ASSESSMENT OF GREEN PROCUREMENT IN TRANSPORT SECTOR IN TANZANIA: A CASE OF AZAM MARINE. CO.LTD

By

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A Dissertation Submitted in Partial Fulfillment of the Requirement for the Award of the Postgraduate Diploma in Logistics and Procurement Management (PGDLPM) of the National Institute of Transport

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CERTIFICATION

The undersigned certifies that has read and hereby recommends for the acceptance by The National Institute of Transport, a dissertation entitled "**Assessment of Green Procurement in Transport Sector". A Case Study of Azam Marine .Co.Ltd** in Partial/Fulfillment of the Requirement for the Award of the Postgraduate Diploma in Logistics and Procurement Management (PGLPM) of the National Institute of Transport.

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DEDICATION

This work is dedicated to my late father for raising me up and laying a good foundation for my education. I am equally indebted to my lovely mother, who cared a lot for me, in my childhood and all the days of my life.

LISTS OF ABBREVIATIONS

AM	Azam Marine
CFF	Costal Fast Ferries
DSM	Dar es Salaam
EU	European Union
GP	Green Procurement
LCC	Life Cycle Costing
SP	Sustainable Procurement
SPSS	Statistical Package of Social Science

ABSTRACT

This research was carried out with the main objective of exploring green procurement in transport sector in Tanzania. The study adopted a case study design and it combined both qualitative and quantitative approaches. Single stage sampling design, non-probability sampling especially convenient sampling was used to select the number of respondents to be contacted in this study. Data were analyzed using Statistical Package of Social Science (SPSS) and were presented in tables.

The study found that the green procurement in transport sector is not a new phenomenon in Tanzania even though majority of the respondents does not understand it It takes different forms as indicated by the majority of the respondents who rated the aspects as not well practiced by many companies due to several factors which influence its implementation especially, less fund invested (27.5 per cent),poor knowledge and skills (50 per cent),lack of policies (10 per cent) and poor management (12.5 per cent) to mention few. Factors to implement the green procurement practices in Various strategies were proposed by the respondents in order to enhance green procurement especially in transport sector ,these including improvement of knowledge and skills to the people (46.7 per cent) and investment of fund (33.3 per cent) thus will ensure a better future for the living organism and the environment. A number of recommendations were given including The government and private sector to provide education on green procurement in transport sector through seminars, workshops, books, newspapers, internet etc and to invest fund on green procurement projects

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CHAPTER ONE

RESEARCH PROBLEM SETTING

1.0 Introduction

This section of the study introduced the following subsections in the following order, background to the study, statement of the problem, research objectives, significance of the study, and limitations of the study.

1.1 Background of the Study

It is the part of the study that laid down the foundation of the research problem on assessment of green procurement in Transport sector in Tanzania. Procurement is a crucial element in the working functions of any state. It refers to the purchasing of goods and services in the right quality, from the right source and the right price all to meet a specific need.

Along with the growing environmental awareness, the need for incentives to promote the development of environmentally friendly products and production methods increases. Taking environmental preferences into consideration in public procurement is regarded to have a considerable potential as one of these incentives. It is thus being encouraged by the authorities in many countries (Council of the European Union, 2006; Swedish Government Offices, 2007) and was also called for at the World Summit of Sustainable Development in Johannesburg in 2002 (United Nations, 2002). Green procurement preferences may be stated as environmental requirements that the product need to fulfill or that need to be fulfilled during the works or service.

However, environmental procurement preferences may also be formulated as criteria for the award of the contract, applied in the evaluation of the tenders, alongside other criteria. The first green purchasing initiatives were taken during the 1980s and 1990s (Erdmenger et al, 2001).

Since then, the interest for green procurement has increased (Marron, 2003) and green public procurement policies and programs have been implemented in many countries throughout the world (Five Winds International, 2003; Ochoa &Erdmenger, 2003; KippoEdlund et al, 2005; Bouwer et al, 2006). Many of the green procurement initiatives and research studies have centered on the acquisition of products. The transport industry is a major contributor to environmental pollution. Construction of infrastructure consumes about half of all resources humans take from nature (UNEP, 2003).In order to promote green innovations in the transport sector, environmental criteria in tender evaluation has been especially encouraged (Swedish Environmental Management Council, 2001). However, most of the studies of green procurement in this sector have mainly focused on the application of environmental requirements (Sterner, 2002; Faith-Ell, 2005).

1.2 Back ground of Azam Marine

Azam Marine and Coastal Fast Ferries operate passenger ferry boats between the islands of Zanzibar, Pemba and mainland Tanzania. Azam operates a fleet of five vessels – three catamarans, and one RIB Passengers speed boat. The speedboats are popular among local people and foreign tourists visiting Tanzania.

As international tourists discover the magnificent destination of Tanzania, Azam Marine and Coastal Fast Ferries are moving with the times to provide them with swift and comfortable ferry services. The Tanzanian companies are pursuing a vigorous policy of modernizing and maintaining its fleet in line with fast-moving developments in the world of water transport. The air conditioned catamarans were built in Australia to Azam's specifications to provide that best possible services for Tanzanian travelers, international tourists and businessman.

The entire fleet of vessels has up to date communication and navigation instrumentation along with stringent safety equipment on board. The crews are well trained and experienced. Azam Marine and Coastal Fast Ferries are the first passengers ferry company in Tanzania to deploy a modern online ticketing system. The online ticketing system can be used from anywhere in the world as long as the user has access to the internet.

The marine business is among numbers of enterprises owned and managed by Said SalimBakhresa, one of Tanzanian's most dynamic contemporary businessmen. While he thinks internationally Mr. Bakhresa retains a deep loyalty to his home of Zanzibar and his affection for the place in all its aspects makes easy to understand why tourism there is booming and hence causes the tremendous increase of tourists in Zanzibar and mainland at large due to satisfactory transport services provided by the company.

1.3 Statement of the Problem

According to Marron (2013) environmental issues have become a subject of critical concern for businesses in recent years worldwide. Environmental obligations have grown substantially as society becomes more conscious of its environment and legislation relating to the environment is increasing in number that requires companies to be environmentally responsible (Zhu, Sarkis&Geng, 2009). In light of increasing costs of pollution management, environmental degradation, public health concerns, climate change, resource depletion, and persistent global poverty, the supply management profession is increasingly being called upon to contribute to broader organizational goals of sustainable development through the inclusion of social and environmental criteria within procurement processes (Srivastava, 2013).

According to Faith-Ell, Balfors&Folkeson, (2010) environmental sustainability is still among the issues included in the eight international development goals (The Millennium Development Goals) that were established following the Millennium Summit of the United Nations in 2000, following the adoption of the United Nations Millennium Declaration. Given the above scenario, the government of Tanzania has put into place Environmental Management and Coordination Act of 2004 that provides for the establishment of an appropriate legal and institutional framework for the management of the environment and related matters. All organizations within the country are obliged to comply with the Act (Martin, 2012).

According to Tanzania pollutant Management (2015), transport pollution constitutes about 23% of the total waste generated in the Dar es Salaam city. This statistics indicate that environmental issues have not been fully addressed and that there are still challenges in influencing the implementation of green procurement in Tanzania. Recent research has shown that green procurement is related to a variety of positive benefit for both individuals and organizations; these includes eliminating the cost of pollutions /or hazardous material management, positive public relations, improved employee health, reduced solid waste, conservation of water and protection of natural resources (Martin sons, 2010). Despite the important role green procurement plays in ensuring environmental performance and public health and safety, most of the studies on this subject had been conducted in developed countries, yet not much research had been conducted in Tanzania, leading to insufficient empirical literature on green procurement (Stephen & Helen, 2011).

It was against this background that this inquiry sought to assess the green procurement in Transport sector in Tanzania. This research study provided valuable and unique contribution to green procurement literature. Green procurement research within Transport sector is particularly important considering recent studies indicate a rise in costs of waste/pollution management, worker safety and public health concerns both locally and globally, implying that it is an area that still needs to be fully addressed (Jayaraman et al., 2013). Hence, the studies alleviate the gaps in research by assessing green procurement in Transport sector in Tanzania, a case of Azam Marine Co. Ltd.

1.4 General Objectives

The general objective of this study is to assess the green procurement in Transport sector in Tanzania, a case of Azam Marine Co. Ltd.

1.4.1 Specific Objectives

More specifically, the objectives are to:

(i) To determine the factors which influence implementation of green procurement in transport sector.

(ii) To examine how implementation can be done to increase the knowledge of green procurement in Transport sector.

(iii) To analyze how much do transport sector care about green procurement and take initiatives to implement.

1.4.2 Research Questions of the Study

(i) What are the factors which influence implementation of green procurement in transport sector?

(ii) How does implementation be done to increase the knowledge of green procurement in Transport sector?

(iii) To what extend do transport sector care about green procurement.

1.5 Significance of the Study

The finding of this study provided ways for further investigation. The research study is expected to provide the researcher with potential knowledge on the area of his study. Finally this study brought policy – makers the challenge to enact appropriate laws that administers green procurement act on transport sector.

1.6 Organization of the research report

This research report is structured into three chapters as follows; Chapter one contains information regarding the background of the study, statement of the problem, research objectives and questions along with the significance of the study. Chapter two covers the literature part which includes both theoretical and empirical review together with the conceptual framework of the study, Lastly chapter three describe the research methodology that adopted in the case of the study this involves research design, data collection method, management of data and analysis techniques.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

In this chapter there are two theories covered in relation to the green procurement in transport sector. These are Resource Based Theory and legitimacy Theory.

2.1 Theoretical of the Study

2.1.1 Resource Based Theory

The Resource Based Theory (RBT) is a economic tool used to determine the strategic resources available to a firm. The main principle of the RBT is that the basis for a competitive advantage of a firm lies primarily in the application of the bundle of the valuable resources at the firm's disposal. To transform a short -run competitive advantage into a sustained competitive advantage requires that these resources are heterogeneous in nature and not perfectly mobile (Peteraf, 2005). Effectively, this translates into valuable resources that are neither perfectly imitable nor substitutable without great effort (Hoopes, 2003). If these conditions hold, the firm's bundle of resources can assist the firm in sustaining the above average returns.

The resource based view of the firm also emphasizes that valuable, rare, imperfectly imitable, and non-substitutable resources result in competitive advantage (Barney, 2001). These resources can consist of assets, capabilities, organizational processes, information, etc. and are classified into tangible and intangible resources. The RBV extends the resource -based view by highlighting that the environment might be a constraining factor impacting sustainable competitive advantage and accordingly suggest that firms, which manage the environmental link better than others, might generate more sustainable competitive.

In principle conventional economic as well as legal thinking associates public Procurement side policies with discriminatory practices, which generally lead to inefficient allocation of resources, limit access to foreign markets, hamper the

liberalization of domestic, increase budgetary costs and consequently diminish the competitiveness of national economy (Evenett 2002. Arrow Smith2003; Evenett and Hockman 2005) However the level playing field" perspective falls short in differentiating between discriminatory Public procurement implemented on the political self-interested, nationalist or protectionist grounds on one hand and the other hand and Public Procurement for developmental and innovation goals on the other. (Velkol et al 2013).

Green purchases or Green Public Procurement (GPP) present one of the corner stone of the Programme for the rationalization of purchasing. Over the last few years the number of green initiatives both with the framework contract system and on the electronic market place, has increased many fold. The aim of this is to reduce the environmental impact of the goods and services used by the Public Administration in line with the objectives set out in the Ministerial Decree. The Principle eco-objectives so far pursued by the programme are concerned with the following areas

i. Energy contributes to generating energy savings, promoting the use of renewable sources and green fuels.
ii. Pollution prevention Use low - environmental impact vehicles and promote eco-comp ability procedure goods and services.
iii. Recycling promote recycled products and materials and comply with the objectives set out in ministerial Policy (Satisfy 30% of needs with recycled goods) (Source Danilo, B n.d) Central governments green Procurement efforts began by focusing on a small number of products, in particular paper, timber electrical products and food, where it was believed that some "early wins" could be secured of these products, public sector food purchasing has received the most attention largely because of the unexpected political salience of school food, an issue addressed. In reality central governmental had begun to act on public sector food catering, long before school food became a cause célèbre in 2005.

An official Inquiry into the future of farming and food held in the walk of the foot and mouth crisis conducted by saying that "local food" offered untapped

opportunities for hard pressed primary producers to re-correct with their consumers and it identified Public Procurement as one of the means to this and (Policy Commission 2002) It was against this political background that the public sector food procurement. Initiative (PSFP 1) was launched by DEFRA in 2003. The main of the PSFPI is to encourage public sector purchasers to work in concert with farmers, growers and suppliers to ensure that sustainable food is consumed in Public canteens. (Alison, B 2012) e advantage (Hart, 2005).

2.1.2 Definitions of the Concepts

2.1.2.1 Procurement

Means buying, purchasing, renting, leasing or otherwise acquiring any goods, works or services by a procuring entity and includes all functions that pertain to the obtaining of any goods, works or services, including description of requirements, selection and invitation of tenderers, preparation, award and management of contracts (PPA, 2016)

2.1.2.2 Procuring Entity

Means a public body and any other body, or unit established and mandated by government to carry out public function. (PPA, 2011)

2.1.2.3 Implementation

To make something such as an idea, plan, system or law start to work and be used. For the purpose of this study it refers to the process of putting green procurement decision into effect. (Macmillan Dictionary, 2007)

2.1.2.4 Green Procurement

Green procurement is also referred “environmentally preferable,” “sustainable,” “affirmative,” and “socially responsible” procurement. Thus GP refers to purchasing of products and services with specific attributes such as energy or water efficiency, or use of bio based or recycled materials or nontoxic chemicals, without necessarily taking other factors into account (Fischer, 2010).

2.1.2.5 Green public Procurement

Green Public Procurement isa process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured. (European Commission, 2012)

2.2.3 Green Product/Services

These are the items or administrations that have lesser or reduced consequences for human wellbeing and nature when contrasted and contending items or administrations that fills similar need, this correlation may consider crude materials obtaining, generation, assembling, and bundling, conveyance re utilize, operation, upkeep or transfer of the items or administrations (Birango, 2007)

2.1.4 Legitimacy Theory

Legitimacy implies the existence of a social contract between an organization and its constituents (or stakeholders). Though scholars define it with varying degree of specificity, one of the broadly adopted definitions of legitimacy is that it is a general perception or assumption that the actions of an entity are appropriate within some socially constructed system of norms, values, beliefs, and definitions (Scott, 2004). Given its unique ability to connect organizational actions to stakeholder expectations, there is a widespread support for the notion that legitimate behaviour can lead to superior rewards and benefits. Legitimacy of organizations has historically been approached from two opposing theoretical perspectives institutional and strategic. From the institutional perspective, legitimization is envisioned as a process of institutionalization, whereby external norms and beliefs are adopted without much thought.

On the other hand, the strategic theoretical perspective envisions legitimacy as instrumental, proactive, and more importantly, a deliberate pursuit that can ultimately enhance external beliefs, thereby creating newer and enhanced levels of legitimacy. Given its ability to explain organizational initiatives that do not follow the norms of profit maximization, the legitimacy-based view provides a sound

theoretical basis for explaining environmentally-oriented initiatives. Studies relying on the institutional theory suggest that pressures from a firm's institutional fields will drive it to seek legitimacy in the eyes of its stakeholders. In the words of Oliver (2005: p150), a firm's response to external institutional pressure "emphasizes the importance of obtaining legitimacy for purposes of demonstrating social worthiness".

Following these ideologies within the institutional view of legitimacy, extant research has identified regulatory compliance, competitive advantage, and social concerns as key proponents of corporate environmental initiatives. More importantly, organization theorists contend that the visibility of an organization can invite increased institutional pressure to pursue environmentally sound practices. Organizational visibility suggests that an organization is publicly recognized, and hence more closely scrutinized by external stakeholders – customers, media, environmentalists, as well as government agencies when it comes to environmental issues. Accordingly, visible organizations will have to consciously respond to stakeholder demand to maintain their reputation and legitimacy (Scott, 2004).

2.2 Implementation of Green Procurement

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 (Miles, 2010). 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, accountability, 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. 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 (Jae Math er, 2010). As reported by Morrison (Morrison, 1991) in one of his studies, 70% of the organizations have specific allocations made to tackle this issue.

But still many organizations consider this from a corporate reputation and that the competitors are doing it which forces them to do it as well. It is nothing more than a marketing gimmick or advertisement agenda for the firm. Governments of different nations are encouraging both private and public firms to become green in which ever ways possible and have been creating policies and providing with incentives for initiatives taken by these firms. Environmental issues have been the core of sustainable procurement.

The ozone depletion, reduction of carbon emission, bio -degradable materials, eco-friendly products, alternate energy sources to effectively use the natural sources have all been important factors. Socio-economic development of the local, like the social welfare of people, health care, employment opportunities also form the core of sustainable procurement. Influences of Financial Resource on Implementation of green Procurement Scholars also suggest that financial resource of firms can increase their visibility among external stakeholders.

Additionally, financial resource is also considered as a source of organizational slack, in the form of excess resources (Sharma, 2000; Bowen, 2000). Accordingly, superior financial resource could lead to visibility, thereby leading to more pressure from external constituents. External stakeholders could also perceive firms with financial resources to be in a position to use the excess discretionary slack resources to overcome the risk and unpredictability in adopting the proper supply-side environmental practices (Menguc et al., 2010).

Accordingly, following organizational scholars espousing the institutional view of legitimacy (Sharma, 2000), We propose that superior financial performance will promote basic supply side environmental initiatives such as green procurement (Shittu& Bake, 2010). Additionally, investments in development initiatives are far more uncertain than basic green procurement investments. Therefore, firms would exercise skepticism when allocating their limited resources to such advanced initiatives, and rather invest in basic green procurement initiatives that would sufficiently satisfy the needs of their external stakeholders.

2.2.1 Effect of Road Transport Vehicles

The contracting authorities must take into consideration the operational energy use and environmental impacts of vehicles as part of the procurement process. A common methodology for calculating lifetime operational costs is provided (Directive 2009/33/EC on the promotion of clean and energy-efficient road transport vehicles).

2.2.2 Buildings Energy Standards

Minimum energy performance standards apply to public buildings; these are set at national level based on a common EU methodology. From 1 January 2019, all new buildings occupied and owned by public authorities must be "nearly zero-energy buildings"(Directive 2010/31/EU on the energy performance of buildings (recast)). The Energy Efficiency Directives also sets mandatory requirements regarding renovation of public buildings and purchase or new rental agreements meeting minimum energy-efficiency standards.

2.2.3 Technical Specifications

The technical specifications define the characteristics required of a works, service or supply. They can include requirements relating to a specific production process, such as taking account of environmental or social aspects. If, for example, a contracting authority wants to favour local products over 'exotic' products, it can include costs of transport in the costs, while ensuring that it does not discriminate between operators. It can stipulate in the technical specifications that purchased products should not contain toxic chemicals or that they should be produced using environmentally efficient machinery creating minimum waste.

However, the technical specifications cannot stipulate that the product must be fair trade or that a minimum price must be paid to the producer. In other words, ethical dimensions cannot be defined at this stage. For works contracts, specifications can relate to, for example the performance of the constructed works (e.g. energy performance of a building, accessibility for disabled people, indoor climate), the way in which the works are carried out (e.g. minimizing of waste and noise from construction sites, optimizing material delivery schedules to lessen traffic disruption, energy/water efficiency of machinery), and the materials used in construction (e.g. use of renewable and/or recycled materials, restriction of harmful or unrecyclable materials, efficient use of material). Labels may be used as part of procurement to define the technical specifications, and also award criteria or contract performance clauses and to verify compliance with those.

2.2.4 Life-Cycle Costing (LCC)

The life-cycle concept covers all internal costs borne during the life-cycle of works, supplies or services, such as costs imputed to environmental externalities, which include pollution caused by the extraction of raw materials or collection and recycling costs. This measure is aimed to improve environmental protection and aid the fight against climate change.

Accordingly, the Life Cycle Costing covered, insofar as these are relevant, the 'cost of emissions of greenhouse gases and of other pollutant emissions and other climate change mitigation costs'. This is clearly a powerful lever to change the production and consumption habits of public authorities.

Where contracting authorities assess the costs using a life-cycle costing approach, they shall indicate in the procurement documents the data to be provided by the tenderers and the method which the contracting authority will use to determine the life-cycle costs on the basis of those data. "The method used for the assessment of costs imputed to environmental externalities must fulfill certain conditions.

Finally, it is stated that, whenever a common method for the calculation of life-cycle costs has been made mandatory by a legislative act of the Union, that common method shall be applied for the assessment of life-cycle costs. A list of such legislative acts, and where necessary the delegated acts supplementing them, The Commission shall be empowered to adopt delegated acts in accordance with the update of that list, when an update of the list is necessary due to the adoption of new legislation making a common method mandatory or the repeal or modification of existing legal acts"It should be noted that social protection and employment promotion have not been included in the calculation of the life-cycle The aim is to strongly encourage procurers to think outside the (price) box" in the context of sustainable public procurement. It is quite evident that buying green can save money, particularly when an Life Cycle Costing approach is taken during the procurement process. In a quote attributed to Einstein, we are warned that, not everything that can be counted counts and not everything that counts can be counted". In advocating the

use of Life Cycle Costing (LCC), it is however important to acknowledge that the science of Life Cycle Costing is far from perfect. The success of Life Cycle Costing is dependent on its scope (meaning the inclusion of environmental externalities or/and other externalities) and the methodology used (which in many cases is incomplete and based on experts' perceptions, not on hard scientific evidence)

Life cycle costing (LCC) is sometimes confused with life cycle assessment (LCA) however they are very different. Where LCC calculates the costs of a product throughout its life cycle (which can include giving a monetary value to environmental externalities), LCA assesses the environmental impacts, such as greenhouse gas emissions, over the life cycle. Therefore, LCA and LCC are two different sciences and are governed by considerably different considerations .An environmental LCC methodology takes into account four main cost categories plus external environmental costs, as shown in Figure 3. The latter may come from LCA analyses on environmental impacts, which measure for example the external costs of global warming contribution associated with emissions of different greenhouse gases. Environmental costs can be calculated also in respect of acidification, eutrophication, land use or other measurable impacts.

2.2.5 Vehicle Fuels

Each type of fuel and the environmental impact associated are elaborated as follows:-

a. Conventional Petrol and Diesel:

Diesel fuel has a higher energy density and efficiency than petrol and therefore a lower consumption rate. Since consumption is linked to the emissions of CO2, these are relatively lower for diesel cars. However particulates and NOx emissions are higher than petrol cars (which are fitted with catalytic converters). Particulate filters fitted to diesel cars can aid. Aside from the emissions created from burning these fuels for energy, the extraction, processing and transportation of the fuel all have associated environmental impacts. The ecological impact of oil extraction and extra energy needed to get it to the pumps all adds to the lifecycle impact of using these fuels.

b. Biofuels:

These fuels are produced from plants and waste from different sources and include biodiesel, bioethanol and biogas. Biodiesel is produced from oils or fats, such as animals fats, vegetable oils, rapeseed, palm oil and sunflower oil. Bioethanol can be derived from a number of crops including sugar cane, corn, wheat, barley and grain. Not all ethanol is Bioethanol as it is possible to create it from petroleum. Biogas (mainly comprising of methane and carbon dioxide) is formed from the biodegrading of materials such as sewage, municipal wastes and plants. The environmental impact of biofuels can vary. Final emissions from being burnt in engines do present an advantage in CO2 emissions compared to conventional fuels. Bioethanols are already being used in blends with conventional fuels. However, how the fuel is farmed has an environmental impact. For example using fertilisers, emissions such as nitrous oxide are produced. There can also be ecological impacts with using extra land for energy crops or impacts from using land that would previously have been food crops.

c. Gaseous Fuels

These are fuels usually produced from fossil-fuel sources such as compressed natural gas (CNG) and liquefied petroleum gas (LPG).With regards to NOx, CNG and LPG vehicles have a lower impact than diesel fuels and feature no particulate emissions. CO2emissions can potentially be 15% - 20% lower than petrol, similar to diesel in the case of LPG and a maximum 10% saving for CNG. Since they are fossil fuel based, similar environmental impacts to that of conventional fuels due to extraction exist. Few new vehicles feature the ability to run on these fuels and in most cases they are retrofitted.

d. Electricity

Fully electric vehicles produce no emissions while running as all the power is generated with electric motors. However how the electricity is generated is important for overall emissions. If the electricity is generated from fossil fuels, then CO2 etc. emissions are released at the power plant rather than at the car. This may be beneficial, for example in city

2.3 Empirical Literature Review

2.3.1 Foreign Studies

NansicheandNgungi (2014) conducted a study on the adaption of green procurement in public sector in Kenya the study adopted descriptive strategy where 90 members were used the research variables were organization green capacity, cost of green products, organization green incentives and pressure and green supply capacity The study found out that organization's green capacity, incentives and pressures are the main determinants of green Public Procurement adoption. The other factors studied; cost of green products and green supply capacity were not found to be significant. These results are an indication that the success of green public procurement relies heavily on enhancing the internal capacity of the organization.

Chien and Shih, (2007) carried out an investigation on the green supply chain management practices likely to be adopted by the electrical and electronic industry in Taiwan and the research targeted companies which had attained ISO 14001 on green certification. The study found out that adoption of green procurement generated favorable environmental and financial performance for the respective company.

According to Gatari (2014) in challenges facing implementation of green procurement in Manufacturing Sector in Kenya suggested that organizational structure had a positive effect on implementation of green procurement. This poses a challenge in implementation of green procurement in manufacturing sector. To overcome this challenge there is need for reconfiguring the structure of the organization and its services to enable different kinds of skill sharing and professional relationships to emerge, engaging staff in new ways. Reviewing the organization's procurement structure and identifying a programme of structural and organizational change ensured normal working practices are aligned with sustainable procurement policy.

Qiao and Wang (2009) examined the development of Chinese green procurement and the issues involved in its implementation and concluded that the Chinese government uses green procurement to promote sustainable development and to protect the

environment. The Chinese government established its public procurement system in 1990 and went further to implement green procurement in 2004.

2.3.2 Transport Sector

Transport sector must take part in the collective effort to limit the rise in average global temperature by suggesting improvements in the design of the materials used but also the organization of transport itself.

European legislation requires the tailpipe emissions of Carbondioxide(CO2) to be measured during the type approval procedures for new vehicles. This approach, known as tank to wheel only counts the Carbondioxide(CO2) emissions produced when fuel is burned by the vehicle engine. This however is a poor indicator of climate impact as much of that impact actually occurs during the production of the fuel especially for alternative vehicle fuels.

The impact of transport on the environment was, until recently, viewed mainly in terms of atmospheric pollution and noise emissions. Transport has a wide-ranging impact on the environment ranging from operational pollution, land-use, congestion and the risks inherent to the transport of dangerous goods. The measures should pursue the reduction of transport intensity and emission, reduction of land use, and the choice of carrier under considerations of sustainable aspects. The development of urban transport should give priority to collective and “soft” transport and to adequate link-up between the different stages of urban journeys as well as to easy access to and from inter-urban transport.

Therefore, in transport sector, environmental aspects of public procurement should be considered in three major areas: transport means (vehicles, ships, etc.), construction of infrastructure (with particular reference to land use) and also logistics services provided in supplying the goods, services and executing the works. Vehicles are purchased or used by many public authorities, and will play a role in the delivery of other contracts such as for construction, landscaping, waste management, social care, facilities management and highways maintenance. Savings on fuel and, in many

cases, vehicle tax, can be substantial when cleaner and more efficient vehicles are chosen. Further savings can be realized by rationalizing fleet requirements and making the most of eco-driving and innovative technologies such as telematics and satellite navigation to reduce wear and tear and unnecessary mileage.

An example of how environmental externalities may be included in LCC is given by the Clean Vehicles Directive (2009/33/EC) . Under this Directive, contracting authorities and entities are obliged to take energy consumption and emissions into account in their purchases of road transport vehicles The Republic of Croatia transposed into its legal system the Clean Vehicles Directive by way of the Act Promoting Clean and Energy Efficient Road Traffic Vehicles on the basis of which were adopted the Ordinance on methodology for calculating operative costs throughout a period of exploitation of road transport vehicle and the Ordinance on standards used in procedures of public procurement of road transport vehicles laying down that upon purchase of vehicles the contracting authorities shall consider energy effects and environmental effects throughout the period of exploitation of a vehicle with regard to energy consumption, Carbon dioxide(CO2) emissions, emissions of non-methane hydrocarbons and particles emissions.

Ship life cycle management is elaborated in. (Gratsos et al 2002) indicate that ships built with corrosion allowances, which are truly adequate for the ship's design life, when all factors have been taken into account, have a lower life cycle cost per annum for the maintenance of the integrity of their structure. This despite the fact that they would carry a slightly smaller quantity of cargo and therefore their income over time would be marginally less. Furthermore these ships are more reliable performers having a lower average annual downtime.

An important benefit with ship transportation is the limited need for land areas. Methods to calculate the land use requirements for ship transportation and the pollution contribution from ports should be established. Furthermore, methods have to be developed to allocate the environmental impact of port activities to ship transportation. The scrapping phase has to be addressed. These problems are important to address to enable consistent comparison of alternative transportation

modes. The advantages of short sea shipping compared to road transport and integral environmental effect of shipping are analyzed.Public sector has a lot of power to influence practices in the construction industry and obtain better environmental, social and economic outcomes. An example of construction of a low-carbon motorway exit is presented. Available research on sustainable procurement intensively focuses on international product suppliers and less on service suppliers such as logistics services providers. However, in addition to their well-known economic role, logistics processes have a strong impact on the environment (e.g. transportation-induced greenhouse gas emissions, noise and land consumption) and social issues (e.g. transport safety and physically draining occupations).

2.3.3 Sustainable Procurement

Emmett &Sood (2010, 59) define procurement as a business process where products, materials, labour and services get into the supply chain from three sectors: primary, secondary and tertiary. Institute for Supply Management (2013) describes sustainability to be "the ability to meet current needs without hindering the ability to meet the needs of future generations in terms of economic, environmental and social challenges." Pro-curement that integrates obligations and actions concerning also the environmental, social and economic aspects can be called sustainable. Sustainable procurement aims at cost optimization in an ecological and ethical manner, as well as to utilize resources efficiently while striving for overall quality improvement. (United Nations Global Mar-ket Place 2013.).

"Reputation is closely linked to the social, environmental and ethical profile of an or-ganization's spending. Buying smart isn't just about lowest cost– it's about strategically managing spending and supply chains with a sustainability framework", state Reeve and Steinhausen (2007, 30). Several companies have suffered bad publicity and reputa-tion damage due to corporate malpractices during the past decade (Reeve & Stein-hausen 2007, 30). This has allured and also forced numerous companies to scrutinize their sourcing policies and to pay more attention also to the ethical standards of their suppliers more closely (The Economist 2009). Sustainability can also be seen as an im-portant part of a company's risk management.

In addition to maintaining positive reputation, sustainable procurement has numerous other benefits. The benefiting party can be the buyer, the market, the supplier or the whole community, and in some cases all of them. Benefits to the buyer can include for example gaining positive publicity and financial savings by lowering the costs and using resources more efficiently. The market can benefit by more economical prices and in-creased availability of ethical and ecological products. Sustainable procurement benefits communities for instance by reducing pollution and all kinds of environmental im-pacts, decreasing the usage of resources, increasing safety, equality, health and social inclusion. (Sustainable Procurement Guide 2013, 12-13).

2.3.4 Extraction of Raw Materials

Vehicles can be made from a range of different materials, commonly comprising of metals such as steel and aluminum, plastics, rubbers and glass. Therefore a range of impacts regarding the extraction of raw materials exist.

The main ingredient of steel is iron which is found in ore form within the Earth's crust. Mining operations to extract ores create local ecological issues such as the disruption of local habitats. The iron ore has to be processed to create steel, which takes large amounts of energy given the high temperatures and scale of operations needed. This energy use will have its own environmental impact in the form of CO2 emissions which will vary depending on the energy source. The steel then needs to be transported to manufacturers, which due to the global scale of the market could involve large distances with an associated impact from CO2 emissions. Similar impacts exist with the extraction of aluminum.

Plastics can be used for a range of purposes within vehicles, from interiors to parts of the bodywork. Plastics can either be derived from fossil fuels or from biomass sources. Most commonly plastics are derived from oil. Extraction involves drilling into an oil field. The oil would then need to be processed into order to make plastic. Extraction and processing leads to a range of environmental impacts from energy use to ecological impacts from the use of oil wells/rigs. Bio plastics are formed from biomass, which is a renewable source.

Common sources include vegetable oil and corn starch. Although a renewable source, environmental impacts of biomass do exist, most significant being land use (using land for biomass purposes that would otherwise be natural or be used for food crops).Rubber, used in tyres and various other applications with in vehicles (e.g. pipes, belts) can either be natural, or synthetic. Natural rubber is derived from latex which is produced in some plants. Synthetic rubber is manufactured artificially with scope for greater control over the material's properties.

2.3.5 Production of Vehicles

Most mainstream vehicle manufacturers have large scale facilities that require large amounts of energy to build and run. The construction of a vehicle is not a simple task, bringing together a large number of parts to create the finished product. This has an associated energy cost from creating the parts, to powering assembly lines. Water will also be needed, and large factors will require a significant supply. The painting and lacquering of the bodywork could lead to solvent emissions. Elements such as lead, chromium VI and cadmium compounds have potential health effects and can be found in paints.

Delivery of vehicles to customers also involves an associated environmental impact as it involves transportation on a potentially large scale, depending on where the model of vehicle is produced. Most vehicles on the European market are manufactured within the EU; there is a potential for them to have already travelled a large distance, with an associated energy cost, before they reach the consumer.

2.3.6 Vehicle Emissions

Exhaust gases are the main environmental impact in the running of vehicles (except electric and hydrogen fuel cell). Chief amongst these is carbon dioxide (CO2). CO2 is a greenhouse gas and therefore a crucial contributor to global warming and climate change. CO2 emissions are linked to fuel consumption.

The EU has seen an increase of more than 20% in transport CO2 emissions since the 1990s.EU Directive 1999/94/EC10 required that information about a car's CO2 emissions and fuel consumption be made available to customers. Contracting

authorities should aim to purchase passenger cars with low CO2 emission levels. For other vehicles, such as buses and trucks (heavy-duty vehicles [HDV])

2.3.7 Vehicle Power Technologies

These days there are a great variety of vehicle technologies and fuels on the market. Emissions and energy consumption vary with fuel technology. The most commercialized types are:-

a) Conventional combustion vehicles - these can work with petrol, diesel, biofuels and gaseous fuels either using dedicated engines or bi-fuel engines. Vehicles capable of working with 85% ethanol are known as Flexi-fuel vehicles (FFV).
b) Hybrid vehicles - where a conventional engine is used alongside an electric motor. They can either be used separately (current technology limits electric only use to slow speeds) or the electric motor can supplement the engine. Electrical energy could either be generated during the braking phase or by using the engine to generate electricity. It is then stored in batteries.

2.3.8 Local Studies

Novatus (2014) conducted a study on the effects of green (sustainable) procurement practices on organization performances in Tanzania, the study adopted descriptive research. The target population was 40 employees. Sample size considered was 37 which represented 93% of the target population. The variables studied are staff competence on green procurement concepts, role of ICT infrastructure, supplier participation in green procurement and capital expenditure on green procurement contribution to performance.

The findings revealed that Performance of manufacturing industry is a contribution of more than one factor. Green procurement attributes contributes to performance excellence. Competence of the staff members on green procurement concepts was essential contributor to the effects of green procurement to performance though it did not achieve the objectives indicated means its not clear on how the effect of green of green procurement affects organization performance also factors affecting effective implementation of green procurement were not considered at all.

Anthony(2016) conducted the study on assess the implementation of green public procurement in Tanzania a case study of Morogoro Municipal Council by looking at few factors affecting the implementation of GPP which are Staff awareness in GPP, Top Management awareness on GPP, Staff training on GPP and Policies for GPP. As a matter of fact it was revealed that the awareness of green public procurement is very low to the lower level staff not only them but also the Top Management are not aware at all in green public procurement.

However, there are no training performed to impart knowledge and skills to employees to simplify the implementation of the green public procurement, there are no any policies, legislation and regulations in place addressing GPP. In order to get remedies, the government is required to plan training programs, awareness creation campaigns, set policies to address green public procurement. This can also be done by involving international community.

Winnie (2017) conducted the study aim at analyzed factors affecting effective implementation of sustainable procurement practices in manufacturing sectors a case of Coca Cola kwanza Dar es Salaam. Specifically the study aimed at evaluating how organizational structure, organizational resource capacity, legal and regulatory framework, affects effective implementation of sustainable procurement practices in Coca-Cola kwanza in Tanzania. The study employed quantitative research approach through case strategy in gathering information by virtue of intensive investigation towards the problem. The research adopted the judgmental and convenience sampling techniques in attaining sample. A sample of thirty two respondents was selected within different departments from Coca-Cola kwanza.

The data collected were analyzed by use of descriptive and inferential statistics. The quantitative data generated was keyed in and analyzed by use of Statistical.

Package of Social Sciences (SPSS) to generate information which was being presented using tables, frequencies and percentages. Data were collected using questionnaires, direct observation, and documentary review. The study reveals that,

currently there is lack of Structural and organizational change to support implementation of green procurement, poor legal and regulatory framework. Moreover, organization and the resources required to implement green procurement are limited in manufacturing sector. The study recommended that, the organization and other stakeholders should ensure that there is structural and organizational change to support; implementation of green procurement, improvement of legal and regulatory framework on environment, reduction of cost associated with sustainable procurement and allocation of resources necessary for effective implementation of sustainable procurement

2.3.8.1 Procurement Policy

A government that is pursuing environmental sustainability through procurement should adopt a green public procurement policy or amend their existing procurement policy to incorporate green language. There are several advantages of adopting green procurement policy, including generating greater momentum for the effort and sending strong signals to government personnel and potential vendors (Thai et al,. 2007).

According to (Pereira et al,. 2007) a Top Management awareness on GPP , Public Procurement on GPP, Staff training on GPP , awareness on GPP and Government policies on GPPP legislative and /or policy framework on environmental or sustainable procurement appears to be invaluable in setting up, lending legitimacy to and ensuring follow up of sustainable Public Procurement (SPP) initiatives. Formulation of any policy requires support of Top Management team but its implementation will require the support of all stakeholders. Once the green public procurement policy is formulated it will be necessary for the policy to be visible to all, both the employees and public to ensure that they realized that the institution is making an effort to improve the environmental performance.

According to (Pereira et al., 2007) further state that it is important to communicate a green public purchasing policy to a wide range of stakeholders, including present and future suppliers, service providers or contractors, so that they can take account of the new requirements.

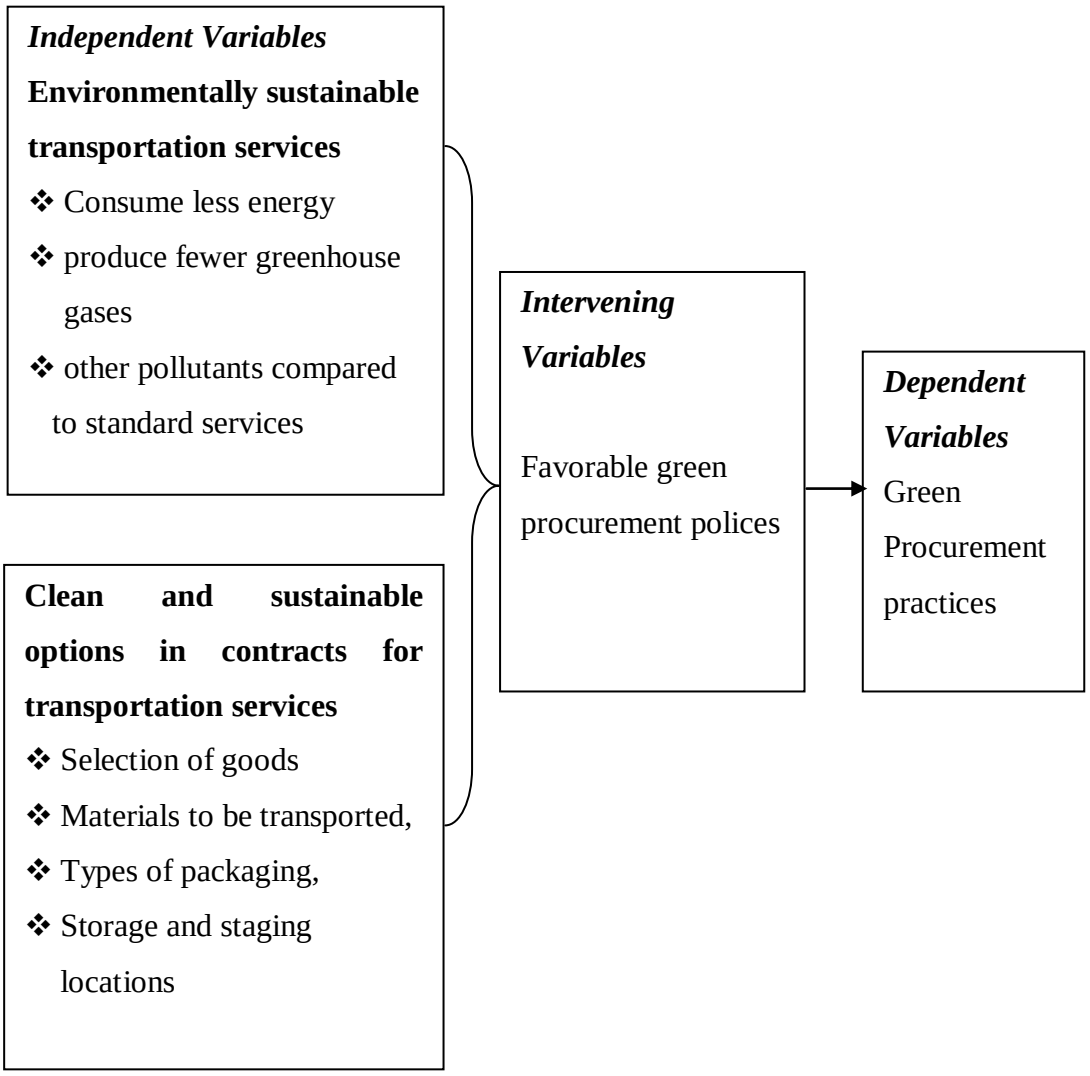
There is a need to investigate in what direction does the top management team influence their policy system into implementing the GPP entirely and for the benefit of the institutions. According to (Olson, 2008) GPP implementation should generally lead to cost effective transformation initiatives that meet or exceed top management expectations. This transformation is the key to ensuring that the management secures the competitive edge of the policy system that is implementing the GPP.

And the edge affected by having new cost structure, which is prohibitive and bigger to continue with operations of the policy system in the long run. By having this cost effective, the institution will save more and eventually have a long run in its operations and corporate strategy, achieve its objectives and goals on long – term basis. There is great need to investigate in what direction the procurement policy influences their institutions into implementing GPP. The main reason why the procurement function should be placed at the strategic level of the top management is that it can greatly aid the institution in terms of strategic decision-making through value adding increased efficiency through early supplier involvement (ESI) and through cost reductions.

2.4 Conceptual Framework

A conceptual framework is a set of broad ideas and principles taken from relevant fields of enquiry and used to structure a subsequent presentation (Biklen 2003). In conducting the study, a conceptual framework developed to show the relationship between the independent variables and dependent variable. In this study, the dependent variable is green procurement practices and the independent variables are; procurement policies, The relationships between research variables are illustrated in the following figure.

Figure 2.1: Conceptual Frame Work



Source: Researcher's Conceptual framework constructs 2017

2.5 Independent, Intervening and Dependents Variables

The conceptual frame work on figure 2.1. Aimed to show the relationship on different Independent, Intervening and dependent variables in connection with variables which affect green procurement in transport sector.

The conceptual frame work elaborated measures on how to adopt the best strategy in order to improve green procurement in transport sector Tanzania. One of the relationships which were elaborated on the above table explains that for better green procurement the favorable policies must be established in order to attain less energy to be consumed in transport sector**.**

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter discussed the conceptual structure within which the research conducted. It covers the research design, area of study, sample and data collection, data analysis techniques, and limitations of the study.

3.1 Area of the Study

The study conducted in Dar essalaam in Ilala District at Azam Marine Co. Ltd. The reasons for choosing Dar es salaam specifically in Ilala District at Azam Marine Co. Ltd was that with many other activities the Company deals with transportation of passengers between Dar essalaam, Unguja and Pemba using Vessels which require green procurement for betterment of the environment and society at large and it was easy to have information without travelling much and without wasting money and time as time and money are limited resource.

3.2 Research Design

Bryman, (2008) noted that research design entails the detail exploration of the specific case, which could be community, person or organization. Generally, research design is a framework for collecting and analyzing data. This research employed a descriptive study design which used both quantitative and qualitative techniques in data collection and analysis. Nachmias (2008) stresses that, questions like; who shall studied? What shall we observed? When will observation be made? How the data be collected?

Therefore, research design according to (Nachmias, *2008,* p.89)is the "blueprint" that enables the investigator to come up with solution to the problem and guides him or her in the various stages of the research.

This design helped the researcher to assess the green procurement in Transport sector. This design preferred because it provides the researcher with rich, detailed

and in depth information about the interactions of the significant factors of the individuals. Moreover; it allowed the use of multiple sources of data and therefore enabled the researcher to draw conclusions as suggested by Babbie, (1998).

3.3 Research Paradigms

Paradigm in research are accepted ways of looking at reality and are methods or approaches of generating knowledge that are held by a group of intellectuals who have a wide effect on the subject matter. There are two research paradigms, namely phenomenology and positivism (Churchill, 2004).

3.3.1 Phenomenology Approach

Phenomenology is a social science approach which works with an observable social reality. It is a method of inquiry centered on the basis that reality involves objects and events a they are perceived or understood in human conscious and not else (Churchill, 2004).

3.3.2 Positivism Approach

Positivism is a natural science approach that which works with an observable social reality. Positivists rely mainly on statistical and quantitative estimation to arrive at conclusion and they hold the assumption that natural phenomena follow some universal pattern (Churchill, 2004).In this study, a grouping of both approaches used by the researcher through observing the community reality as well as quantitative analysis.

3.4 Population

The term “population” refers to the total number of items from which information is desired (Kothari, 2010). Targeted population was employees concerned in procurement department include Procurement management unit, member of tender board, finance and user department. From these departments a total of 80 staffs considered as a targeted population.

3.5 Sample and Sample size

Sampling is the process of obtaining data about the entire population by examining only part of it (Kothari,2010).

3.5.1 Sample

Kothari (2010) defines sample "as the number of items to be selected from the universe to constitute a sample" a sample should fulfill the requirements of efficiency, representativeness and reliability therefore; the researcher obtained the sample size based on the targeted population of an organization under study.

3.5.2 Sample Size

The researcher selected a sample of 40 employees from a target population that consisted of a total of 80 employees. The sample size selected helped the researcher to get required information to satisfy research questions**.**

Population of the study was the management of the Azam Marine transport and procurement officers. The researcher used employees from the procurement department who mounted 40 of them and Azam Marine transport Company. In this case the researcher divided the population according to the number of the population as included in the sample.

3.5.3 Sampling Procedures

The sampling technique refers to the process of selecting a number of individuals or objects from a population such that the selected group contains elements representative of the characteristics found in the entire group (Kombo and Tromp, 2011). There are two types of sampling techniques which are;

3.5.4 Probability Sampling;

This is the type of sampling technique in which every unit in a population have equal chances of being selected to form a sample size. Probability sampling methods includes simple random and cluster sampling techniques.

3.5.5 Non-Probability Sampling;

This is the type of sampling technique in which not every unit in a population have equal chances of being selected to form a sample size. Non-probability sampling methods includes judgmental and convenience sampling technique. In this study the researcher will use non-probability sampling methods known as judgmental sampling technique since the selected candidates will help providing relevant information concerning the study.

3.5.6 Reliability and Validity of Data

The techniques of data collection that were used most effectively are those that gave out the relevant and correct information that satisfied the research questions. Sound measurement must meet the test of validity and reliability (Kothari, 2010)

3.5.7 Data Reliability

According to Mugenda and Mugenda (2003) reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trials. This means that, apart from delivering accurate results, the measuring instrument must deliver similar results consistently. The researcher conducted pilot study to test questionnaire reliability before undertaking the study.

3.5.8 DataValidity

According to (Mugenda and Mugenda, 2003) validity is the accuracy and meaningfulness of inferences, which is based on the research results. It is a degree to which results obtained from the analysis of the data actually represents the phenomenon under study. The researcher ensured validity by offering freedom from bias that is attained by providing questionnaires giving each respondent an equal chance to score well.

3.5.9 Data Management

This will involve systematically organizing mass of raw data to be collected in a manner that will facilitate analysis of data the researcher will carry data cleaning before data analysis to ensure that the data is accurate. Each questionnaire will be inspected to ensure that the data obtained are accurate.

Table 3.1: Shows the Population and Sample Size for each Department.

S/N	DEPARTMENT	POPULATION	SAMPLE SIZE
1.	Procurement	12	8
2.	Finance	11	7
3.	Tender board	15	9
4.	Operation	42	15
	TOTAL	**80**	**40**

Researcher, 2017

3.6 Types of Data

There are two types of data which are Secondary data and Primary data.

3.6.1 Secondary Data

These are source containing data which were collected and compiled for another purpose. Secondary sources were collected through office documents, records of the company report. The researcher applied secondary data due to the facts that secondary sources have some advantages. First secondary data were secured quickly and cheaply. Once their sources, documents and reports were allocated, collection of data is just a matter of desk work. Second wider geographical area and longer reference period may be covered without much cost. Thus, the use of secondary data extended the researcher's space and time reach. Third the use of secondary data broadened the data base from which scientific generalization can be made also the use of secondary data enabled the researcher to verify the findings based on primary data.

3.6.2 Primary Data

Primary data directly collected by the researcher from their original sources. There are various tools of primary data collection but the researcher used three tools questionnaires, interviews guide and observation in collection of primary data.

3.7 Data Collection Techniques

The data collection obtained through observations, questionnaires and interviews

3.7.1 Questionnaires

Questionnaires are document in which a list of questions appears for a formal social survey enquiry. According to Kothari (2004) questionnaire is a method which uses a set of questions for collecting data this questions from the basis of the questionnaire. Questionnaires were written in both English and Kiswahili language to give equal opportunity to respondents who are conversant to either Swahili or English language and liked to respond according to their choice of language.

3.7.2 Interview

This is a data collection method that involves the presentation of verbal or oral which is in turn replied orally/verbally (Kothari, 2004). It is a communication method in which the interviewee gives the needed information verbally during a face to face interaction. This method preferred because the researcher aimed to obtain additional information to supplement the information obtained through other methods.

3.7.3 Observation

Observation is a method of data collection in which researchers observe within a specific research field. It is sometimes referred to as an unobtrusive method (Bryman 1998).This method is used to provide contextual information required to frame the evaluation and make sence of data collected using other methods and it is also used to provide the insight into the environment, events, activities and interaction.

3.8 Data Analysis

Data analysis refers to the computation of certain measures along with searching for patterns of relationship that exist among data group (Kothari, 2004). Data analyzed to provide statistical results. Data collected and analyzed by using descriptive statistics and narrative style using tables and figures. Both qualitative and quantitative methods were employed. Moreover, data from documentary reviewed, interviews questions in the questionnaires were subjected to content analysis. These methods helped the researcher to analyze the variable systematically and objectively (multivariate analysis). Therefore the researcher

was able to determine the frequency of various opinions, reasons and facts given by different respondents during the interviews and to the open-ended questions. SPSS was used to analyze closed questions in the questionnaires.

3.8.1 Limitations of the Study

Every study, to which the current one is not exempted, is prone to some limitations. The following limitations encountered in the course of the study:

i) Some key informants were not found in the office during data collection due to official commitment outside the office. This delayed and affect the research schedule of the researcher.

ii) Little cooperation from some respondents were another limitation for this study. Some questionnaires may be collected without being filled, as other respondents can be not ready to fill them.

3.8.2 Delimitations of the Study

Delimitations are those characteristics that limit the scope and define boundaries of your study. You must explain how you intend to deal with the limitations you are aware of so as not to effect the outcome of the study. (www.dissertationrecipes.com) To reduce the effect of this problem the researcher selected alternative respondents by enlarging a sample size in Dar es Salaam which provided some useful information for the study.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

4.0 Introduction

This study aimed on doing assessment on green procurement in transport sector in Dar essalaam specifically at Azam Marine Co Ltd. This chapter present the data gathered from the field of study. The sample constituted a total of forty(40) respondents from five(5) departments in Azam Marine Co Ltd. Eight(8) respondents were in procurement department, Seven(7) were in Finance department, Nine(9) from tender board and fifteen(15) of them were from operation department.

The data are presented in three sections. Section one presents demographic characteristics showing the distribution of respondents according to gender, education level and working experience. Section two presents summary of results organized according to the research objectives propelling the study. Section three presents the discussion of results organized according to the research objectives.

4.1 Demographic Characteristics

Table 4.1: Characteristics of Respondents by Sex (N=40)

Sex	**Frequency**	**Percentage**
Male	25	62.5
Female	15	37.5
Total	**40**	**100**

Source: Field data, 2017

The table 4.1.1 explains about the sex characteristics of respondents. It is evident from the table above that a good number of respondents were males 25 (62.5%).The female respondents were 15 (37.5%).

4.2 Summary of Results by Research Objectives

The first objective of this study was to conduct assessment on green procurement in transport sector in Tanzania. This was done using different data collection techniques

such as questionnaire, observation and Interview. The e results were organized using statistical tables for the combination of the techniques used and the analysis of the data were done and clearly illustrated for each for every table.

The assessment on green procurement in transport sector in Tanzania focus to identify factors which hinder the implementation of green procurement in transport sector and come up with the measures to improve green procurement in transport sector in Tanzania for the betterment of the future life of living organism.

Table 4.2: The Factors Influence Green Procurement in Transport Sector

Factors influence green procurement in transport sector	**Respondents**	
	Frequency	**Percentage**
Less fund invested	11	27.5
Poor knowledge and Skills	20	50
Lack of Policies	4	10
Poor Management	5	12.5

Source: Field data, 2017

The table 4.2.1 above shows the frequencies and percentages of respondents regarding the factors influence green procurement in transport sector. The table shows that 50% of respondents interviewed said that poor knowledge and skills on green procurement is the main factor which hinder implementation of green procurement in transport sector.27.5% of respondents said that the low fund invested in green procurement influence less implementation of green procurement.12.5% of respondents said that poor management is one of the cause which hinder green procurement in transport sector and only 10% said that it is the lack of policies which cause the failure of implementation on green procurement. The government and private sectors are the main stakeholders in the establishment of policies to adopt green procurement in either transport sectors or any other sector. They should cooperate to establish strong policies which guided the decision makers and planners. The policies which control the environmental pollution through the noises and smoke

and other un re-cycled products caused by procured used vehicles and vessels were taken into consideration to improve the green procurement in transport sector.

Now it is very clear that majority of respondents agreed that the poor knowledge and skills on green procurement concept to the majority of people which causes the implementation of green procurement in transport sector to flop and only few (10%) said that it is a lack of policies which hinder the implementation of green procurement in transport sector.

The second objective was to examine what to be done to increase the knowledge and skills on green procurement in transport sector. Five strategies such as quality goods and product, improving knowledge and skills, to invest fund, establish policies and administrative support.

Together with other strategies most of the respondents interviewed suggested that in order to increase the knowledge and skills to the people other factors such as fund investment and policy establishment should be taken into consideration. As many respondents suggested that green procurement is a new phenomenon much effort are to be done to bring awareness to the community on the ways to improve on green procurement.

Table 4.3: To Increase the Knowledge and Skills on Green Procurement

Strategies	Respondents	
	Frequency	**Percentage**
Quality goods and product	6	8
Improving Knowledge and Skills	35	46.7
To Invest Fund	25	33.3
Establish Policies	4	5.3
Administrative support	5	46.7

Source: Field data, 2017

*This data is from multiple responses.

It is observed from table 4.3.1 above that 46.7% of the respondents suggested that improving knowledge and skills of people on green procurement contributed much on improving the implementation of green procurement in Transport sector in the country also 33.3% of the respondents argued that fund must be invested to improve green procurement especially on transport sector while the remaining respondents suggested that to increase the efficiency on green procurement quality good and products should be purchased(8%),there should be administrative support (6.7%) and policies concerning green procurement must be established (5.3%) .

The third objective of the present study was to investigate to what extent does transport sector care about green procurement.

Table 4.4: Relationship between Transport Sector and Green Procurement

Does transport sector care about green procurement?	**Frequency**	**Percentage**
NO	30	75
YES	10	25
TOTAL	**40**	**100**

Source: Field data , 2017

Table 4.4.1 shows that majority of respondents (75%) suggested that there is close relationship between green procurement and transport sector and others (25%) respondents argued that there is no direct relationship between green procurement and transport sector. If transport sector care much on green procurement there will be much improvement on the green environment far from smoke and noise caused by second hand purchased vehicles and vessels.

4.3 Discussion of the Results

The present study assessed the green procurement in transport sector in Tanzania, a case of Azam Marine Co Ltd. The following are the discussions of the findings obtained from the field and they are based on three research objectives.

4.3.1 Factors Influence Green Procurement in Transport Sector

In examining the factors which influence the implementation of green procurement in transport sector 20 (50%) said that poor knowledge and skills are the most causes of failure to implement green procurement in transport sector in the country because majority of people in the country green procurement is a new phenomenon to them. As reflected in the following explanation given by one of the respondents in an interview with the researcher.

"Mimi sijui chochote kuhusu hiyo green procurement, mimi naangalia ajira yangu tu mambo mengine ni majukumu ya mwajiri wangu" (Dar es salaam, 20/10/2017)

"I don't know anything about green procurement, I care only my job , the other issues are for my employer " (Researcher's translation).

Most of the respondents (27.5%) said that less fund invested in green procurement especially in transport sector causes the purchase of transport facilities to be of low quality which contribute much waste to the surrounding and hence pollute the environment. They said that Poor management (12.5%) also play a very big role in advising the decision makers during procurement process, failure for them to advice lead to the purchase of low quality product and hence pollute the environment. The respondents (10%) said that policies are set by administrators but to supervise its implementation is a tough job need more strong leaders and managers. As reflected by one of the respondent in one of the ferries between Dar essalaam and Zanzibar in an interview with the researcher:

"Green procurement inahitaji fedha, wafanya biashara wengi wa vyombo vya usafiri wanaangalia faida na hawawekezi katika green procurement. (Dar es salaam,23 Ocober,2017). *"Green procurement require fund, many transport businessman cares profit only, they don't invest on green procurement (Researcher's translation).*

One might wonder why to be "green" at all, The hint to the explanation was given by the respondents when interviewed by the researcher when one of the question in the questionnaire asked about the sense of procurement to be "green ", many respondents answered that as per their understanding this is a new phenomenon in the country but for the advantages it shows it must be practiced for better future of the environment.

“it is a new fashion tendency “as one of the respondents suggested. This essentially indicates that “green procurement in transport sector“ in Tanzania is still prevalently based not so much on sincere environmental awareness and consciousness .

On the other hand, the highest rank among the motives of becoming “green” in transport sector got the intention to satisfy environmentally-oriented customer’s needs .What could be taken as an indication of the dawning realization that being “green” opens new revenue-raising opportunities. The cultural and business mentality differences are further demonstrated by the responses of the Azam Marine Co Ltd.

On the other hand, several similarities in the attitudes were observed as well. For instance, while no statistically significant relation between the annual turnover of a company and the statements was found either in the Third word countries or in Tanzania specific case, it was noted that in those countries the tendency to regard “green procurement” as just a new fashion is the strongest among the small-scale companies and the weakest among the large ones.

4.3.2 To Increase Knowledge and Skills on Green Procurement

In order to facilitate the availability of knowledge and skills on green procurement in transport sector (46.7%) of respondents suggested that more knowledge and skills must be given starting from primary school level to University level so as to increase the awareness of green procurement. The government and private sectors have to play their role by educating people and give them seminars and workshops so as to be aware and take the necessary measures towards the better performance in green procurement in transport sector.

The results in the table 4.5.1 revealed that 33.3% of respondents suggested that more fund must be invested to improve the green procurement projects. The purchase of vehicles and vessels which are in good condition facilitate the green procurement. The government and private sectors managements must invest in green procurement by procurering the quality good and products which can be re-cycled and produce none or less waste to the environment for better life of living organism.

In regard to the above suggestions on of the respondent said in an interview with the researcher that:

"Mara nyingi magari yanayonunuliwa na makampuni ni second hand, yakitumika kwa muda mfupi yanatoamoshi mwingi na kuchafua mazingira (Dar es salaam 24/10/2017)*"Most of the time the vehicles procured by the companies are used (Second hand), shortly after they are used in the country they produce a lot of smoke which pollute the environment" (Researcher's translation).*

These findings concur with the study done by Maroon (2003), The study revealed that various strategies can be used to improve green procurement in transport sector such as purchase of quality goods and establishment of green procurement policies. The study revealed that green procurement will be a dream if no quick measures on procuring quality goods are taken to redress the situation.

4.3.3 Relationship between Transport Sector and Green Procurement.

Data gathered to answer this question are tabulated in the table 4.4.1 which shows the relationship between transport sector and green procurement. The findings revealed that 75% of the respondents said that the transport sector does not care the green procurement while only 25% said that it cares the green procurement. The findings establish that more effort must be done to the transport sector to care green procurement. The findings revealed that transport sector to care green procurement is a crucial way to build strong and good environment for the betterment of living things careering the green procurement, as one of the respondent said in an interview with the researcher.

He said that" Manufaa ya green procurement ni makubwa kwa viumbe hai, ni wajibu wetu kuyatunza mazingira yetu" (Dar es salaam 22/11/2017) *"The importance of green procurement is great to living organism, it is compulsory to us to protect our environment. (Researcher's translation).*

These findings concur with that of Martin sons (2010) who noted on the importance of green procurement for the betterment of natural resources. It was found that eliminating the cost of pollutions /or hazardous material management, positive

public relations, improved employee health, reduced solid waste, conservation of water and protection of natural resources are the key to green procurement as it was also revealed by the researcher that Bad practices of green procurement causes harm to living organism (as 75% of respondents said yes to this question during the interview with the researcher).

CHAPTER FIVE

CONCLUTION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents summary of the results, conclusions and recommendations made for both administrative action and for further studies. The study assesses the green procurement in transport sector in Tanzania a case of Azam Marine Co Ltd.

5.1 Summary of the Results

The purpose of this study was to assess the green procurement in transport sector in Tanzania. The major findings of this study were guided by three specific research objectives which were to assess on the green procurement in transport sector, to examine what to be done to increase the knowledge of green procurement in transport sector and to investigate to what extent does transport sector care about green procurement.

The findings from the study showed that poor knowledge and skills are the most causes of failure to implement green procurement in transport sector in the country, more fund must be invested to improve the green procurement in transport sector as transport sector does not care the green procurement thus measures should be taken for it to care green procurement.

The findings revealed that majority of people are not aware about green procurement for them this is a new phenomenon. This is due to lack of knowledge and skills on green procurement. Very few respondents argue that it is due to the unavailability of green procurement policies and lack of administrative support.

More ever, the study revealed that there are many strategies that should be adopted by the government to implement the green procurement in transport sector such as giving education to the people and invest fund on green procurement projects.

Furthermore the results showed that knowledge and skills to the people is a key toward better green procurement. If knowledge and skills are given to the people and

fund injected on green procurement projects it will be easier to implement green procurement in transport sector. Also some respondents suggested that not only knowledge and skills but also establishment of policies and administrative support are required for the implementation of green procurement in transport sector.

Now it is very clear that much effort in funding the green procurement projects and giving people knowledge and skills will accelerate the green procurement in Transport sector.

In Tanzania Public procurement Act of 2011 instructs public procurement entities to avoid wherever possible the procurement of chemicals, pesticides, or any other products that seems to have adverse impacts on human health, Environment, domestic animals, wild life and flora emphasize on the need of Government Institutions to adopt green procurement philosophy on 0their efforts towards minimization of Environmental Impacts (Regulations, 2013 sec 241)

Usually the green purchasing covers the product in all aspect of procurement including suppliers, computer equipment's, vehicle parts, construction and lighting. Therefore it is essential for the procurement staffs in both sectors to ensure that the environmentally preferable choice is made where it is cost effective and will not interfere with the mission of an organization Lim, et al (2006)

In light of thee identified weaknesses particularly in Tanzania green procurement practices has been adversely affected hence hinders effective implementation of green procurement practices..

5.2 Conclusion

Sustainable procurement is about the process of purchasing goods and services that takes into account the social, economic and environmental impact that such purchasing has on people and communities. It is about considering what the products are made of, where they have come from, who has made them, how they are transported and how they are eventually disposed of. Sustainable procurement means

taking into account economical, environmental and social impacts in buying choices. This includes optimizing price, quality, availability, but also environmental life-cycle impact and social impacts linked to product/service's origin (Lozano, 2013).

The origin of the concept and practice of green procurement is traced very early but recently in 1992 when United Nations member countries met in Rio De Janeiro, Brazil to discuss Environmental impacts caused by economic activities. The presented 21 Agenda of the conference identified for the first time environmentally preferable purchasing (EEP) to be an effective means of minimizing the Environmental impacts caused by products and services purchased (Linda, 2007).

Transport is the sector that in many ways exerts an impact on the environment – through production and operation of vehicles, construction and maintenance of infrastructure, and the transport component integrated in the delivery of goods, provision of services and performance of works.

Although there are now various instruments available for pursuing the procurement that will affect the environment less, there are still many complex obstacles in the way.

The first one is that in preparation stage seldom there occurs any analysis of various possible alternatives in transport projects, particularly with regard to their integral impact on the environment. Besides pollution and greenhouse gas production, particular attention should be paid to materials consumption, land use, and the consumption of water and energy.

The application of available LCC calculation models still requires multi skilled professionals of multidisciplinary background. Also, not always very clear and unambiguous wording of procurement legislation requires much skills to apply just procedure for achieving the desired environmental and sustainability goals.

Sustainability aspects should support public-public partnerships and," buy local" programs, and certainly less the public-private partnerships involving design, build,

operate and maintain contracts. The costs of environmental protection and environmentally-friendly operations will hardly be borne by private sector.

Based on the findings and discussion of the study, the researcher comes up with the following conclusions. Poor knowledge and skills are the most causes of failure to implement green procurement in transport sector in Tanzania, people should be educated on green procurement and more funds must be invested as the measures to improve the green procurement in transport sector in Tanzania.

Worldwide governments are assigned to address the application and implementation of green public procurement as a factor to reduce the effect of procurement that do not consider environment and health. Variables surveyed in this study , Awareness, Policies, Training and Top management awareness in the green public procurement are few among other factors.

Awareness as a factor influencing green public procurement is very important because employees and Top management can't practice what they don't know and having no training on it is the deficiency to the Procurement Entity.

Procurement policy and legislation of any government or Procuring Entity play a vital role in implementing Green Public Procurement positively.

The result of the study indicate that most of the employees have low awareness on GPP and are not trained on the tool, Even top management who are the accounting officers who makes decisions and directives have no idea on the tool. Therefore, procurement act, regulations and policies needs to address the issues of green public procurement. Regulatory authorities, Professional Boards, need to prepare advocacy for awareness creation and training schedules.

In order to catalyze the application of GPP policy makers are required to set the appropriate GPP policies and legislation that can be used to institute the implementation by all procurement entities as well as private sector.

5.3 Recommendation for Administrative Action

The findings from this study can be used by the procurement decision makers such as tender boards and procurement officers together with planners, and will help the government and the private sectors in the decision making process on what to procure for green procurement.

The government and private sector should provide education on green procurement in transport sector through seminars, workshops, books, newspapers, internet and other media.

5.4 Recommendation for Further Studies

Since this study was done in private entity it is recommended that comprehensive study should be conducted so as to reveal measures to be taken in the implementation of green procurement in Tanzania .It was observed that fund is required to improve green procurement therefore it is also recommended that a study should be conducted to investigate how fund can be used to improve green procurement in transport sector in Tanzania.

Due to the growing of frequency and urgency need, most of institutions being public or private are realizing the need to meet the strict standards of Environmental stewardship and development. Also government demand to these organizations and institutions to adopt environmentally friendly purchasing is also increasing from day to day (Linda 2007 pg.8).

In both private and public sectors, there is increasing pressure from customers, clients, government and the public to put sustainable procurement into practice. The 2002 World Summit on Sustainable Development stated that relevant authorities at all levels should: "promote public procurement policies that encourage development and diffusion of environmentally sound goods and services". In response to this, Business Operators and Professionals have been very fast to institute policies and strategies embedding sustainable development concerns; *for example* the UK Strategy for Sustainable Consumption and Production (Telewa, 2014).

More research are to be done in the area of green procurement hence to continue identifying on how private and public sectors may contribute to increase awareness and to facilitate the measures to assure the green environment in the country and encourage the green procurement practice by transport sector in Tanzania.

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APENDICES

ANNEX I

INTERVIEW GUIDE FOR HEADS OF DEPARTMENTS

COMPANY……DEPARTMENT…….……

This interview is to gather information on the assessment on green procurement in transport sector in Tanzania, a case of Azam Marine Co.Ltd. The information collected will be kept confidential. Your response will be helpful and highly appreciated by the researcher.

Please answer the following questions in the answer sheet(s)

1. For how long have you been in the office?

……

……..

2. What are your duties and responsibilities?

……

……..

3. As per your understanding what do you know about green procurement?

……

……..

4. Is there any policy practiced by your company which favors green procurement? If yes what is it?

……

……..

5. Do you support green procurement while purchasing in your department? If yes How?

……

……..

6. Are you satisfied by the way your company practices green procurement?

……

……..

7. What should be done by your company to improve green procurement?

……

……..

THANK YOU FOR YOUR COOPERATION

ANNEX II

QUESTIONNAIRE FOR EMPLOYEES OF AZAM MARIME COMPANY……DEPARTMENT……..

This questionnaire is designed to gather information on the assessment on green procurement in transport sector, a case of Azam Marine Co Ltd. The information collected will be kept confidential. Your response is highly appreciated by the researcher.

Please choose the most correct answer.

1. Are you male or Female?
   a. Male ( )
   b) Female ( )
2. Which Department are you working?
   a) Procurement ( )
   b) Finance ( )
   c) Tender board ( )
   d) Operation ( )

3 How many years of experience do you have in this company?
   (a) 1 - 5 ( )
   (b) 5 - 10 ( )
   (c) above 10 ( )

4. What is your level of education?
   a) Certificate ( )
   b) Diploma ( )
   c) Advance Diploma ( )
   d) Degree ( )
   e) Postgraduate ( )
   f) Masters ( )
   g) PhD ( )

5. In order to improve green procurement what should be done?
   (a) More funds should be invested ( )
   (b) More knowledge should be given to the people ( )

6. Is your company practices green procurement?

a) Yes ( )

b) No ( )

c) I don't know ( )

7. Is it necessary for transport sector to practice green procurement?

(a) Yes ( )

(b) No ( )

(c) I don't know ( )

8. Bad practices of green procurement causes harm to living organism

a) Yes ( )

b) No ( )

c) I don't know ( )

9. It is very expensive to practice green procurement

a) Yes ( )

b) No ( )

c) I don't know ( )

10. Many African countries practices green procurement in transport sector

a) Yes ( )

b) No ( )

c) I don't know ( )

11. Where did you get your knowledge about green procurement?

a) In School ( )

b) Through media ( )

c) Nowhere ( )

THANK YOU FOR YOUR COOPERATION