting this research the following basic questions were addressed:

1. To what extent the procurement practitioners are aware of the green procurement concept, importance and processes?
2. To check the level of management support in the implementation of Green procurement.
3. The challenges of green procurement implementation from both the UN and the supplier's side.
4. How can green procurement be brought into practice in the UN procurement process?

1.3. Objectives of the Study

1.3.1General objective

The study sought to assess the practice and challenges of green procurement in UN agencies in Ethiopia with special focus to three selected agencies namely, UNDP, UNECA & UNOPS.

1.3.2 Specific Objectives

- ✓ To find out the extent to which procurement practices in UN, embrace sustainability considerations.
- ✓ To bring out the potential challenges existing in procurement practices, which work against sustainable procurement in UN context.
- ✓ To make recommendation geared towards attaining green or sustainable procurement.

1.4. Significances of the Study (Application of Results)

This particular study will help both the UN agencies and the researchers in many aspects

1- Helps the organization to know practice of green procurement from external perspective. As a result they can improve their drawbacks and builds on their strength.

2- The findings of this research will be used by other organizations as a model and for other similar institutions who give emphasis on green procurement.

3- It will help as reference for researchers who will work in the area of green procurement.

1.5. Delimitations/Scope of the Study

This particular study is delimited to UN agencies that operates in Ethiopia and more specifically to three selected UN agencies namely UNECA, UNDP & UNOPS. The study focused on procurement practitioners, requistioners, technical evaluation committee's & employees who work on environment & climate related issues.

1.6. Limitation of the Study

The major limitation of this study is that the data is collected only from three UN agencies. It would be good if the researcher managed to collect from all UN agencies that operate in Ethiopia so as to see the whole picture of green procurement practice. The second limitation is the non-

probability sampling technique employed in this research is not able the researcher to generalize the research outcome to the total population. The non-probability sampling is selected mainly to work on those UN agencies that are considered as a leading UN agencies in Ethiopia and have high procurement value cases. In addition to this the respondents are key informants that have a quite good experience in procurement and procurement related activities.

1.7. Organization of the Paper

The paper is organized into five chapters. Chapter one deals with introduction, statement of the problem, objectives of the study, significance of the study, delimitation and limitation of the study. Chapter two deals with the review of related literature, chapter three present the research design & methodology part and chapter four is about data presentation, analysis and interpretation. Finally, chapter five contains summary of findings, conclusion and recommendations.

Chapter Two
Literature Review

2.1 What is Green Procurement?

UNDP (2008, p.4) defines environmental or green procurement as, "the purchase of products and services which have less impact on the environment and human health compared with competing products or services that serve the same purpose". However, there are others who would argue that green procurement may also be based, not only on purchasing a green product, but on a green process of procurement. This may be done during the supplier appraisal where a supplier is chosen due to (for example) its environmental accreditation (for example implementing ISO (International Organization for Standardization) 14001 standard), or due to its environmental policy. As this 'green' criterion results in a supplier's increased business, it encourages them to continue incorporating 'greenness' in their processes and even in their products and it also encourages competitors to implement green business processes (New et al., 2000).

As per Javier González-Benito & others (2016) Green purchasing has been defined as the implementation of "an environmentally-conscious purchasing practice that reduces sources of waste and promotes recycling and reclamation of purchased materials without adversely affecting performance requirements of such materials". From this definition we understand that three key words & phrases these are: environmentally-conscious purchasing practice, recycling & performance requirements of such materials.

Green procurement can be also defined as environmental purchasing activities that include the reduction, reuse and recycling of materials in the process of purchasing. It is a solution for environmentally concerned and economically conservative business, and a concept of acquiring a selection of products and services that minimizes environmental impact (Salam, 2008).

2.2. Green or Sustainable Procurement Frame Works

Crucial to the formation of green procurement policy is to be able to define when a procurement process is said to be sustainable. One of the means of determining how sustainable procurement will be is by the Whole Life Cycle (WLC) approach. Whole Life Cycle (WLC) analysis is typically used at either the **sourcing strategy stage** to help decide between competing procurement options and/or at the **tender evaluation stage** to ensure that, contract award decisions are made on cost assumptions over the life of the goods, works or service and not just on the upfront capital cost. John Steward (2008) sent a caution that, the cheapest whole-life cost does not necessary equate to the most environmentally sustainable options. The practice of procurement in Ethiopia seems to have neglected sustainability considerations.

According to UN Procurement Practitioners Hand book (2006) sustainable procurement is the process by which organizations buy assets, supplies or services by taking into account a number of factors including:

Value for money considerations such as, price, quality, availability, functionality.

• The entire life cycle of products.

• Environmental aspects; the effects on the environment that the assets, supplies and/or services have over the whole lifecycle ("green procurement").

• Social aspects: effects on issues such as poverty eradication, inequality in the distribution of resources, labor conditions, human rights, Fair-trade.

• Sustainable or recycled materials/products.

As you saw from the above paragraphs Whole Life Cycle (WLC) approach is one of the most common & popular way of evaluating green procurement at different stages of the procurement processes.

2.3. What is a Life Cycle Approach?

According to UNEP (2004 & 2005) Life Cycle Approach is system, or life cycle can begin with extracting raw materials from the ground and generating energy. Materials and energy are then part of manufacturing, transportation, use (wearing and washing the t-shirt, for instance), and eventually recycling, reuse, or disposal. A life cycle approach means we recognize how our choices influence what happens at each of these points so we can balance trade-offs and positively impact the economy, the environment, and society. A life cycle approach is a way of thinking which helps us recognize how our selections – such as buying electricity or a new t-shirt – are one part of a whole system of event.

A life cycle approach identifies both opportunities and risks of a product or technology, all the way from raw materials to disposal. To do this there is a continuum of life cycle approaches from qualitative (life cycle thinking) to comprehensive quantitative approaches (life cycle assessment studies). People, companies and governments use these various life cycle approaches in anything from day to day shopping, selecting office supplies for the workplace, engineering a new product design, or developing a new government policy.

2.4 A Life Cycle Approach Promotes

Awareness that our selections are not isolated, but influence a larger system. Buying office paper is a good example. If you knew that it takes 24 trees to create 50,000 sheets of office paper and 2.3 cubic meters of landfill space to dispose of it, you might choose paper made from recycled material and elect to support paper producers that source from sustainably managed forests.

Making choices for the longer term and considering all environmental and social issues associated with those. Life cycle thinking helps us avoid short term decisions that lead to environmental degradation – such as over-fishing or polluting our air with mercury.

Improving entire systems, not single parts of systems, by avoiding decisions that fix one environmental problem but cause another unexpected or costly environmental problem (like mitigating air pollution yet increasing water pollution). Life cycle thinking helps avoid shifting problems from one life cycle stage to another, from one geographic region to another and from one environmental medium (air, water or soil) to another.

Informed selections, but not necessarily 'right' or 'wrong' ones. Life cycle thinking simply helps us put our decisions in context with facts from all parts of the system or life cycle. It means we look for unintentional impacts of our actions (such as damaging a natural eco-system or inadvertently supporting unfair labor conditions and wages) and take some action to prevent those impacts (such as purchasing office paper from sustainably managed forests or coffee certified "fair trade"). For instance, if the shop around the block from your office sells coffee grown by workers who receive a fair wage on the world market, cultivated without pesticides that harm people planting or harvesting the beans and from a plantation that did not cause an endangered forests to be chopped down, you might choose to purchase your daily cup from that shop. "Corporate membership of the International Council.

2.5 Policy Side of Green Procurement

Brammer and Walker, (2011) in an international comparative study of green or sustainable procurement in the public sector, identified that, policy makers need to be careful of the emphasis they place on the various aspects of sustainable procurement. This gives rise to the need to develop a sustainable procurement framework that suits public procurement in developing countries such as Ethiopia. A **policy framework** should include; planned development of targets for all environmental impacts and extension of the framework to cover **social issues**. Such policy should also envelope **economic and social implications** of good sustainable procurement practices. These key features seem to be lacking in the existing procurement practices in Ethiopia however, UN agencies that operate in Ethiopia can have good policy in Green Procurement.

Kennnard (2006) identified some challenges facing the capacity building in attaining sustainable procurement in general businesses. These include; lack of understanding of sustainability within, businesses, coupled with poor training and accountability being significant barriers to building supplier capacity. Sustainable interventions are incorporated throughout the various stages of the procurement process. These are ,planning and needs assessment of a procurement activity, planning the requirements, requirement definition, sourcing, solicitation, evaluation and contracting, monitor and control & monitor and assess the desired 'outcome' achieved.

2.6 Implementation of Green Procurement

Langat & Daniel (2015) mentioned in their published journal that green procurement steams from pollution prevention principles and activities. Also known as green or environmental purchasing, green procurement compares price, technology, quality and the environmental impact of the product, service or contract. Green procurement policies are applicable to all organizations, regardless of size. Green procurement programs may be as simple as purchasing renewable energy or recycled office paper or more involved such as setting environmental requirements for suppliers and contractors. Green products or services utilize fewer resources, are designed to last longer and minimize their impact on the environment from cradle to grave. In addition, green products and services have less of an impact on human health and may have higher safety standards. Whilst some green products or services may have a greater upfront expense, they save money over the life of the product or service.

Lozano (2013) suggested that before a green procurement program can be implemented, current purchasing practices and policies must be reviewed and assessed. A life cycle assessment of the environmental impacts of products or services is required and a set of environmental criteria against which purchase and contract decisions are made has to be developed. The outcome is a regularly reviewed green purchasing policy that is integrated into other organizational plans, programs, and policies. A green purchasing policy includes date-stamped priorities and targets, the assignment of responsibilities and accountability and a communication and promotion plan. Green procurement policies and programs can reduce expenditure and waste; increase resource efficiency; and influence production, markets, prices, available services and organizational behavior. They can also assist countries in meeting multi-lateral requirements such as the Kyoto Protocol and Rotterdam Convention. International Standards Organization and other bodies have established guidelines for green procurement programs.

According to Langat & Daniel (2015) there are some obstacles to implementing a green procurement program include: lack of readily available environmental friendly products; expensive or zero environmental alternatives; inaccurate studies; lack of organizational support; and inaccurate or unsupported environmental claims by manufacturers and suppliers. Legislation, organizational policies, directives, environmental management systems or multi-lateral agreements often require organizations to implement a green procurement program.

Many projects that benefit the environment undertaken by corporations in the past were the result of new legislation, community pressure, or customer safety concerns. In fact, tremendous progress has been made through legislation in many countries to reduce automobile exhaust emissions, lower pollution through the traded carbon credit program, and improve safety by eliminating the use of lead-based paint. The examples are numerous, and the credit for making these changes is spread across all of society's stakeholders, from lawmakers to corporate executives and consumer advocates. However, with the evidence that science is showing us about the acceleration of global warming, there is a growing consensus that transformations to protect the environment should be more pervasive and larger steps are needed. There is also ongoing recognition that government regulation should play a role in achieving effective change, but that it is only one of many forces that will drive the needed change into the future.

A green strategy for an enterprise – public or private, government or commercial – is one that complements the business, operations, and asset strategies that are already well understood and often well-articulated by the enterprise. A green strategy fundamentally helps an enterprise make decisions that have a positive impact on the environment. The principles that form the basis of a green strategy should lead a business to make decisions based on solid business logic and make good business sense.

At some companies, the very idea of discarding an empty beverage container any place other than a designated recycle bin makes employees uncomfortable. At other companies, failing to turn off the lights to a conference room as the last person exits is a minor taboo. Still other companies are able to measure and report the quantity of recycled office-use paper as a percentage of new paper purchased through its procurement organization, and they set performance targets to increase the amount of recycling as part of continual improvement efforts. In fact, the recycled paper that is purchased by outside vendors is often considered a revenue stream for the company (Langat & Daniel, 2015).

2.7 Organizational strategy

Organizational strategy is also affected when a company has a green strategy in place.

While it may not include introducing a corporate green officer to the executive team, other actions may include these:

- Performance management reviews may reward green contributions in the balanced scorecard that employees are assessed against.
- Core competencies and recruiting priorities are more likely to recognize a need for environmental awareness in employees.
- Training is more likely to include elements of green and the impacts employees can have on improving the environment as they learn to perform their roles and responsibilities.
- Communication and awareness campaigns are more likely to emphasize green objectives, highlight key successes, and recognize significant green contributors (Eric, 2008).

2.8 Information, technology strategy, and supporting infrastructure

In a recent study Forrester Research found that 85 percent of IT procurement and operations professionals in US companies said environmental concerns were important in planning their IT operations. A total of 72 percent were aware of efforts by their vendors to promote ‘‘green IT’’ in the design, operations, and disposal of IT products. The awareness necessary to act on a green strategy is largely in place, but 78 percent of the study respondents said green IT has not been included in their evaluation and selection criteria for IT systems and devices. This survey finding held true even though Forrester defined ‘‘green IT’’ in terms of reducing the environmentally harmful impact that technology has on the environment while simultaneously realizing better efficiency and reduced costs (McGillicuddy, 2007).

2.9 A Green Strategy

A green strategy fundamentally helps an enterprise make decisions that have a positive impact on the environment. The principles that form the basis of a green strategy should lead a business to make decisions based on solid business logic and make good business sense. The three principles shown in Figure 1 could be the tenets of any company’s enterprise-level green strategy (Eric, 2008).

Figure 1: Company's Enterprise-level Green Strategy

Source: Eric G. Olson, (2008)

As with any new strategy formulation, green strategies need to consider and address the interdependencies with other corporate programs and projects. In fact, an enterprise-level green strategy can be one key ingredient in a broader corporate stewardship or social responsibility program, which companies are now formalizing more often than in the past. A green strategy fosters a common culture of awareness and action creating a green culture often involves reinforcing behavior that people already want to adopt, but there is still a need for the appropriate tools and training in order to change (Eric, 2008).

Businesses that cultivate a green culture today are often immediately noticeable to outside visitors as unique, and at other times the differences in a green culture are imperceptibly small. For the former, an environmentally sound culture is often part of the core business strategy to encourage ''green'' considerations in every decision that is made. For the latter, reinforcing simple courtesies that can be made to the environment by each employee can make a significant impact to a company's bottom-line expenses and even top-line performance (Clare, 2015).

At some companies, the very idea of discarding an empty beverage container any place other than a designated recycle bin makes employees uncomfortable. At other companies, failing to turn off the lights to a conference room as the last person exits is a minor taboo. Still other companies are able to measure and report the quantity of recycled office-use paper as a percentage of new paper

purchased through its procurement organization, and they set performance targets to increase the amount of recycling as part of continual improvement efforts. In fact, the recycled paper that is purchased by outside vendors is often considered a revenue stream for the company.

Current and best practices that cultivate a common culture of environmental awareness and support a green strategy are already emerging and developing in many companies. A huge global corporation in the industrial sector identified a critical need for ‘‘global warming’’ training so that employees could easily make connections between their daily activities and the improvement they can make to global environmental trends. IBM, in another example, recently organized a community-building event in California where employees were given the opportunity to volunteer to an afternoon with their colleagues picking up trash at a neglected beach. As a leading agency in the world the UN is expected to develop its own culture (Wendy, 2015).

A green strategy facilitates decisions and transformation initiatives that improve the environment

Setting a clear vision and strategy ultimately enables people to make better decisions that align with the enterprise priorities to provide goods and services in the global marketplace.

An enterprise-level green strategy is no different. In fact, unlike most other areas of strategy formulation in a company, green strategy affects decisions that are made across the entire enterprise, including business strategy, operating strategy, organization strategy, information strategy, applications strategy, technology strategy, and supporting infrastructure (Eric,2008}.

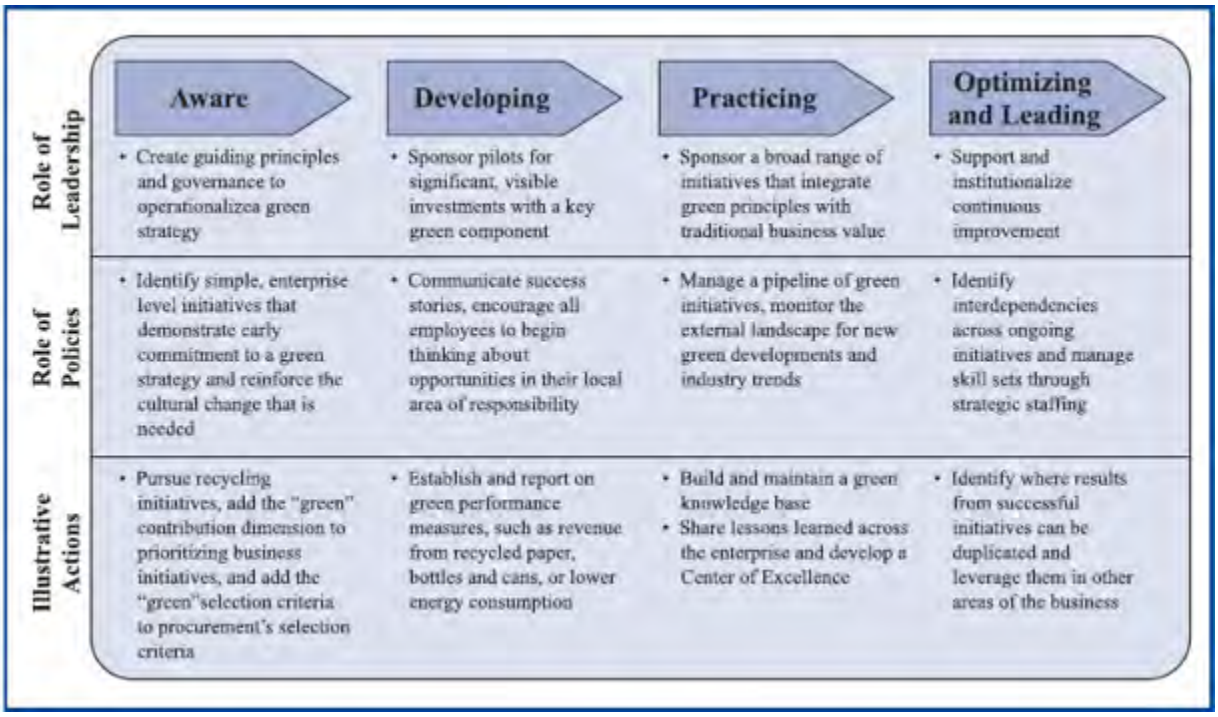
2.9.1 Developing an enterprise-level green strategy

The first step to developing an enterprise-level green strategy is to assess the current state of green operations and initiatives that have been completed or are under way. As most business leaders know, simply because a strategy has not been written or formally articulated does not always mean that one is not being followed. A maturity assessment of each area of the strategy pyramid against a maturity model (Figure 2), along with assessing the adoption level of best practices, can clearly show the areas of a business that are very advanced and others that might not even have a basic level of green awareness.

Even for companies that rank low in a green maturity assessment, there are sensible places to start and clear directions to travel. When a maturity assessment is performed to characterize the current state, it is wise to consider future aspirations and how the assessment compares to other companies.

Are the aspirations to have base-level capabilities, be competitive with peers, or achieve differentiation? The resulting analysis can then be the basis for developing a set of initiatives and associated implementation roadmap to close gaps and reach the aspirations.

Figure 2: Green strategy maturity model: maturity range



Source: Eric G. Olson, (2008)

2.10 Implementing green procurement

When an organization decides to incorporate environmental criteria into its procurement processes, it is difficult to determine how to do it as there are many different ways and sources giving information about it. The European Commission (2011) suggests that the organization should start small and work its way up incrementally. For example starting with the purchase of office paper, an organization can start by purchasing paper with 10% recycled content and with every purchase cycle increase the percentage in 10%-20% increments until they reach their final goal of 100% recycled content.

Also, when determining the environmental criteria used during the procurement process, it should be done such that it does not discriminate against potential bidders. For example, requiring the

suppliers to have an environmental certificate that is hardly used and that may be region-specific therefore disallowing international suppliers the opportunity to bid (Palmujokki, Parikka-Alhola & Ekroos, 2010).

Moreover, it is important to ensure that the purchase acquired is of great value. To that effect, the criteria to focus on in terms of the cost of the purchase during the procurement process should be the life-cycle costs (or total cost of ownership). Life-cycle costs include all the costs of the different stages in a product's life-cycle from the production costs to the end-of-life costs. One simplified approach towards identifying the life-cycle costs of a product is to take into account, during the procurement process, the buying price of the product; future additional costs (such as shipment and installation costs); operational costs (includes energy and fuel consumption and maintenance costs); and end-of-life costs . However, many purchasing managers find it easier to simply focus on the price of the purchase. They may presume that they are being effective by choosing the cheaper option, but this may unfortunately result in purchasing a product that has poor quality and is more expensive to maintain and dispose. This point is especially more significant when it comes to costs that deal with environmental issues as they tend to be difficult to measure (New et al., 2000).

To determine the possibilities of including environmental aspects as part of a contract, one has to first consider the nature of the content of the contract and the nature of the work that would be carried out based on the contract. In the procurement documents of service contracts, for example, purchasing authorities may ensure that the contract is performed in an environmentally sound mode. For example authorities may ensure that public transport services use low-emission vehicles (Barth & Fischer, 2003). For EU member states, the Procurement Directives (Directive 2004/18/EC and Directive 2004/17/EC) clearly define the sections where and how environmental criteria can be included in the tender documents during a procurement cycle. These sections include; the subject of the contract, the technical specifications of the product/service/work, the supplier selection criteria and the contract award criteria, and the contract performance clause (Clement et al., 2007 p.21):

The subject of the contract identifies what is to be purchased. If environmental criteria will be considered during the procurement process, Clement et al. (2007) advices that this should be stated in the subject matter. The environmental specifications will be further outlined as part of the

technical specifications, but stating environmental requirements as part of the subject matter ensures that the process is completely transparent and communicates to potential suppliers that the contracting authority intends on buying "green". For example a contracting authority may state in their contract that they wish to purchase "energy-efficient computers", or may have a "contract for the supply of recycled paper for writing, printing and copying purposes" (Clement et al., 2007 p. 22).

In green procurement, the technical specifications can be based on environmental technical standards and eco-label criteria. In Europe there are several European and national technical standards to choose from, but unfortunately this is not the case in other parts of the world (Clement et al., 2007). In Africa, for example, only one country has a national eco-labelling scheme (Tunisia), though there is a national eco-labelling scheme under development in South Africa. There are, however, a number of national energy-efficiency appliance labeling schemes in Africa which may be useful during green procurement (Janisch, 2007). References to any environmental technical standards or eco-label criteria in the tender documents should also be accompanied with an "or equivalent" clause so as not to discriminate against suppliers who can prove that they can provide products and services that meet the standards without having a specific eco-label. Environmental criteria can also be based on the material that should or should not be included in the product, as well as the methods used in processing and producing the product (Clement et al., 2007).

Contracting authorities to compare products that meet different sets of technical specifications with the same evaluation criteria, especially if the award criterion used is the most economically advantageous offer (award criteria other than the price, are taken into consideration such as life-cycle costs). Contracting authorities can use variants by "setting the minimum (non-environmental) requirements of the product/service to be bought, this represents Variant 1 – the "neutral" offer" (Clement et al., 2007 p. 24); and adding environmental specifications to the minimum requirements in Variant 1, this represents Variant 2 – the "environmental" offer. Offers that meet the minimum requirements are selected and when the bids are opened, the contracting authorities have the opportunity to compare conventional solutions and environmentally-friendly ones based on the same set of award criteria (Clement et al., 2007).

Contracts awarded are typically based on the lowest price or the most economically advantageous offer. If the final purchasing decision is solely based on the price of the bids then there is no opportunity to include environmental criteria. Thus, a contracting authority should ensure that environmental criteria were included in the technical specifications. If the final purchasing decision is based on the most economically advantageous offer, then criteria other than the price are taken into consideration such as quality, environmental characteristics, technical aspects, and maintenance and other after sale prices (Clement et al., 2007; Parikka-Alhola, Nissinen & Ekroos, 2006).

Additionally, after a contract has been made, contract performance clauses are a way of including additional environmental requirements to it. The contracting authority may specify, for example, how the purchases are to be supplied (the packaging used should be recyclable for example) including the method of transport, and to ensuring that the suppliers take back and recycle their packaging. The contract clauses should not be a way of determining which bidder gets the contract (for example having clauses so specific that only few bidders can fulfil it), thus all bidders should, in essence, be able to follow them (Palmujoki et al., 2010).

2.11. Theoretical or Conceptual Frame work

2.11.1 What is Green Procurement?

Today's changing environment is making companies much more aware of their own environmental impacts. Energy and fuel costs are increasing and there is a risk of resource scarcity coupled with the impacts of climate change. Many organizations are now seeking options that reduce environmental impact while simultaneously saving money. This means buying products and services based on environmental criteria in addition to cost.

Green procurement can help companies to influence their supply chain by asking suppliers to adhere to certain environmental criteria before a purchase is made or a contract is signed. It therefore promotes closer working relations between supplier and buyer. Both partners benefit as environmental impact is taken into consideration, mitigating risk and leading to improved 'green credentials' for both parties.

Green procurement can be summarized as a combination of:

• considering environmental provenance when purchasing products or conducting business;

• An instrument to help provide a reduction in a company's environmental impact by improving its 'green credentials';

• A supply chain influencing tool;

• A process integral to sustainable development.

To fully realize 'green procurement' practices, the shift in the way in which the procurement process is carried out needs to be embedded in all company policies and practices.

2.11.2 Implementing green procurement

When determining the environmental criteria used during the procurement process, it should be done such that it does not discriminate against potential bidders. For example, requiring the suppliers to have an environmental certificate that is hardly used and that may be region-specific therefore disallowing international suppliers the opportunity to bid (Palmujokki, Parikka-Alhola & Ekroos, 2010).

The criteria to focus on in terms of the cost of the purchase during the procurement process should be the life-cycle costs (or total cost of ownership). Life-cycle costs include all the costs of the different stages in a product's life-cycle from the production costs to the end-of-life costs. One simplified approach towards identifying the life-cycle costs of a product is to take into account, during the procurement process, the buying price of the product; future additional costs (such as shipment and installation costs); operational costs (includes energy and fuel consumption and maintenance costs); and end-of-life costs . However, many purchasing managers find it easier to simply focus on the price of the purchase. They may presume that they are being effective by choosing the cheaper option, but this may unfortunately result in purchasing a product that has poor quality and is more expensive to maintain and dispose. This point is especially more significant when it comes to costs that deal with environmental issues as they tend to be difficult to measure.

Supplier Selection

One method of including environmental criteria in green procurement is via the supplier selection. Murray and Cupples (2001) believe that purchasing should focus on the selection of quality suppliers and thus, successful green supplier appraisal should assess the supplier rather than the product. Extensive research has been done regarding the methods and processes of selecting suppliers during the procurement process and several frameworks have been developed. For example one of the performance criteria that organizations could consider during the green supplier selection process is selecting suppliers from an environmental viewpoint.

Life Cycle Approach

As per UN Procurement Practitioner's hand book (2006) many best practice approaches to environmental risk assessment include evaluation of the environmental impacts throughout the whole life of a product or service to ascertain where the environmental impacts occur in the life cycle of the commodity i.e. starting from the raw material to the manufacturing process, maintenance and disposal of goods.

However, Life Cycle Assessment (LCA) as an environmental management tool consists of a detailed scientific assessment, which requires a substantial amount of time and very specific environmental expertise to complete. It is clear that many Buyers have neither the time to conduct such assessments on every product/ service, nor would it be cost effective or practical for all staff to complete the training required (minimum of at least a one-year course). Therefore conducting a full LCA on each product/ service would not be appropriate.

However, the logical approach is the introduction of a tool that promotes and encourages life cycle thinking. Thereby, encouraging Procurement to examine and think about the various lifetime environmental impacts of commodities. This approach will enable the organization to identify the most significant environmental risks and impacts. The following are some of the issues described in the UN procurement practitioners hand book.

• Sustainability of raw materials

• Energy consumed in the manufacturing/ conversion process

• Hazardous substances used within the life cycle

• Environmental impact in “use”

• Biodegradability at the end of its useful life

• Likelihood of a developing world supply chain

In a nutshell, the Whole Life Cycle (WLC) analysis will be the theoretical frame work that will be utilized to evaluate or select the potential suppliers that produce or sells environmentally friendly goods and services. The whole life cycle approach is typically used at either the **sourcing strategy stage** to help decide between competing procurement options and/or at the **tender evaluation stage** to ensure that, contract award decisions are made on cost assumptions over the life of the goods, works or service and not just on the upfront capital cost.

Chapter Three

Research Design & Methodology

The researcher employed Mixed Research approach in this study and predominantly qualitative research have been utilized. While using the mixed research approach, the **concurrent triangulation** approach was utilized in this research method to determine if there is convergence, differences, or some combination. By using this model it is possible to offset the weaknesses inherent within one method with the strengths of the other (or conversely, the strength of one adds to the strength of the other (Creswell, 2009).

3.1 Source of Data

Both primary and secondary sources of data were used for this study. The primary data obtained directly from respondents through interview and Questionnaire. The secondary collected from the policy of the organization, library, internet, journal articles, newspapers and research reports. The idea of secondary data was to gather the necessary information to guide the conduct of the study in order to enrich the primary data. Qualitative semi-structured interviews conducted with some five procurement practitioners of UNECA & UNDP.

3.2 Sampling Techniques

In Ethiopia more than twenty UN agencies are found. The researcher took three selected UN agencies for this particular study using non probability sampling technique. A list of all UN agencies identified including their size and level of engagement in green procurement. Among the list the top three were selected for this particular study using those who have high volume of procurement transactions and the leading agencies in Ethiopia in the area of Green Procurement. The three selected agencies are UNECA, UNDP & UNOPS. From the non-probability sampling the researcher used both purposive sampling technique and snowball (network) sampling technique so as to get a reliable data since this particular research requires key informants. The target groups are procurement practitioners, requistioners, technical evaluation committee and people who works on climate change areas.

3.3 Data Gathering Tools

The researcher used semi-structured interview and Questionnaire for this particular research. In addition to this the procurement process of the UN organization were reviewed along with the procurement policies and manuals and practical case specifically the requirements or specifications of goods and services and the evaluation criteria's employed by the organization to select the potential vendors. The Questionnaire was tested by distributing to around ten potential respondents so as to check the reliability of the instrument. These ten people who involved in the pilot-testing of the Questionnaire were not participated during the actual distribution of the Questionnaire. The researcher used "five-point Likert scale from 1 to 5" rating from strongly disagreement to strongly agreement to measure the questionnaire items.

The researcher distributed the questionnaires electronically to all respondents using the survey monkey online tool since all the respondents have email address and internet access. The researcher managed to distribute and collect the data within short period of time and reduced the paper usage in this particular research. The researcher got a permission of UNECA to use this survey monkey tool for this particular research. Beside ease of distributing the questionnaires the survey monkey helped the researcher to get a summarized report of the respondents in tables and graphs format. The researcher created cross tabulation using the survey monkey tool since there is an option to export the data into excel sheet, SPSS and PDF format.

The total population size in three agencies were to 72 people. Among the total people 62 will be considered as target population since 10 people were part of the pilot- testing program. From the 62 the researcher managed to collect data from 57 with a response rate of 92%. Six people were selected but only five interviews were conducted. The interviewees were conducted with procurement managers & key requistioners who are believed to have a quite good understanding of the subject matter and able to discusses the issues `clearly. The interviewees are believed to have the information and good understanding on the subject matter. `

3.4 Methods of Data Analysis

The data collected using questionnaire analyzed using descriptive statistics (mean & median) with the objective of accurately describing distributions of certain variables. Based on the information obtained from data analysis the green procurement practice was analyzed. The data collected

through interview and secondary data were analyzed along with the data collected using the questionnaire.

3.5 The Variables

3.5.1 The Independent Variables

The independent variables used in this study are:

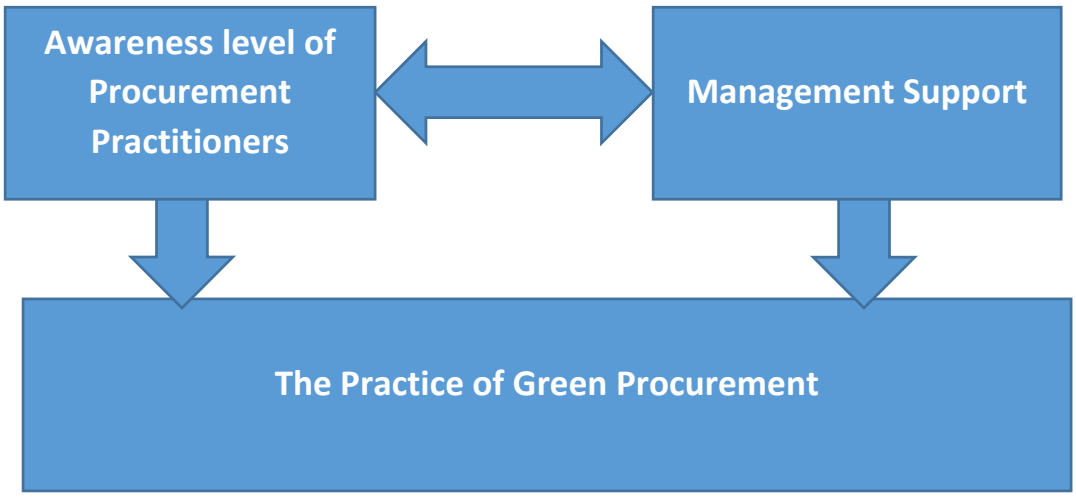
1. The awareness level of procurement practitioners in Green Procurement
2. The management support for the implementation of green procurement

3.5.2 The Dependent Variable

1. The good practice of Green Procurement

The level of awareness in green procurement by procurement practitioners and the management support have a positive impact on the good practice of green procurement.

Figure 3: Dependent & Independent Variables



Source: Own Source

Chapter Four
Data Presentation & Analysis

This chapter deals with presentation, analysis, interpretation and discussion of the data gathered through questionnaire and interview. The chapter consists of two parts. The first part of the chapter describes about the characteristics of the respondents while the second part deals with the analysis of the findings of the study.

Based on the sampling procedure the questionnaire was distributed for 62 target groups using the survey monkey online data collection tool. Out of the 65 target group the researcher managed to collect data from 57 respondents with a response rate of 92.0%. Five procurement practitioners were interviewed, two from ECA & three from UNDP.

4.1. Characteristics of Respondents

Table 4.1 Gender

Sex					
	Name of your Organization				
Answer Options	UNECA	UNDP	UNOPS	Response Percent	Response Count
Female	20	4	3	47.4%	27
Male	18	7	5	52.6%	30
				answered question	57

Source: Survey Monkey

Out of the 57 respondents 27(47.4%) were females and 30 (52.6 %) were males. Both the female and male respondents are represented fairly in this research.

Table 4.2 Age

Age					
	Name of your Organization				
Answer Options	UNECA	UNDP	UNOPS	Response Percent	Response Count
21-30	2	0	1	5.3%	3
31-40	21	6	6	57.9%	33
41-50	11	4	1	28.1%	16
Above 50 years	4	1	0	8.8%	5
				answered question	57
				skipped question	0

Source: Survey Monkey

Out of the total respondents 3 people (5.3%) are between the ages of 21 to 30, 33 people (57.9%) are between the ages of 31 to 40, 16 (28.1%) people between the ages of 41 to 50 and 5 people (8.8%) are 51 years or older. As per the above data of table 4.2 the distributions of the respondents are from different age groups and this helps to analyze the practice green procurement & their awareness level in terms of age.

Table 4.3 Level of Education

What is the highest level of education that you have completed?					
	Name of your Organization				
Answer Options	UNECA	UNDP	UNOPS	Response Percent	Response Count
High school graduate	0	0	0	0.0%	0
Certificate	1	0	0	1.8%	1
Diploma	4	0	0	7.0%	4
Degree	17	3	5	43.9%	25
Master Degree	15	8	3	45.6%	26
PHD	1	0	0	1.8%	1
				Answered question	57
				Skipped question	0

Source: Survey Monkey

Out of the total respondents only 1 person (1.8%) is found to be Certificate holder, 4 people (7.0%) Diploma holders, 25 people (43.9%) Degree holders, 26 people (45.6%) Master degree holders and 1 person (1.8%) PHD holder. As you see in table 4.3 the majority of the respondents have first degree and above i.e. 83 people (91.3%) of the total respondents. This figure clearly shows that the respondents believed to have a good understanding to respond to this particular survey.

Table 4.4 Name of your Organization

Name of your Organization					
	Name of your Organization				
Answer Options	UNECA	UNDP	UNOPS	Response Percent	Response Count
UNECA	38	0	0	66.7%	38
UNDP	0	11	0	19.3%	11
UNOPS	0	0	8	14.0%	8
			answered question		57

Source: Survey Monkey

This particular survey is done in three selected UN agencies namely, UNECA, UNDP & UNOPS. From the total participants 38 (66.7%) were from UNECA, 11 (19.3%) were from UNDP and 8 (14.0%) from UNOPS.

Table 4.5. Years of experience in current role

For how long you worked in your current role?					
	Name of your Organization				
Answer Options	UNECA	UNDP	UNOPS	Response Percent	Response Count
Less than 1 year	2	0	1	5.3%	3
1-5 years	12	3	6	36.8%	21
6-10 years	11	7	0	31.6%	18
11-15 years	4	1	1	10.5%	6
16-20 years	6	0	0	10.5%	6
More than 20 years	3	0	0	5.3%	3
				answered question	57

Source: Survey Monkey

Out of the total respondents 54 people (94.7%) have more than 1 years of experience in procurement and related activities. The researcher believed that, the respondents have adequate years of experience and they are in a good position to give a genuine feedback about the practice of green procurement.

Table 4.6 Involvement in procurement exercise

Have you ever been involved in procurement exercise?					
	Name of your Organization				
Answer Options	UNECA	UNDP	UNOPS	Response Percent	Response Count
Yes	34	11	8	93.0%	53
No	4	0	0	7.0%	4
				answered question	57

Source: Survey Monkey

As mentioned in table 4.6 out of the total respondents 53 people (93.0%) have involved in procurement activities in different way and this is best reflected in table 4.7 their level of engagement in procurement.

Table 4.7. Respondent's role in the procurement exercise

If yes, what was your role in the procurement exercise?					
	Name of your Organization				
Answer Options	UNECA	UNDP	UNOPS	Response Percent	Response Count
Procurement Officer/Manager/ Procurement Practitioner	11	7	5	41.8%	23
Requistioner /Requesting Department	14	3	1	32.7%	18
Procurement cases reviewing Committee (LCC)	3	1	1	9.1%	5
Focal point for Climate Change	2	1	0	5.5%	3
Technical Evaluation Committee	6	1	0	12.7%	7
Other	2	0	1	5.5%	3
				answered question	55
				skipped question	2

Source: Survey Monkey

As shown in the above table 23 respondents (41.8%) were procurement practitioners that directly involves in day to day procurement activities of the organization. 18 respondents (32.7%) are from the requesting departments that prepares the terms of reference, the specification and the requirements of a procurement action. From the procurement reviewing committees 5 (9.1%) responses were received. The role of this committee is to review and recommend big procurement

cases with a threshold of USD 75,000.00 and above in case of UNECA and USD 40,000.00 and above in case of UNDP. To be a panel member for this committee they are expected to take procurement related training as a pre-requisite. The researcher have got 7 (12.7%) responses from the technical evaluation committee and 3(5.5%) from people who works in climate change area.

Since the data was collected from different types of procurement practitioners their view is very important for this research so as to meet the targeted goal that is the practice of green procurement in UN agencies in Ethiopia. The initial target of the researcher is to find key informants who can respond to the green procurement practice and by reviewing the role of the respondents. Now it is possible to say the online questionnaire were distributed to right target groups.

Table 4.8 Knowledge on Sustainable Procurement

Knowledge on Green /Sustainable Procurement is widespread in your Organization					
	Name of your Organization				
Answer Options	UNECA	UNDP	UNOPS	Mean Average	Response Count
Strongly Disagree	6	1	1		8
Disagree	16	6	2		24
Neutral	9	2	2		13
Agree	7	2	3		12
Strongly Agree	0	0	0		0
	2.45	2.45	2.88	2.51	57
				answered question	57

Source: Survey Monkey

Knowledge of Green/ Sustainable procurement is one of the key factor for the practice of green procurement. As shown from table 4.8 the average response rate is 2.51 which is average or neutral. The mean average of the three agencies are nearly equivalent. Based on the similar studies conducted in Ghana limited knowledge was observed in the application of sustainable procurement strategies in the procurement process. This is one of the challenges observed in developing countries particularly in Africa.

Table 4.9. The current methods of procurement

Do you agree that the current methods used by your organization on procurement would meet your organization's sustainability agenda on green procurement?					
	Name of your Organization				
Answer Options	UNECA	UNDP	UNOPS	Mean Average	Response Count
Strongly Disagree	5	1	1		
Disagree	17	7	5		
Neutral	10	1	2		
Agree	5	2	0		
Strongly Agree	1	0	0		
	2.47	2.36	2.13	2.40	57
				answered question	57

Source: Survey Monkey

The whole life cycle approach is one of the recommended method used to evaluate the vendors at a sourcing stage. As per the interview held with the procurement specialist of UNDP they found it difficult to implement the method because of its complexity. The current procurement method give most emphasis for best value concept and they believe it is time to revise the methodology to evaluate the vendors. Currently the agencies prefer to ask some international certifications like ISOs.

As per the above collected data from the three UN agencies the current procurement method is not found to be adequate for the procurement of environmentally friendly goods and services with a mean average of 2.4.

Table 4.10. Established organizational culture

There is established organizational culture where environmental awareness and proactive behavior is part of an employee's day to day activity.					
	Name of your Organization				
Answer Options	UNECA	UNDP	UNOPS	Rating Average	Response Count
Strongly Disagree	12	1	1		
Disagree	13	6	5		
Neutral	5	2	1		
Agree	6	2	0		
Strongly Agree	0	0	1		
	2.14	2.45	2.38	2.24	55
				answered question	55
				skipped question	2

Source: Survey Monkey

Another important factors is to assess the culture of the organizations in terms of culture so as to know their awareness level in their day to day life. Green procurement is not practiced as a culture in UN agencies as per the data collected from the respondents. This practice was generalized by observing the day to day activities of the employees like reducing the print-out of papers, to switch-off the lights after working hours to save energy and etc. The effort is not in an organized manner and some co-ordination and awareness creation events are requited.

Effective 1 November 2015 the UN Secretariat introduced new ERP system globally so as to streamline the services and to automate the work by reducing the paper work. According to the interview held with the Procurement Officer of UNECA the employees are still lives with the old tradition and there is no change in the paper usage to date. The above data clearly showed there is no environmental awareness at a satisfactory level with a ratting average of 2.24. The Procurement officer of UNECA recommends practicing in our daily lives, both professionally and privately, by adopting the 4 Rs (Refuse, Reduce, Reuse, and Recycle).

Table 4.11. Management support

There is a strong management support to implement a green procurement in our organization.					
	Name of your Organization				
Answer Options	UNECA	UNDP	UNOPS	Rating Average	Response Count
Strongly Disagree	11	2	1		
Disagree	14	4	4		
Neutral	7	3	2		
Agree	5	2	1		
Strongly Agree	1	0	0		
	2.24	2.45	2.38	2.30	57
				answered question	57
				skipped question	0

Source: Survey Monkey

According to the preliminary interview held with some procurement practitioners, one of the challenge or gap identified by the researcher is lack strong management support. From this research we can conclude that there is no adequate management support to implement or to exercise green or sustainable procurement with a rating average of 2.3. This idea is not backed by the Procurement Specialist of UNDP because of the following reasons. For him the biggest challenge is the complexity of evaluating the vendors, the unavailability of in adequate number of vendors who produce or supply environmentally friendly goods particularly in developing countries. In contrast to similar studies conducted in Kenya & Ghana Abdul Aziz Muniru (2013) & Roy (2014) lack of management support is one of the challenges identified in their research findings. At the country level it is considered as political support.

UN is not fully adopted and implemented green procurement as a mandatory policy since the member states are not in equal terms to fulfil the requirements. The policy will discriminate the vendors that operate developing countries if it is exercised fully. It is recommended to equip the capacity of the member state vendors using different means.

An interview was held with the Procurement Officer of UNECA Procurement Unit, to know whether “green procurement “is incorporated in UN’s procurement policies and manuals. According to him, the Procurement Manual has not propagated "green" procurement because the General Assembly has not agreed to adopt it. Procurement Division had submitted updates in the

Procurement Manual before and had not been successful so far. The Group of 77 has rejected these proposals on grounds that vendors from these member states will not be able to compete on a level playing field if "green" procurement rules are adopted.

According to his response so far sustainable procurement is adopted is in the purchase of paper (chlorine free, non-bleaching agents, trees from sustainable forests, etc.) and toner cartridges (used toners to be returned to vendor for recycling).

Table 4.12. Procurement cycle/stage Vs. Sustainability issues

At what procurement cycle stage do you consider Sustainability issues?					
	Name of your Organization				
Answer Options	UNECA	UNDP	UNOPS	Response Percent	Response Count
Sourcing Stage	6	2	0	14.0%	8
Tender Evaluation Stage	3	2	0	8.8%	5
Contract Document	2	2	0	7.0%	4
All	30	11	8	86.0%	49
N/A	4	0	0	7.0%	4
				answered question	57
				skipped question	0

Source: Survey Monkey

The majority of the respondents that is 49 (86.0%) believe it is important to ensure the sustainability of procurement at all stages of the procurement cycle. This also a recommended practice by both the Procurement Specialist and Procurement Officer of UNECA.

Table 4.13.Sustainability elements

What is/are some of the sustainability elements that you have ever considered in your procurement process?							
Answer Options	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Rating Average	Response Count
Energy Wastage	6	10	11	28	2	3.18	57
Water pollution	6	22	13	11	3	2.69	55
Air Pollution	7	16	12	18	3	2.89	56
Deforestation	9	15	10	20	1	2.80	55
Green House Effect	7	22	13	13	1	2.63	56
					answered question		57

Source: Survey Monkey

From the above mentioned sustainability elements the agencies did some exercise in the area Energy Wastage by procuring energy efficient bulbs & computers. The regional office of UNDP use solar- panels for its office energy consumption. This data is some-how backed by the data collected using questionnaire since Energy Wastage exercised relatively in the three UN agencies is with a rating average 3.18.

Table 4.14.Procurement officials Sustainability Decisions

In your opinion, to what extent do Procurement officials make Sustainability decisions?					
	Name of your Organization				
Answer Options	UNECA	UNDP	UNOPS	Rating Average	Response Count
Never	11	1	1		
Seldom	15	7	3		
Occasionally	8	1	3		
Frequent	3	1	1		
Very frequent	1	0	0		
	2.16	2.20	2.50	2.21	56
				answered question	56
				skipped question	1

Source: Survey Monkey

Procurement officials who possessed the ultimate decision making for the procurement of environmentally friendly goods and services can play a vital role. In the UN context this official role is key since the delegation of authority is given based on their level of authority. Based on this

study their decision making authority is not effectively reflected in relation to sustainable procurement. As per the above collected data the decision making of procurement officials is not found satisfactory by the respondents with mean average of 2.21.

Table 4.15. Challenges that affect Sustainable Procurement

Indicate by scale which of the under listed Challenges affect Sustainable Procurement in your organization.							
Answer Options	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Rating Average	Response Count
Lack of Social Drive	1	4	5	28	19	4.05	57
Low technical & Management capacity	1	3	7	32	14	3.96	57
Low Multi-stakeholder approach	1	2	8	31	15	4.00	57
Higher Initial costs of Green Products	2	3	11	26	15	3.86	57
Difficulties in ICT application	4	7	19	20	7	3.33	57
						answered question	57

Source: Survey Monkey

From the list of challenges that mentioned in the above tables almost all are considered as a challenges except ICT application. Lack of social drive, low technical and management capacity and higher initial cost of green products have considered as a challenge with a mean average of 4.05, 3.96, 4.0 and 3.86 respectively. Based on a similar study that was conducted by Abdul (2013) a greater percentage of people, considered energy wastage, water pollution, air pollution deforestation and greenhouse effect as grave sustainability issues, but do not take concrete steps in mitigating them, some of the reasons being lack of social drive and higher costs involved.

Table 4.16. Whole Life Cycle Approach

Whole life cycle approach is implemented in our organization in procurement of goods and services?							
Answer Options	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Rating Average	Response Count
Office Supplies like paper & toner	12	16	9	16	4	2.72	57
IT Equipment	10	14	15	14	4	2.79	57
Electric Materials and Equipment.	11	12	10	18	4	2.85	55
In every Procurement action	11	24	8	10	2	2.42	55
On some selected Goods and Services	7	6	10	32	1	3.25	56
Not applicable in every Procurement action	7	23	8	16	2	2.70	56
						answered question	57

Source: Survey Monkey

Whole life cycle cost refers to the total cost of ownership over the life of an asset. Typical areas of expenditure which are included in calculating the whole-life cost include, planning, design, construction and acquisition, operations, maintenance, renewal and rehabilitation, depreciation and cost of finance and replacement or disposal. The environmental and social costs which are more difficult to quantify and assign numerical values in the whole life cycle approach.

The interview was held with a procurement specialist and asked him whether they used whole life costing method in their procurement cases. According to him they tried one in the procurement of vehicles and they end-up with only one vendor who can provide the product. For them it is found difficult to compare the total cost of the vehicle throughout its life time since there was only one vendor without a comparator. For him it is difficult to measure environmentally friendly goods except accepting what is provided by the vendors or by the third party certification providers. One of the example mentioned by the Procurement Specialist was the unethical practice of some vehicle manufacturers revealed in recent days. The vehicle manufacturers passed the certification process for the mini-cars fuel consumption rates however the actual rates was not as provided by the company. The company officials expressed deep apologies to their customers and

stakeholders for this issue. This is one example how it is difficult and costly to measure the environmental elements of goods and services.

Outcome of Secondary Data

Ten Procurement cases were reviewed from UNECA and the result is as follows:

From UNECA Procurement of Office Supplies, Electrical Materials, Hydrological & Metrological Instruments, IT equipment cases were reviewed. The focus of the researcher was mainly the technical specification and the evaluation criteria. From the above mentioned items only procurement of office supplies had some environmental elements. From the office supplies the organization procured recycled paper for its printer shop where as for the employees daily consumption the procured papers are not recycled papers. The procurement of paper request is not consolidated in ECA. The printing shop procure by its own and the other requistioner i.e. the central store procure separately. The printing shop requested ISO certification as one of the technical evaluation criteria along with the required specification.

The other procurement case reviewed was the procurement of electrical materials and there is no green procurement elements both in the technical specification and the evaluation criteria. The other products are standard products procured based on the technical specification provided by the UN head quarter from the long term agreement list. For example the laptops are considered as energy saving machines manufactured based on European standard and UNECA has no input on the procurement.

Chapter Five
Summary of Findings, Conclusions & Recommendations

This chapter discusses the major findings of this particular study collected using questionnaire, interview and secondary data's followed by the conclusions and recommendations of the researcher.

5.1 Summary of Major Findings

The main purpose of this study is to assess the practice of green procurement in UNECA. The researcher focused on four basic questions that are directly related with the green procurement practice.

1. To what extent the procurement practitioners are aware of the green procurement concept, importance and processes?
2. To check the level of management support in the implementation of Green procurement.
3. The challenges of green procurement implementation from both the UN and the supplier's side.
4. How can green procurement be brought into practice in the UN procurement process?

This study was conducted to assess the practice of green procurement in three selected UN agencies in Ethiopia (UNECA, UNDP & UNOPS). The researcher distributed the questionnaire using survey monkey on line tool so as to address many respondents quickly and to minimize the researcher error while analyzing the data.

The following are the summary of the findings categorized as per the four basic questions;

- The respondents were from procurement practitioners, technical evaluation committee and procurement reviewing committee and requistioners or requesting departments. The initial target of the researcher is to find key informants who can respond to the green procurement practice and by reviewing the role of the respondents. Now it is possible to say the online questionnaire were distributed to right target groups.

- The whole life cycle approach is one of the recommended method used to evaluate the vendors at a sourcing stage. As per the interview held with the procurement specialist of UNDP they

found it difficult to implement the method because of its complexity. The current procurement method give most emphasis to best value concept and they believe it is time to revise the methodology to evaluate the vendors. Currently the agencies prefer to ask some international certifications like ISOs.

- There is no established organizational culture in the area of green procurement and the awareness level of the employees and the procurement practitioners in not at expected level. Greening is not practiced as a culture in these agencies even if there is a push from some concerned employees. In some areas like reducing the print-out of papers, to switch-off lights after working hours to save energy and etc. The effort is not in an organized manner and some co-ordination and awareness creation events are requited.

- The UN Secretariat introduced new ERP system globally so as to streamline the services and to automate the work by reducing the paper work. According to the interview held with the Procurement Officer of UNECA the paper usage is not minimized at expected level and employees prefer print-outs instead of automated work flows. This shows how the employees are not ready for the new change and their awareness level to the environment.

- According to the preliminary interview held with some procurement practitioners, one of the challenge or gap identified by the researcher is lack of strong management support. The research outcome also clearly reflect that there is no adequate management support to implement or to exercise green or sustainable procurement.

- The inadequate management support is not considered as the main reason by the Procurement Specialist. For him the biggest challenge is the complexity of evaluating the vendors using the whole life costing method specifically the environment related attributes of goods and services, the unavailability of in adequate number of vendors who produce or supply environmentally friendly goods particularly in developing countries.

- The member states are not in agreement to incorporate the green procurement policy in the UN procurement manual since the General Assembly has not agreed to adopt it. Procurement Division had submitted updates in the Procurement Manual before and had not been successful so far. The Group of 77(developing countries) has rejected these proposals on grounds that

vendors from these member states will not be able to compete on equal level with the vendors of developed countries.

- Some green procurement practice is seen in the procurement of recycled paper, energy saving bulbs and solar panels. The biggest challenge agencies are the cost of the recycled papers are expensive and there is no companies in Ethiopia who works in recycled papers. The only option is to dispose the used papers.

- The majority of the respondents believed that the sustainability of procurement can be insured at all stages of the procurement cycle. This also a recommended action by the Procurement Specialist of UNDP and Procurement Officer of UNECA.

- The decision making of Procurement officials is not effectively reflected in relation to sustainable procurement. The decision making of procurement officials is not found satisfactory by the respondents who participated in this study.

- Lack of social drive, low technical and management capacity and higher initial cost of green products have considered as a challenge in this study.

- Whole life cycle cost is not exercised in the procurement of environmentally goods and services mainly because of the complexity of the usage specifically the environmental attributes and lack of adequate vendors who can supply environmentally friendly products.

5.2 Conclusions

From the research findings, the study can conclude that green procurement practice is at infant stages in these three UN agencies that operate in Ethiopia and green procurement is not fully exercised. The researcher identified two reasons as a gap based on the preliminary interview conducted with the procurement practitioners. These are lack of management support and the awareness level of procurement practitioners and employees. Based on the outcome of the study these variables are considered as a challenge. In addition to this additional reasons are identified like the complexity of evaluating environmentally friendly goods, lack of adequate vendors and the high initial cost of products.

One of the main findings highlighted in this study is the member states are not in agreement in the implementation of green procurement as a policy since all the vendors are not at equal capacity to implement the green procurement concept. Particularly the developing nations or the group of 77 rejected the proposal presented by the Procurement Division of New York.

5.3 Recommendations

These are the recommendation of the researcher.

- The long journey to sustainable procurement cam be started with the awareness creation. Both the management and the procurement practitioners have to work closely to create awareness among employees by organizing different activities. The awareness creation can be given by giving training, by organizing some competitive question and answer sessions and by rewarding the best environmental personality award of the month and etc.

- It is advisable to work closely with vendors since they are the main stakeholders. It is good to organize awareness creation and training sessions for vendor to easily explain or transfer our requirements in terms of environmentally friendly products. As leading organization in the world UN has to go to extra mile to build the capacity of small and medium level companies particularly those who are found in the developing countries. It is considered as a long term investment for our planet.

- The whole life cost analysis is the best way to evaluate products. To effectively use this method it is advisable to train both the procurement practitioners and the technical evaluation committee members.

- Integrating sustainable procurement rules with main procurement rules: The current sustainable procurement page exists on its own and its employment is optional. The UN offices need to revise its procurement rules and procedures to integrate sustainable procurement fully in to the system.

- Capacity building: our discussions have clearly identified that the knowledge gap in sustainable procurement is huge. Any change in rules and procedures will have to be backed by capacity building to its work force. UN should include sustainable procurement citification programs its current programs.

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Annex 1

Addis Ababa University

School of Commerce

Department of Logistics & Supply Chain & Management

Field of Study: Logistics & Supply Chain Management
Research Topic: - Green Procurement: The Practice & Challenges of Green Procurement in three selected UN Agencies in Ethiopia (UNECA, UNDP & UNOPS).

This research is designed to assess the Practice & Challenges of Green Procurement in three selected UN Agencies in Ethiopia. The findings of this research will help the organizations and the users in many aspects.

Thank you for participating in this research. The researcher kindly requests your willingness to fill this questionnaire. The data collected from this questioner will be kept confidentially. Your feedback is important for this particular research.

Thank you in advance for your prompt thoughtful response.
General direction
This questionnaire has three major parts

- You are not required to write your name
- Put "√ "in the dialog box that best describes yourself and your opinion.

Contact Information
Name: Achamyeleh Begashaw
Email: acham_beg@yahoo.com

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Part I
Personal Information

1.1 Sex. Female ☐ Male ☐

1.2 Age

A. ☐ 21-30
B. ☐ 31-40
C. ☐ 41-50
D. ☐ Above 50 years

1.3 What is the highest level of education that you have completed?

A. ☐ High school graduate
B. ☐ Certificate
C. ☐ Diploma
D. ☐ Degree
E. ☐ Master Degree
F. ☐ PHD

1.4 Name of your Organization

A. ☐ UNECA
B. ☐ UNDP
C. ☐ UNOPS

1.5 For how long you worked in your current role

A. ☐ Less than one year
B. ☐ 1-5 years
C. ☐ 6-10 years
D. ☐ 11-15 years
F. ☐ 16-20 years
G. ☐ More than 20years

Part- II Level of Awareness & culture in Green Procurement

2.1. Have you ever been involved in procurement exercise?

☐Yes

☐ No

2.2. If yes, what was your role in the procurement exercise?

A. ☐ Procurement Officer/Manager/ Procurement Practitioner
B. ☐ Requistioner /Requesting Department
C. ☐ Procurement cases reviewing Committee (LCC)
D. ☐ Focal point for Climate Change
E. ☐ Technical Evaluation Committee
F. ☐ Other

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2.3. Knowledge on Sustainable Procurement is widespread in your Organization.

1	Strongly Agree	
2	Agree	
3	Neutral	
4	Disagree	
5	Strongly disagree	

2.4. Do you agree that the current methods used by your organization on procurement would meet your organization's sustainability agenda on green procurement?

1	Strongly Agree	
2	Agree	
3	Neutral	
4	Disagree	
5	Strongly disagree	

2.5. There is established organizational culture where environmental awareness and proactive behavior is part of an employee's day to day activity.

1	Strongly Agree	
2	Agree	
3	Neutral	
4	Disagree	
5	Strongly disagree	

2.6. There is a strong management support to implement a green procurement in our organization.

1	Strongly Agree	
2	Agree	
3	Neutral	
4	Disagree	
5	Strongly Disagree	

2.7. At what procurement cycle stage do you consider Sustainability issues?

- Sourcing Stage
- Tender Evaluation Stage
- Contract Document
- All
- N/A

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3. What is/are some of the sustainability elements that you have ever considered in your procurement process?

S/N		Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
1	Energy Wastage					
2	Water pollution					
3	Air Pollution					
4	Deforestation					
5	Green House Effect					

4. In your opinion, to what extent do Procurement officials make Sustainability decisions?

1	Very frequent	
2	Frequent	
3	Occasionally	
4	Seldom	
5	Never	

5. Indicate by scale which of the under listed Challenges affect Sustainable Procurement in your organization.

S/N		Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
1	Lack of Social Drive					
2	Low technical & Management capacity					
3	Low Multi-stakeholder approach					
4	Higher Initial costs of Green Products					
5	Difficulties in ICT application					

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6. Whole life cycle approach is implemented in our organization in procurement of goods and services?

S/N		Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
1	Office Supplies like paper					
2	IT Equipment					
3	Electric Materials and Equipment.					
4	In every Procurement action					
5	On some selected Goods and Services					
6	Not applicable in every Procurement action					

NB: Whole Life Cycle (WLC) analysis is the theoretical frame work that will be utilized to evaluate or select the potential suppliers that produce or sells environmentally friendly goods and services. It is typically used at either the sourcing strategy stage to help decide between competing procurement options and/or at the tender evaluation stage.

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Interview Questions: for Key Informants like Procurement Managers, practitioners

1. What is your responsibility in the area of procurement?
2. Does your organization have a policy & strategy to enforce or implement Green procurement in every procurement process?
3. If yes, please tell us how you implement the policy? Is it at sourcing stage or tender evaluation stage?
4. Did you apply the whole life cycle approach in procurement of goods and services? If yes, is it for specific items or for all?
5. What kinds of challenges did you encountered while you are trying to implement green procurement in your organization both from the organization and from the supplier's side?
6. Do you think that your organization established a culture where environmental awareness and proactive behavior is part of an employee's day to day activity?
7. Do you have a management support to implement a green procurement in your organization?