

Master's Thesis

Driving an Effective Competition in the Procurement Process for Pharma Infrastructure Projects in Developing Regions in Africa

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Abstract

As a part of the tendering of construction projects, the award of the contract plays an important role for clients, especially for public organisations and institutions, whose main goal at this stage is to select a qualified contractor that secures value for money in the projects they deliver to society. The agency United Nations Development Programme, whose one of its commitments is to deliver pharmaceutical and health products to patients in poor countries, has recently incorporated the procurement of pharma infrastructure projects as a key activity to actively support the supply chain. Often, such support comprises the refurbishment of existing infrastructure, its expansion, and construction of new infrastructure. The award of all relative contracts is intended to follow competitive procurement processes conducted in accordance to internal financial regulations and rules. According to these rules, the value for money proposition attained through the corresponding tenders shall rely on the actual level of effective competition secured. Therefore, restricted competition– e.g. a smaller than optimal number of qualified bidders being attracted to the tender– as an outcome of tender processes issued by this organisation is likely to bring about a rise of the execution price of the project in developing countries, such as many Sub-Saharan regions. This report will determine the causes that are prone to encourage a non-effective competition in the tender process conducted by UNDP and identify the opportunities that should enable more bidders to submit an offer for the construction and design of pharma buildings and infrastructure in those developing regions. In order to so, the procurement procedure used by the organisation and the construction markets of the relevant developing countries will be studied. In the end of the project, an array of measures will be drawn as an attempt to enhance the tender conducted by UNDP while holding the prevailing quality standard.

Preface

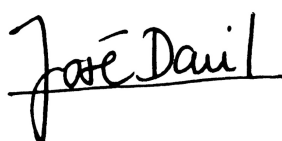
This project has been written in the fourth and last semester of the master's program: *Management in the Building Industry* at Aalborg University, Denmark. It has been made on the basis of the competition challenges that United Nations Development Programme (UNDP) is facing during the tendering process conducted by this public organisation for the design and construction of pharma infrastructure in developing countries in Africa, particularly in Sub-Saharan regions.

In the writing of the project the student is expected to develop knowledge, demonstrate skills and acquire competences as per the description of the 4th semester in the curriculum for the master's program in Management in the Building Industry. These are, among others:

- *Knowledge and ability to understand a specialized subject at the highest international level.* The international nature of the construction projects tendered by a public organisation such as UNDP shall provide the student with an extraordinary perspective on tendering procedures for construction and infrastructure projects at a global scale.
- *Ability to independently explain the choice of scientific and/ or experimental methods.*
- *Independent and critical assessment of the chosen methods as well as conclusions.* The selection of the different methods shall be reasonably justified and conclusions shall be drawn at the end of each individual study.
- *Ability to problem formulate, implement, document, reflect on and communicate results of a project that deals with a complex work and development situation.* A problem shall be formulated, and the study across the project shall identify the causes of such problem and the potential opportunities to defeat it.
- *Ability to evaluate, select and translate academic knowledge, skills and scientific tools on a scientific basis to develop relevant new analytical approaches and justify its choice.*
- *Select and incorporate relevant literature, experiments or relevant data in order to maintain the scientific basis.* Reliable and valuable literature shall be used in the project as a reference of the ideas and conclusions exposed.

I would like to express my gratitude to my supervisor Ph.D. Kristian Ditlev Bohnstedt, for inspiring guidance and constructive feedback. He has been of great help to advise on the research guidelines to write my final master's thesis. Also a big thank is addressed to Alfonso Buxens, Procurement and Supply Management Advisor at UNDP, for his cooperation and help to provide me with necessary data from UNDP as well as constructive feedback.

The author



José David Pérez Del Río

Reading Guide

Through the report there are references to sources, which are gathered in the references section at the end of the project. The Harvard Method has been used for the references. Thus, in the text there appear references to sources which are set out by following the scheme [Last Name/Organisation, Year], and if relevant, the reference may also contain a specific page number or a specific table/figure. The literature used is listed in the references section in accordance to the structure: author, title and date.

The project also contains figures and tables, which follow an order for the entire report, that means, from Figure 1/Table 1 onwards.

With the intention of making the report clearer and easier to read, the following listed acronyms have been utilised:

CCA	Common Country Assessment
CO	Country Office
CPAP	Country Programme Action Plan
CPD	Country Programme Document
DAC	Development Assistance Committee
EU	European Union
GDP	Gross Domestic Product
ITB	Invitation to Bid
MCP	Management in the Construction Process
NEP	New and Emerging Partners
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
OJEU	Official Journal of the European Union
POPP	Programme and Operations Policies and Procedures
POU	Procurement Oversight Unit
PSM	Procurement and Supply Management
RFP	Request for Proposal
RFQ	Request for Quotation
TQM	Total Quality Management
UN	The United Nations
UNDP	The United Nations Development Programme
USD	United States Dollar

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Chapter I Introduction

[This first chapter of the project will describe the United Nations Development Programme as a public international agency of United Nations. This description will address, among others aspects, an overview of the most notable infrastructure projects in which the organization is involved and an analysis of the major stakeholders of its procurement activity. After that, a study on the factors that will allow to formulate the problem in the project will follow, beside the problem formulation itself and a set of research questions that will support the research. In the end of the chapter, the objectives of the project will be presented]

1 General Background

The current world is still divided into 'developed' and 'developing' regions or even entire countries. The poorer regions over the globe constitute around two-thirds of the world's population and most of them are located in the Southern hemisphere, that is, Sub-Saharan Africa, Southern America and Asia (Ofori, 1980).

During the last decades, developed countries have become more concerned with the issue of development of poor countries, also getting aware that their own capital could improve the unindustrialized situation of peoples in other lands, and therefore, improving their life conditions. Indeed, in the second half of the last century, the richer countries provided economic and technical aid to the developing countries in an extraordinary scale. Since the infrastructure industry was recognized as one of the most important engines for economic growth, the developing world has received hundreds of billion USD from the international donor community of which about 12-14 percent has been spent on infrastructure development. These assistance efforts have been especially concentrated on the developing regions in Africa (Estache & Iimi, 2008).

Generally, in developing countries, where the per capita income is below USD 1,025 (World Bank Group, 2015), the construction is roughly 4.6 per cent of the GDP on average, and employs 3.9 per cent of the economically active population (Ofori, 1980). However, these regions face diverse problems confronting the construction industry, which lacks adequate resources and institutions to address them. Various countries, though, have made deliberate attempts to improve their construction industry and have acknowledged the need and importance of implementing measures to enhance the performance in their construction industry so as to attain the aspirations of its development goals.

Among other measures, the improvement of the procurement system might turn into a target action. The procurement system is a process between clients, consultants, and contractors who are concerned about their type of contract, obligations, rights, and liabilities. In this system, the client is the organisation or individual who commissions the activities necessary to execute and complete a project in order to satisfy its needs and then to enter into a contract with the mentioned parties (Jaafar & Mohd Radzi, 2012). The client sector can be public or private in the construction industry. Normally, public projects stem from local

community needs, with the main intention of providing infrastructure. Besides, these projects are funded by public money that must be spent properly and wisely, following a set of regulations. For this reason, clients are obliged to choose a procurement system that awards the project on the basis of the most responsive and eligible bidder at the lowest cost.

Competition in the tendering becomes, therefore, of great importance to find the most qualified bidder whose offer means the lowest possible project estimated costs. In the case of developing countries, encouraging competition could particularly save many public resources and aid money, since collusion and corruption could be prevented and the development of the local business could be promoted. Indeed, by increasing competition, the developing world might be able to save at most 8.2 percent of total infrastructure development costs (Estache & Iimi, 2008). Even though a public procurement system that encourages competition and prevent collusive and corruptive practices has been chased for more than two decades in developing countries, there is still room for improvement. Public resources, including foreign aid, could be used more properly, particularly where the public procurement systems are fragile.

2 Description of the Organisation

As best known worldwide, The United Nations (UN) is an international organisation established in 1945 by 193 sovereign states, whose main goal comprises the maintenance of peace and security all over the world, the development of friendly relations among nations as well as the promotion of social progress, better standard of life and human rights (UNDP JPO, 2015). The action plan of the specialised agencies, funds and programmes within UN is especially designed for marginal and developing regions where the political system and government hinder a fair economic and social development for all their citizens.

“The United Nations Development Programme (UNDP) is the UN’s global development network” (UNDP JPO, 2015). As its name indicates, UNDP is categorized as a programme of the UN organisation that advocates for change and connects countries in order to spread knowledge, experience and resources, and thus help people build a better life (UNDP, 2017). UNDP is also deemed a trusted development partner all over the world, since it shares the same principles and values of the UN. They consist of respect for each country’s control over its own future and setting links among countries to work on shared goals and challenges (UNDP f, 2017). However, UNDP only runs its programme portfolio in countries with a per capita income of under USD 4,700 (UNDP JPO, 2015).

This programme came to life through the merge of United Nations Expanded Programme of Technical Assistance, founded in 1949, and the United Nations Special Fund, created in 1958. In early 1966, UNDP was established by the General Assembly of the United Nations (UNDP, 2017).

UNDP’s headquarters are located in New York, but it has representation offices in an array of different worldwide cities, such as Geneva, Copenhagen and Tokyo, among others. Also Regional Hubs of UNDP can be found, for instance, in Istanbul, Amman and Bangkok (UNDP JPO, 2015).

2.1 Fundamental Purpose

The mission of UNDP is “to empower lives and build resilient nations”. The progress of sustainable human development presents itself as the main goal for UNDP in collaboration with its partner countries to eradicate extreme poverty and reduce inequalities and exclusion. UNDP also strives for achieving “real improvement in people’s lives and in the choices and opportunities open to them” (UNDP JPO, 2015).

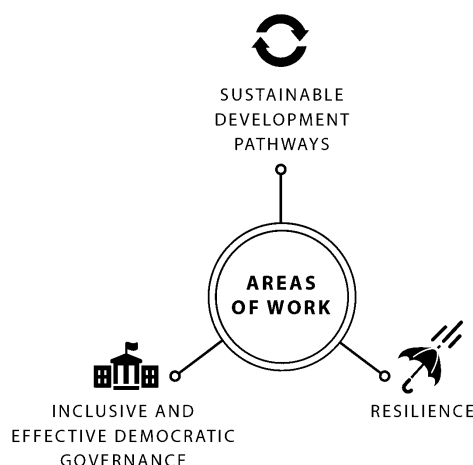


Figure 1 Main areas of development work in UNDP (UNDP, 2013).

The three main areas of work shown in Figure 1 account for the focus of UNDP’s efforts to assist countries and develop appropriate solutions:

- **Sustainable development.** By focusing on sustainability, UNDP intends to reduce poverty and boost a transformational change, aimed to improve people’s lives. The integrated approach promoted by UNDP in this area enables to enhance knowledge, skills and production technologies and thus reduce risks and preserve development gains. Indeed, the interesting point in this area is to integrate environmental considerations into development plans and strategies, including a sustainable management when using natural resources or promoting economic recovery and livelihoods, among other activities. For instance, UNDP recently supported the installation of advanced solar power systems in isolated desert towns (UNDP b, 2017).
- **Democratic governance and peacebuilding.** In this area, the UNDP’s main goal is “to bring effective and equitable delivery of service to citizens”, especially to poor and indigenous communities. Also the reinforcement of the law and citizen security are intended to be developed by designing an appropriate policy, legal and regulatory frameworks and strengthening of local institutions. For instance, by driving credible elections or fostering peace, risk-reduction, and institutional reconciliation and empowerment (UNDP c, 2017).
- **Climate and disaster resilience.** Due to the climate change, developing countries are exposed to disaster risk and more likely to be affected by an array of natural hazards, such as earthquakes and severe flooding (UNDP d, 2017). Therefore, building resilience becomes a paramount component of sustainable development to prevent disasters on lives, livelihoods and infrastructure. In this area, UNDP intends to assist local action to adapt to and mitigate climate

change, support energy solutions, and build resilience to disasters while ensuring risk management and sustainability (UNDP e, 2017).

2.2 Vision

The current UNDP's vision sets out "help countries achieve the simultaneous eradication of poverty and significant reduction of inequalities and exclusion" (UNDP, 2013). In order to bring such statement to reality, the prevailing Strategic Plan 2014-2017 of UNDP traces seven desired outcomes:

- Both growth and development must be inclusive and sustainable, incorporating productive capacities that create employment and livelihoods for the vulnerable.
- Stronger systems of democratic governance shall live up to citizen expectations for voice, development, the rule of law and accountability.
- Universal access to basic services can be provided by reinforced institutions.
- The reduction of gender inequality and the promotion of women's empowerment must enable a faster progress.
- Countries have been provided with enough resources to reduce the likelihood of conflict and lower the risk of natural disasters.
- Early recovery and rapid return to sustainable development pathways are achieved in post-conflict and post-disaster settings.
- Poverty, inequality and exclusion must get priority in development debates and actions at all levels, being consistent with the UNDP's engagement principles (UNDP, 2013).

As can be observed, the development of an infrastructure programme becomes of great importance for UNDP to assist the developing countries in the accomplishment of most of the above desired outcomes.

2.3 Organisational Management

The UNDP Executive Board is made up of 36 members from countries all over the world who serve on a rotating basis (UNDP f, 2017). They provide inter-governmental support and supervise the UNDP's activities as well as they ensure that the needs of the programme countries are well-managed by UNDP (UNDP JPO, 2015).

The different agents governing the UNDP can be observed across Figure 2.

GOVERNANCE STRUCTURE

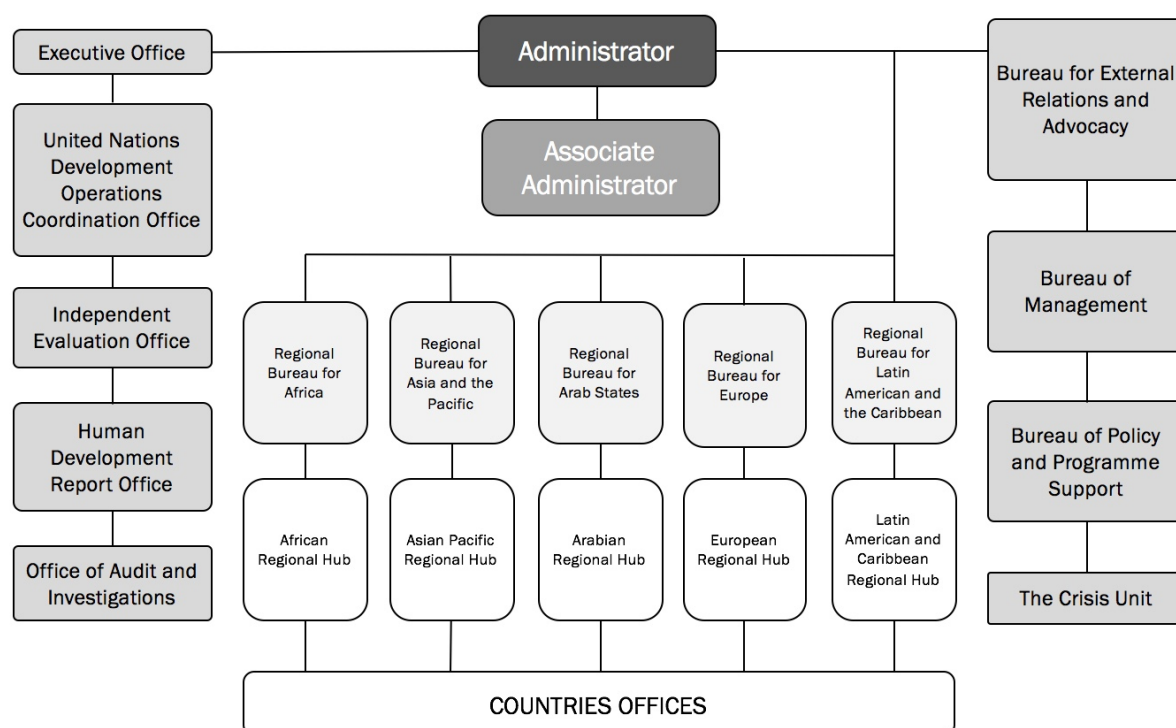


Figure 2 Organisational chart of UNDP based on (UNDP JPO, 2015).

The Administrator is the third highest ranking official in the UN system beneath the Secretary-General and the Deputy Secretary-General. The person at this position is in charge of the day-to-day work in UNDP. Besides, he/she is accountable for all UNDP activities to the Executive Board. This Administrator is appointed by the Secretary-General for a four-year term, and confirmed by the General Assembly (UNDP JPO, 2015).

The five offices on the left side of Figure 2 and the four bureaux on the right side, form the backbone of the organisational structure of UNDP. Their main functions are coordination among the different agencies and funds in UN, management, partnerships, development policy, and crisis prevention and recovery (UNDP JPO, 2015).

Through the Regional Bureaux, consisting of representatives from five regional groups, the Executive Board supervises and assists the activities of UNDP, ensuring that the organisation remains responsive to the evolving needs of programme countries (UNDP f, 2017). The Regional Bureaux are headed by Directors and are supported by hubs in each region. Those Regional Hubs focus on building partnerships and promoting regional capacity building initiatives (UNDP JPO, 2015).

Finally, at the bottom of the UNDP's organisational chart in Figure 2, the Country Offices can be found. They are located in over 170 countries and territories, and their main function is running the programme activities in relevant regions. Normally, UNDP has offices in those countries where its programme portfolio is applied, however, it also establishes offices in countries with higher income levels as long as the country

covers the base cost of UNDP's presence. Furthermore, the UNDP's five Regional Hubs render the Country Offices with high quality advisory services (UNDP JPO, 2015).

2.4 Programme Funding

All the agencies and funds of the UN spend roughly USD 30 billion every year, that is, USD 4 spent on each of the inhabitants on Earth. Nonetheless, due to financial difficulties for nearly two decades, UN has been forced to cut back on important programs in all areas. (UNDP JPO, 2015)

In the case of UNDP, five different sources fund its programme, including voluntary contributions from member states, designated contributions from bilateral donors or multilateral partners, local resources from UNDP's programme countries, and contributions from private sector and/or foundations. The income of UNDP from the mentioned sources accounted for USD 4.6 billion in 2014. (UNDP JPO, 2015)

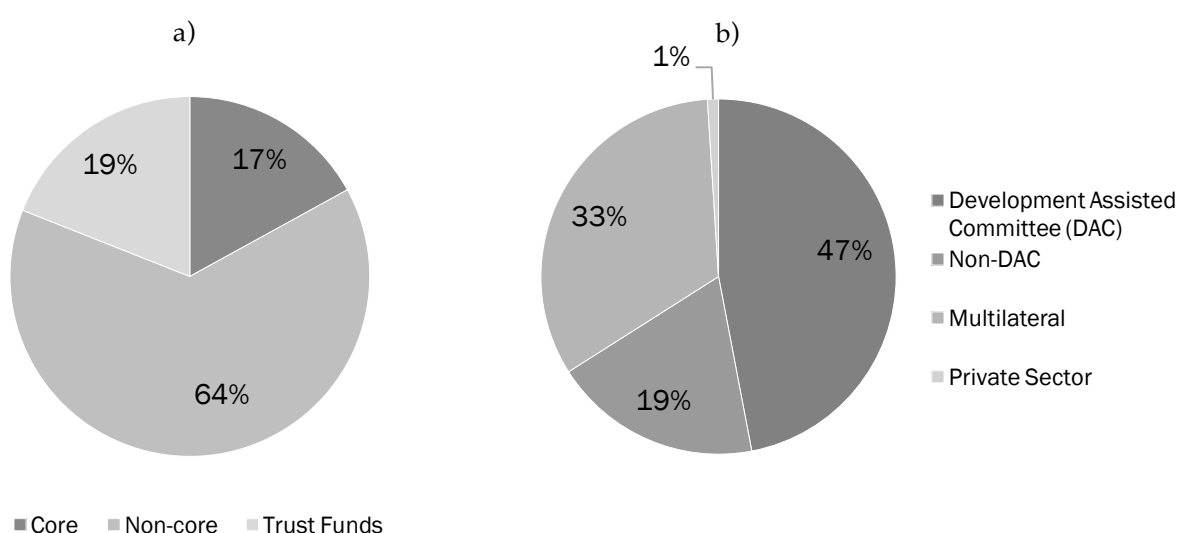


Figure 3 Sort of funds that contribute the programme. a) Total contributions by Funding stream (2014, USD 4.6 billion; b) Total contributions by Donors (2014, USD 4.6 billion). Based on (UNDP JPO, 2015).

UNDP's funds are sorted by core resources and non-core resources. Core resources, also named regular resources, are not designated by the donor for a particular purpose, but they are used to run UNDP. Indeed, these resources are a basis for the organisation, whose main aim is to guarantee its universality, neutrality and independence. Non-core resources consist, however, of reserve funds for a specific purpose, see Figure 3.

A brief description of the different UNDP's funding sources in each group follows according to (UNDP JPO, 2015).

- **Voluntary Contributions.** It is the only core resource of UNDP. These contributions are used to fund the programme countries. In 2014, for instance, Norway and United States, which provided the fund with USD 112 million and 90 million, respectively, became the largest voluntary contributors.

- **Bilateral Donors.** States, normally those part of the Organisation for Economic Cooperation and Development (OECD), render the programme with designated contributions for a specific purpose. Those contributions accounts for roughly USD 1.4 billion every year. In 2014, United States and Japan were the largest bilateral contributors for specific purposes in the programme.
- **Multilateral Donors.** Designated contributions also come from multilateral partners and the European Commission. In this case, the annual amount of money provided by these donors to specific purposes consist of about USD 1.52 billion on average.
- **Local resources.** This sort of resources is provided by the programme countries in order to perform their own development priorities through UNDP's assistance. Furthermore, these contributions are fully integrated into the UNDP's budget process, and currently, account for around USD 1 billion.
- **Private Sector Donors.** Companies from the private sector have found UNDP as an intermediary for UN entities operating on the ground in different sectors, such as water, energy, agriculture or information technology, and recently pharma infrastructure. Those companies have contributed the programme with roughly USD 135 million during the last decade.

2.5 International Contribution

The UNDP's work is extended to nearly 170 countries and regions, whose main aim is to eradicate the poverty as well as reduce inequality and exclusion (UNDP a, 2017). In order to achieve such goals and enable human development and develop capacities, this organisation serves the international community, Member states and society at large by:

- Providing policy and technical support on poverty reduction, democratic governance, crisis prevention and recovery, and environmental and sustainable development, and;
- Promoting the coordination, efficiency and effectiveness of the United Nations system at the country level. (UNDP JPO, 2015)

2.5.1 Policy and Technical Support

UNDP plans, runs and monitors the policy and technical support in an international environment on three levels, according to (UNDP JPO, 2015).

The first level comprises UN Country Programmes for all UN agencies in the country. These agencies analyse the progress in the regions and assess development needs by setting up a joint UN Common Country Assessment (CCA). After this analysis, the priorities in the country come up and the expected results are identified. At this level, it turns out essential to define a road map for the process in the UN country as well as identify the main players and establish a timeline.

The second level consists of UN Country Programme in a country. UN agencies draw up the UNDP Country Programme Document (CPD) which defines an array of outcome targets that must be achieved over the next years and how to achieve them. In addition, an Action Plan (CPAP) guides the development and projects on an annual basis, and details the programme, expected results and strategies.

The third level encompasses specific UNDP projects to generate concrete outputs in the UNDP Country Programme Action Plan. The project is drawn according to a cycle that comprises five steps: justifying the project, defining the project, initiating the project, running the project and closing the project.

2.5.2 Coordination, Efficiency and Effectiveness

As per (UNDP JPO, 2015), the UNDP's goal with this contribution is to promote a more coherent, effective and efficient UN development system by bringing together the numerous mandates and types of expertise that can be found among the different UN agencies. Among other activities, advocating for development through goodwill ambassadors or reporting on human development would allow to respond in a more effective way to national priorities and challenges.

2.5.3 Infrastructure Projects

In developing regions in Africa, UNDP and other partners bring together technical support and efficiency on key activities such as procurement and supply chain, granted by the Global Fund to fight against contagious diseases, including AIDS, Tuberculosis and Malaria (UNDP, 2016).

In Zambia, for instance, UNDP supports and assists the Government in a process to enhance and extend the infrastructure for the storage and distribution of health commodities in the country. These activities are managed by Medical Store Limited (MSL), which is the main logistics service provider for the Public Health Sector (UNDP, 2015). The volume of health commodities supplied by the Zambian government and public organisations to fight against those three diseases account for up to 40% of the total volume handled in the country (UNDP, 2016). However, over the last five years, a larger coverage of treatment and care needs for those diseases has triggered an increase of the total volume of medicines and health products demanded, giving rise to a shortfall of storage space, and therefore, affecting the capacity of the prevailing infrastructure and hindering the quality of logistics services (UNDP a, 2015). Additionally, this rise of health supplies has brought about the need to upgrade the operating capacity of the supply chain in Zambia, requiring an enlargement of the stores in the capital city, Lusaka, and the construction of secondary central stores and regional hubs. The role of UNDP in this project is to assist MSL in the design and construction of central stores and regional hubs in the country and preparation of a Master Plan that describes the requirements, layout, and overall structure for their development (UNDP, 2016).

Also in Zimbabwe, UNDP is taking over in collaboration with NatPharm, main public actor for the storage and distribution of pharmaceutical products in the country, the construction of new infrastructure that will increase the handling capacity for health commodities and improve the quality of the logistics services across the supply chain. This includes the construction of central stores in Masvingo, town on the South-eastern Zimbabwe, and regional hubs close to hospitals and health facilities so as to assist the last mile distribution (UNDP g, 2017). In this country, UNDP also undertakes projects that contribute to a better

Health Security for its citizens, such as the renovation and reconstruction of Microbiology Laboratories in order to conform the World Health Organisation (WHO) standards (UNDP h, 2017).

Besides projects to enlarge the capacity storage for health commodities, UNDP also assists the public sector in Africa with the search for a sustainable energy consumption in the storage facilities. These projects are part of UNDP efforts to promote sustainable energy sources while providing quality storage and distribution services at costs that can be sustained without a negative impact on access to treatment and care for the African peoples (UNDP a, 2015).

There is no doubt that the implementation of the mentioned pharma infrastructure projects become of utmost importance for UNDP and the international community due to their contribution to fight against diseases that sweep away thousands of lives in poor regions of Africa every year.

2.6 Stakeholders Analysis

The implementation of all internationally agreed UN's development objectives takes place due to the contribution and support of relevant partners. Indeed, UN has developed tremendous partnering with different stakeholders who play an important role in the activity of the various UN organisations, agencies, funds and programmes. Furthermore, UN promotes the overarching principle in its partnership with different stakeholders. It lays down that the partnership agreements must serve the purpose and principles stipulated by UN as well as maintain and promote the integrity, impartiality and independence of the organisation (Business Action Hub, United Nations, 2017).

As accurately defined by (Freeman, 2010), a stakeholder is any group or individual who can affect or be affected by the achievement of an organisation's objectives. Most of the partnerships between UN and all its relevant partners are established in order to realize specific development projects and achieve sustainable goals. However, part of the complexity that comes up in the management of these projects and activities is due to the interest of other stakeholders who influence or are influenced by the outcomes obtained during the planning phase and implementation of them. Thereby, a wide range of stakeholders are also likely to be involved in all projects undertaken by UNDP, particularly those related to the construction of new infrastructure to improve the controls over supply chain management and storage capacity and conditions for medicines and other health products. Indeed, they are invited to participate in the formulation and composition of all phases of the projects, including the tendering phase.

A description of the stakeholders involved in UNDP's pharma construction projects follows.

- **Patients and end users.** They are the main beneficiaries from the activity carried out by UNDP granted by the Global Fund and other donors. Their main interest is to be rendered with health products that enable them to lead a healthy life and prevent the infection from other diseases. Besides, due to the poor financial situation of the relevant developing countries in Africa, the interest of the patients is to obtain medicines at the lowest price or even be provided with health products at no cost.

- **Public Health Sector.** After the patients, this group of stakeholders is the second largest beneficiary of the pharma projects developed by UNDP. It comprises both the Ministry of Health in the relevant developing country in Africa and the National Pharmaceutical Company. Their main interest is to furnish the patients in their countries with medicines and health products that allow the cure or prevention against contagious diseases, such as AIDS, Tuberculosis and Malaria. In order to achieve so, it is also of their interest to have enough storage capacity at the reception of health products, and keep them in good conditions to afterwards distribute them to hospitals and health centres all across the country, and reach out the patients thereby. Together with the Global Fund, discussions are held and deliberate decisions are made to prioritise the construction of pharma infrastructure that will assist the activities for the Supply Management of health commodities (UNDP a, 2016).
- **Donor Community.** Among the different funding sources of the UNDP's programme, the contribution of Global Fund is particularly intended to develop pharma facilities and infrastructure for the storage of health commodities, and thus enhance the supply management in relevant developing countries in Africa. Its major interest is that the money allocated for the development projects to fight against contagious diseases is deployed in the most transparent and fair manner. Before any project is started, the Global Fund agrees with the local Ministry of Health upon the priorities that the country presents and the shortcomings and weaknesses that the supply chain shows regarding the management and storage of medical products. Considering that Global Fund mandate does not cover such type of works, UNDP is entrusted with the responsibility to undertake the development of the mentioned capacity projects and do so in the most loyal way (UNDP a, 2016).
- **UNDP Staff Member.** UNDP is tasked to develop the corresponding solicitation documents for the tender of pharma infrastructures projects funded by Global Fund in relevant developing countries in Africa, and arrange the site readiness works. In order to do so, UNDP appoint a team of experts that will assist the preparation of the final design, the composition of the bill of quantities for construction works, and definitely, the preparation of all technical project needs. After the tender, UNDP staff is also commissioned to carry out a final evaluation and award the contract to the most responsive and eligible offeror. At this point, the interest of UNDP staff is to conduct a procurement process in the most transparent and fair manner, by securing an effective competition, and consequently, obtaining the best value for money.
- **External Team of Technical Experts.** This team comprises technical consultants, such as an architect and engineers for structural, electrical and mechanical aspects, a capacity development and storage operations specialist, and a quantity surveyor, among other relevant experts. The team is appointed by UNDP to develop the drawings and provide insights into the design of the pharma construction projects as well as compound the bill of quantities to be embodied in the corresponding tender dossier. Their major interest is to furnish the solicitation documents for the tender conducted by UNDP with a realistic vision on quantity surveying and technical expertise and know-how in order to abide by the project needs (UNDP a, 2016).

- **UNDP Country Office.** This team is sitting at the relevant developing country in Africa and provides with contract implementation support. Its expected assistance is meant to cover mainly the implementation of the corresponding procurement processes, from development of solicitation documents to submission of recommendations to award the contract, and the supervision of the on-site works during execution. Being part of UNDP, its major interest regarding the procurement stage is the same, to promote a competitive procurement process for pharma infrastructure and capacity development projects and secure the best value for money at the lowest risk. As for the supervision of the on-site works, its interest is to secure site preparation and quality of the works executed as well as secure availability of the necessary expertise to manage the execution at an acceptable risk exposure level (UNDP a, 2016).

- **The Business Sector and Offerors.** Also referred as private sector, has become over the years an active partner of the United Nations in helping all the agencies, organisations and programmes in reaching their goals, as a complement to Government action. UN also recognizes that the assistance of the business sector turns out essential due to the complexities that come up when facing the world's most pressing problems. Indeed, its contribution is of great importance for the development of UN's functions and projects, as they can bring key resources, such as knowledge, expertise, financing and access, which become critical for the advance of UN's goals. Besides, the private sector can help in tackling the obstacles confronted by developing countries, including the mobilisation of resources needed to reach up agreed development goals (Business Action Hub, United Nations, 2017). For the construction projects undertaken by UNDP, the private sector will contribute with the provision of knowledge, expertise, workforce and equipment. However, due to their business vision, any private company making a bid to win a contract during the tendering phase will chase the highest profit from its participation.

All mentioned stakeholders have the interest that all relevant infrastructure projects in developing regions in Africa, particularly those related to pharma storage, are developed in a way that provides benefits to each of them. Therefore, as a part of the construction process, their interest also comprises a proper development of the tendering phase, as this stage will mark the quality and intended outcomes of the construction works executed. However, UNDP and the offerors have the greatest interest in a tendering process that benefits both parties equally. The UNDP's main goal would be to find the offeror that furnishes the best value for money during the execution of the works and the offeror would chase the largest profit from its participation.

3 Research focus

As per (Estache & Iimi, 2008) many public organisations face a rise of the fundamental project costs of private contractors when tendering a construction or infrastructure project. These organisations can only know their own costs, which are likely too high as compared to private costs. Even though they have researched some pieces of “market-based” engineering costs, they never know the minimum possible project costs in the relevant market. According to the Bidding Theory (or more known as Auction Theory), the level of competition in the tendering phase of public construction or infrastructure projects becomes an essential factor to secure the lowest project estimated costs in the award of the contract, as a sufficient

number of competitors is a crucial determinant of the cost-efficiency in bidding outcomes (Brannam, et al., 1987).

UNDP is confronting the mentioned issue and is seeking a way to encourage competition in the tendering for pharma construction projects. As previously mentioned, this organisation actively supports the reinforcement of national pharma infrastructure in its efforts to strive for suitable supply chains to enable timely, efficient and cost-effective delivery of pharmaceuticals and health products to patients in developing countries, particularly in Africa. Often, such support requires the refurbishment of existing infrastructure, its expansion, or the construction of new infrastructure. The typical tasks of UNDP in the area of pharma infrastructure strengthening are targeted at enhancing national distribution and storage capacities, at central, regional or local level. All contracts awarded by UNDP for pharma infrastructure refurbishment or construction are to be based on competitive public procurement processes conducted in accordance to UNDP financial rules and regulations. According to these guidelines, the level of quality of the works procured that can be attained at the lowest cost through the launched tenders relies on the actual level of competition secured. Furthermore, a restricted competition in the tender processes conducted by this organisation in those developing regions is likely to bring about a rise of the execution costs of the project.

3.1 The Public Sector

Due to the public nature of The United Nations, and particularly of the programme developed by UNDP, it turns out relevant to get to know what the public sector constitutes. According to the European Commission, a public organisation is “any entity established for the specific purpose of meeting needs in the general interest and not having an industrial or commercial character, which has legal personality and is financed for the most part by States, or is subject to management supervision by the latter” (Morledge & Smith, 2013). Thus, the process by which public organisations purchase work, goods and services from companies is denominated public procurement (European Commission, 2017).

As previously described in this chapter, the fact that UNDP is funded by Governments and public institutions overall gives UNDP the condition of public organisation, ruled in accordance with public legislation and regulations. For this reason, UNDP becomes a public client in the procurement of any kind of asset, and therefore, must show that the public money received to develop its activity, including the procurement function, is spent in a proper way, i.e. the contract is awarded to the most qualified and eligible bidder who guarantees the best value for money.

3.2 Pharma Construction

The focus of this report is on the procurement process conducted by UNDP to award the contract for pharma construction projects. The Pharma Construction industry involves the development of buildings or infrastructure to assist the delivery of medicines in order to fight against contagious and unfortunate diseases in areas or countries that lack basic health and pharmaceutical resources.

An increase in the last years of the total volume of medicines and other health products handled by the public sector in developing countries has given rise to an insufficient storage capacity that affects the

supply chain performance in these countries and hinders the efforts to render quality logistics services, having an impact, consequently, on people's lives (UNDP b, 2016). In order to ensure an appropriate storage and distribution of medicines and other health products, initiatives to support the refurbishment or enlargement of storage facilities must be conducted.

Procurement and Supply Management (PSM) constitutes a core activity for UNDP in the context of implementing actions that uphold the Public Health Sector of developing countries in Africa. Within this activity framework, UNDP has recently started to undertake the design and construction of warehousing infrastructure, including the modernization of structures, equipment and systems, and the development of long-term sustainability initiatives, such as passive architecture, environment and renewable energy, typically Solar power systems (UNDP b, 2016). Additionally, PSM is a key element of the grants of the Global Fund– main donor of UNDP– to fight diseases, such as AIDS, Tuberculosis and Malaria in developing countries in Africa. The Global Fund and other key partners pay considerable attention to supporting these countries in strengthening their PSM systems in order to effectively forecast, procure, store, distribute and assure the quality of health commodities and medicines. A well-functioning Health System can ensure equitable and continued access for patients to products and technologies of assured quality, safety, efficacy and cost-effectiveness, as well as a scientifically sound and cost-effective use of them (UNDP b, 2016).

3.3 Value for Money from Construction Projects

Over the past few decades, clients of the construction industry have shown an increasing interest in securing value for money during the procurement of construction projects (Morledge & Smith, 2013). Particularly, public clients are striving to secure value for money from the services they use and the projects they deliver (Love, et al., 2008).

The concept of value for money is a factor that determines the procurement strategy for the project procured by the client (Love, et al., 2008), which addresses a need for projects to be cheaper in terms of capital costs and revenue expenditure, and for execution times to be notably reduced while maintaining or even improving the quality and functionality of the final products. Indeed, it represents the lowest risk to meeting time and cost requirements. Furthermore, in recent years, value for money in the construction industry has also addressed a need for projects to be environmentally sustainable (Morledge & Smith, 2013).

In Figure 4 can be observed a visual representation of a method that can allow to classify the bids received during a tender for construction projects as per the level of value for money ensured by them. Thus, bids ensuring a high value for money for the client will drop into the zone A. The bids in this area of the scheme will show low estimated costs for a construction project to be executed within a short time frame. They will also meet the requirements for quality and functionality– a design proposal highly detailed–to win the contract and will comprise a solution sustainable environmentally. The bids providing the client with a medium level of value for money will drop into the areas B and D, respectively. These bids will show either a high estimated cost to execute the works within a long time frame but meeting quality and environmental requirements (B), or lower estimated costs within a shorter time schedule, but with low level of quality and sustainability (D). They can be applied a re-evaluation by the client. Bids furnishing a low level of value for

money will be in the zone C of the graph. These bids will be classified as non-qualified, and therefore, can be automatically rejected by the client.

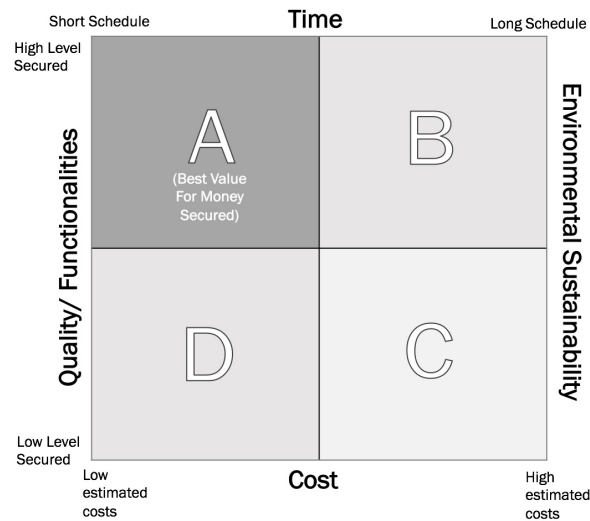


Figure 4 Qualifications of bids as per the value for money ensured. Functionality comprises conceptual design, basic design or detail design.

3.4 Quality in the Construction Industry

Quality always presents as a minimum requirement for the client on the final product during the tendering for a construction project. By intending to get the best value for money, the client seek to secure the highest quality of the project at the lowest cost.

In the construction industry, quality comprise both quality performance and quality of the final product, which significantly relies on the earlier. Unlike the manufacturing industry, most products of the construction industry are one-offs, and because no universal standard or specification can be applied, the execution processes are to some extent different for each project, broadly affecting the final product. Due to this lack of standardisation, it is widely cited that poor performance in quality has usually characterised the construction industry. This is due to, for instance, the numerous parties involved in the process. Client, consultants, contractor, and subcontractor of a construction project have a role to play in ensuring the quality of the final product. However, sometimes excessive changes to the details of the design of the project take place across the construction process, eventually hampering the quality performance, and therefore, the product quality. Thus, quality turns out often a risk because of excessive changes (Kanji & Wong, 1998).

Total Quality Management (TQM) is an initiative that can be applied to solve the quality issues in the construction industry and meet the requirements of the clients at the same time. Indeed, TQM focuses on meeting the customer's needs continuously, and it also offers quality structure and system. Therefore, it can contribute to increase the customer satisfaction, enhance the quality products, and ensure higher market share (Kanji & Wong, 1998).

3.5 Effective Competition in Public Procurement

A regulatory framework based on the principle of competition and which ensure adherence to competitive procurement methods turns out the starting point to obtain best value for money in public procurement. Indeed, competition is considered a tool that allows a public purchaser to secure benefits of competitive pressure among bidders, as well as a key instrument to halt corrupt and collusive practices (Policy, 2012).

Competition in the public procurement of construction projects becomes effective when a sufficient number of candidate contractors are making a technical and price bid that meet the minimum qualifying and eligibility requirements, and minimum quality standards. As per limi (2006) it varies depending on the sector, and in the tendering for infrastructure or construction projects the norm might be about eight candidate companies. Furthermore, in the procurement of this kind of projects, the winning bid amount notably decreases as the number of bidders rises to the level of about eight contractors.

In the search of value for money, which entails obtaining reasonable quality of the works and products procured at the lowest cost, a procurement process that encourages effective competition plays an essential role. In a procurement process of this kind, the bidder is given the opportunity to compete on a level-playing field, facilitating that the price bids squeeze. Consequently, the estimated project costs fall down, and a higher value for money can be secured by the client.

Aside the value for money that an effective competition can furnish during the procurement process, additional benefits are worth mentioning.

First, it can prevent corruption and collusion. Based upon the Bidding Theory, as the number of potential players in the market increases, an agreement to sustain a collusion arrangement turns more difficult (Brannam, et al., 1987). Indeed, a non-trivial probability of being awarded the contract would significantly weaken and reduce the bidders' collusive intends. In addition, because of competition lowers the possibilities of a collusive scenario, the risk of corruption also decreases, as the success of corruption normally relies on the level of collusion among bidders. Finally, transparent and efficient business practices in the procurement system would have a positive effect on local private business behaviour, raising competitiveness of the economy as a whole (Estache & limi, 2008).

An effective competition might also foster good governance and market-oriented business environment in developing countries, enabling an economic growth and a sustainable use of local resources thereby (Estache & limi, 2008). Indeed, for a public organisation other than the local government, such as UNDP, the opportunity to use local resources would avoid a rise of the project costs, also providing value for money.

This project will study, therefore, the opportunities which could enable more bidders to submit an offer for the design and construction of pharma buildings and infrastructure in the African developing regions where UNDP operates, and therefore, increase the level of effective competition. Indeed, the cost of the works is expected to be reduced as the number of bids increases. Additionally, intensifying an effective competition may enhance in general the public tender process for the mentioned construction works.

4 Problem Formulation

The main objective of any public organisation when tendering a project can be outlined as the selection of the offer that presents the desired level of quality of the works at the lowest cost, what can turn into benefits in the long-run. However, many other organisations strive for searching that offer that involves more factors than merely the price and quality, such as environmental and social benefits, the level of resource consumption and the long-run savings.

As per the procurement policies and procedures followed by UNDP, which will be studied in Chapter III, the core principle in the procurement phase of any construction project conducted by this public organisation is to obtain the best value for money. This implies the selection of the offer that meets the business needs and presents an optimum combination of lifecycle costs and benefits (UNDP Procurement Support Office, 2017). However, the success or fail of obtaining value for money in the procurement phase, relies significantly on the method used to solicit offers and select the responsive contractor thereafter. Therefore, the degree of competition in the process as well as the complexity of the solicitation, evaluation and selection phases can influence drastically in securing value for money in the procurement of construction works. Indeed, the offer that wins the contract tend to approach the lowest estimated project costs as the number of participants in the tender increases (Estache & Iimi, 2008).

Recently, the procurement team in UNDP have encountered a lack of effectiveness in the tender for construction works in developing countries in Africa, particularly in the design and construction of pharma infrastructure projects. Some of the issues perceived are:

- Most of the bidders do not structure and draft the bid properly. The technical and price bids show low quality and clarity; lack requested information; show mistakes and the like.
- Many offerors quit the process due to misinterpretation of the tender dossier and their incapability to submit a bid in accordance with requested quality and transparency standards.
- UNDP procurement managers must spend too much time on re-assessment of the bids in order to keep a sufficient number of offerors in the tender, and consequently, the process is drawn out longer.

This entails a restricted competition as an outcome of the tender process conducted by UNDP in those developing regions, which is bringing about a rise of the estimated costs for the project. In addition, this is also implying a drop of the value for money in the relevant projects being tendered as well as a risk for the robustness of its partnership with main donors, they are, governments and The Global Fund. According to the organisation, this fact is due to a smaller than optimal number of responsive and qualified bidders being attracted to the tender process.

The focus of the present project will be, therefore, on the following problem formulation:

“How to encourage an effective competition in the tendering for pharma construction and infrastructure projects conducted by UNDP in developing regions in Africa?”

Additionally, in the search of a solution to this problem, some questions can provide insight and guideline to change the current situation that UNDP undertakes, and thus enable the organisation to conduct an effective procurement of construction works in the relevant African regions, where most of its programme is being presently developed.

The research questions that will be addressed in the present project are the following:

- What is the background of UNDP in the procurement of goods, works and services?
- How experienced is UNDP in the procurement of construction works?
- Which procurement method is UNDP using in the tendering for construction works?
- How strict is the adherence to UNDP procurement policies and procedures demanded of potential candidate contractors in the tender for construction works?
- Is the tender advertising applied by UNDP for pharma construction projects encouraging an effective competition in Africa?
- How developed is the construction industry in relevant developing countries in Africa?
- How does the competition comprise in the construction markets of developing countries in Africa?
- What is the level of corruptive and rigging practices in the indigenous construction industry?

By answering to these research questions and drawing a comprehensive study on it, the opportunities for UNDP to conduct an effective procurement of construction works will be pictured.

First of all, it is of great importance to meet the procurement procedure being used by the organisation to tendering the design and execution of pharma construction projects as well as its experience in the procurement of different kind of assets. This will enable to prove the know-how of the procurement staff in UNDP to compound proper and quality solicitation documents for civil and construction works as well as to know potential factors and internal practices encouraging a restraint competition in the tendering.

The situation of the construction industry in the relevant developing countries will give a picture of the amount of local and overseas companies in the market, and to what extent the market is capable itself to respond to a tender conducted by a public organisation, such as UNDP. A broad study of the indigenous construction industry will also allow to know the level of corruptive and collusive practices that are affecting the degree of competition in a public procurement process. Due to the major effect that competition has on the effectiveness of a tender process, it turns out of great relevance to study the factors that can give rise to a low number of responsive bidders in the procedure to award the contract for pharma infrastructure projects.

5 Objectives of the Project

The need of providing pharma facilities and infrastructure so as to improve the controls over Supply Chain Management and storage conditions of health commodities, brought about a need for the procurement of construction works in the organisation. UNDP started to facing an industry very fragmented, and dominated by many corruptive practices, particularly in the African countries where they develop their core activity. This fragmentation of the industry implies a diverse supply market with a very large number of specialists (Morledge & Smith, 2013) with which UNDP can do business for the delivery of its construction requirements.

Even though some improvements have been made in the last decade in the public procurement system of construction and civil works in some developing countries in Africa (Ofori, 2007), corruptive practices that tend to lower the level of competition, and consequently, the effectiveness of the tender process, still remain in the domestic construction industry. Currently, UNDP strives to make of procurement of construction works a process dominated by transparency and fairness. However, regardless of its efforts to conduct a clean and smooth tender process, the organisation has not been able to secure yet effective outcomes, and therefore, a need to prove the effectivity of its procurement procedure comes up.

The different procurement techniques applied to myriad of construction projects that have been developed by public institutions in the last decades can render UNDP with an opportunity to find a procurement process that suits an unstable and rigged construction industry as the case of most developing countries in Africa. Indeed, a procurement process that encourages an effective competition in the tender for civil and construction works in those regions would enable UNDP to carry out its development programme smoothly, and thereby, to furnish these regions with suitable and ad-hoc health facilities.

The Procurement Policies and Procedures followed by UNDP, studied in Chapter III, have been reviewed in depth so as to gather sufficient data for a solid understanding of the procurement process deployed by this public organisation for the tender of construction works. Also, extensive literature has been consulted in order to know widespread public procurement practices in the construction market of relevant developing countries in Africa. These sources of information will enable to identify potential factors that can bring about a non-effective competition during the public tendering for construction works in the mentioned developing regions.

The objectives of this project can be outlined, therefore, as follows:

- Get to know the current procurement process applied by UNDP to the tendering for construction works.
- Identify the weaknesses of the procurement process conducted by UNDP for the design and construction of pharma buildings and infrastructure that are giving rise to a low degree of effective competition in the process run in developing countries in Africa.
- Get to know the construction industry in relevant developing countries in Africa and get insight on the degree of competition in the local business.

- Identify the causes of a low competition in relevant construction markets in Africa affecting the tender conducted by UNDP.
- Identify the opportunities that could enable more bidders to submit an offer for the design and construction of pharma buildings and infrastructure in relevant developing regions in Africa and thereby make the competition in the procurement process more effective.
- Bring out a set of measures as an attempt to enhance the tender conducted by UNDP while holding the prevailing quality standard.

Chapter II Theory and Methods

[This second chapter will address the ways of data collection in this project which will allow to explore, understand and interpret relevant information to identify the stem of the causes that are giving rise to a non-effective competition in the procurement process for construction works used by UNDP. The structure followed in the project will be described, and then the research design and research methodology will provide insight into the method, approach and theories that have been chosen to complete a comprehensive study in the context of this project. In the end of the chapter, some limitations relative to the collection of data will be exposed]

1 Structure of the Project

In order to analyse the problem formulation, it becomes of great importance to examine which kind of methodological examination tools can be used to generate information and data, as well as to study and process them afterwards. Since there exist many different examination methods and data types, it will be important to figure out which kind of information and data must be provided by such examinations so as to use proper methods. The tools rendered in the course *Management of the Construction Process, MCP*, which is part of the master's programme *Management in the Building Industry* at Aalborg University, will be used to seek the right methods which will provide the suitable type of information and data for this project.

The Figure 5 illustrates the overall structure followed in the project. In a very beginning, a general background allows to establish the basis of the project, including the agents and aspects that will form the purpose of it. In order to narrow down the focus of the project, the public international organisation in scope, UNDP, will be described beside an analysis of its stakeholders, which will end up with the formulation of a problem. This problem is chosen on the basis of the competition challenges that UNDP is facing and will form an overall framework for the study in the project.

Both the procedure applied by UNDP in the tendering for construction works and the construction markets where the organisation is developing relevant infrastructure projects will be considered as the stems of the causes bringing about a low level of competition in the procurement process. After a thorough identification of relative causes, an array of prospective measures that can be applied to encourage competition will be proposed. The aim is that these measures or actions can be potentially applied to the tender procedure conducted by the procurement team in UNDP in the context of the relevant construction market. At the end of the project, a conclusion will be drawn on the basis of the study carried out and the fit for purpose measures proposed. Also the different perspectives in which the project could have been otherwise shaped will be described.

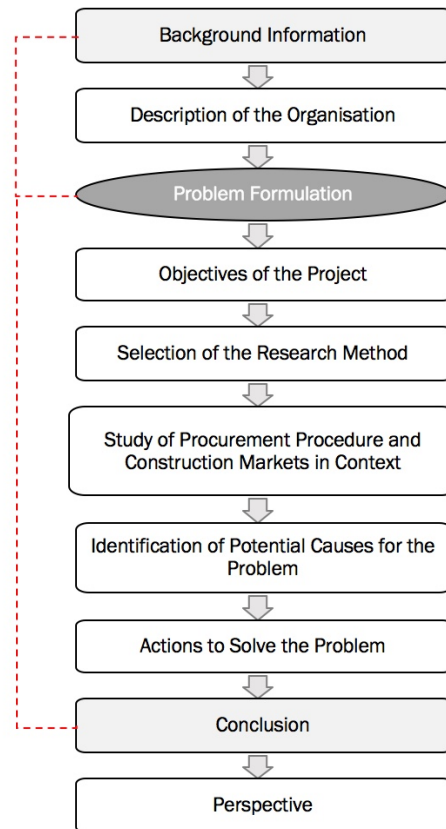


Figure 5 Structure of the Project

This structure of the project is intended to let the reader read the introduction, problem formulation and conclusion as only sections, in such a way that he/she can visualise a “red thread” from the beginning to the end of the project. This concept is meant to keep all contents in line with the core idea of the project, aiming to secure maximum outcomes.

2 Research Design

As per (Bohnstedt, 2015), the research design can be defined as the framework in which the problem in this project will be investigated. Indeed, the function of the research design is to ensure that the evidence secured allows to answer all research questions, which in this project will define the potential causes entailing a non-effective competition in the tendering for construction works conducted by UNDP in developing regions in Africa.

The research design is influenced by the available data source, the choice of the method for data collection, including a qualitative or quantitative approach, the validity and reliability of the research, and the problem itself.

Among the different design types that the literature brings, the following design types have been chosen for each context in which the causes lowering the level of competition can arise:

- **Comparative design.** This design type has been chosen for the study of the procurement practice in UNDP. The information on the procurement principles and policies provided by UNDP will be studied, and afterwards, they will be contrasted with other procurement rules and procedures of a public institution, which are proved to be a strong reference of successful public performance and competition secured in the public procurement activity. By comparing both set of procurement rules, the causes on the UNDP's side hindering an effective competition in the tender process for construction works can be determined.
- **Case-Design.** For the study of the construction sector in Sub-Saharan countries where the pharma construction projects will be developed by UNDP, the case-design type through a representative case has been selected. Due to the similarities shared by the construction markets in Sub-Saharan Africa, this design type will allow to study a case that represents a range of cases in order to answer the research questions involving the working and competition environment in the markets of the relevant African countries. By studying the common frame of the local practice for public procurement, how the competition is composed, and the level of corruption and collusion in these countries, the potential causes on the market's side encouraging a non-effective competition in the procurement process conducted by UNDP can be identified.

3 Research Methodology

The collection of data in this project will be carried out through a qualitative method. This research method involves the analysis of documents and observations, and allows the researcher to make interpretations of the meaning of the data collected. As a qualitative method, observation, sometimes referred to as "participant observation", comprises synthesized written material from direct observation, self-analysis, and life-histories, notes, and diaries. However, observations rely to a great extent on the judgements, assumptions and former knowledge and experience of the observer themselves (MacDonald & Headlam, 2011).

In order to understand and get insight into the major subject and problem in this project, data and information have been collected from varied articles, books, reports and the like, issued by both diverse academic researchers and international recognised organisations and institutions. Additionally, the researcher in this project has made observations through his participation in an internal internship programme from March to June, 2017 at the UNDP offices in Copenhagen, Denmark. In this temporary work position, he has known first-hand the profile of the organisation involved in the study of this project and its on-target competition challenges in the tendering for pharma construction projects.

Thus, the procurement process used by UNDP will be analysed mainly by observations of the project researcher, which will be also supported with online research in internal procurement information of the organisation. Though, the context of the construction markets in developing countries in Africa will be studied through the reading and interpretation of diverse reports and academic and journal articles.

Regarding the theoretical position of the researcher against the contents of the varied articles and material used in this project, objectivism and constructivism standpoints will be held. On the one hand, objectivism, also called empirical analytical standpoint, will let to summarize theories and investigations

with measurable data from the real world, as contained in most research material used for the study in this project. On the other hand, constructivism will allow the researcher to present a specific version of the reality. Furthermore, since a qualitative research normally emphasizes an inductive approach to the relationship between theory and research, the inductive theory will be widespread used across this project. This approach implies that conclusions will be drawn based on individual observations, i.e. the researcher will infer the implications of his findings in the project (Bryman, 2008).

Finally, it is of great importance to mention that participant observations are not considered by nature a sufficient reliable method, as this kind of studies are nearly impossible to repeat. However, they show a high level of validity, since the participant observation does not prejudge the issues found (MacDonald & Headlam, 2011). The reliability of the research material for the contents of this project, including reports and articles issued by varied researchers and recognised institutions, will rely on the consistency and repeatability of the targeted information therein. The validity, in turn, will be measured in accordance to the correlation between the information contained in the relevant articles and the subject of this project, i.e. both the procurement practice of UNDP and the characteristics of the construction markets of the developing countries in Africa, and its accuracy to describe them in the context of this project.

4 Limitations

By selecting qualitative methods to collect the information and data that will be used for the study in this project, some shortcomings come up.

The observations made to get information about the procurement procedure used by UNDP for construction and civil works rely to some extent on the sensitivity and accuracy of the observer to find quality information and interpret it properly. Also, the researcher can be prone to use a personal bias to summarize and explain the information collected from the miscellaneous literature and interpret the data gathered from investigations of other authors and trustworthy institutions. This fact will highly influence the outcomes of the study carried out across the project, and therefore, the context of the conclusions drawn to answer the research questions, which will allow to determine the causes bringing about a non-effective competition and identify the potential opportunities to defeat the challenge faced by UNDP.

As previously pointed out, observations do not provide with a sufficient level of reliability of the information gathered because of its own nature. Besides, the reliability of the different journal and academic articles and investigations will also depend on the number of the references to such material in other research studies. Finally, the use in this project of some journal articles and dissertations that are relatively old, considering the fast evolution of the construction industry per se, can be considered a limited view on the studied subject in this project, which can also lower the level of validity of the drawn conclusions.

Chapter III Identification of Causes

[In this chapter, the potential causes which are lowering the level of effective competition in the tender process conducted by UNDP for pharma construction projects will be determined. On the one hand, the procurement practice of UNDP will be studied, including its overall procurement experience, and particularly, its practice in the tendering for construction works. The procurement procedures and methods applied by the organisation will be contrasted to a procompetitive set of public rules and regulations, so that the relevant causes encouraging a non-effective competition on the UNDP's side can be determined. On the other hand, a study on the construction markets of the relevant developing countries in Africa will shed light on the prospective causes upholding a low level of effective competition during the tender for construction works in the context of these regions]

1 Procurement in UNDP

1.1 Procurement Background of the Organization

The UNDP's mandate and vision to empower lives and help nations become more resilient, mark the activity performed by the organisation across the globe. Among other activities, the procurement of goods and services has carved out significantly in the organisation along its history, to such extent that it has become a cornerstone of the organisation. Indeed, its public nature and the fact that it is an organization entrusted with donor funds and engaged to upholding developing countries, make UNDP to work on improving the access to quality assured supplies at a reasonable cost and in an effective and reliable way (UNDP i, 2017).

Procurement is considered, therefore, a strategic function of the organisation that allows the acquisition of goods, works and services, involving everything from buying motor vehicles, health commodities and election materials to tendering for energy systems and construction and engineering services (UNDP k, 2017). This function accounts for almost two thirds of all UNDP expenditures, and the demand for its procurement services keeps on growing, with a significant increase of procurement volumes in sectors such as health, elections, sustainable energy and crisis-response in the last three years (UNDP, 2014).

The main procurement activities conducted by UNDP are planning, ordering, sourcing of suppliers, solicitation and evaluation of offers, contract review, contract award and management of contracts and assets (UNDP Procurement Support Office, 2017). Because of all UNDP procurement activities are framed in the context of their own programmes and projects, this function is also considered critical to enhance the programme and project delivery, and therefore, to facilitate the achievement of development project outcomes.

As a public organisation, all procurement activities are to be conducted in accordance to the UNDP Financial Regulations and Rules, which stipulate that contract must be awarded through a competitive process, securing bids through formal tenders (UNDP k, 2017). Additionally, the Programme and Operations Policies and Procedures (POPP) issued by UNDP, is a corporate document that covers policies and procedures related to contracts, assets and procurement (UNDP Procurement Support Office, 2017), which “describes what needs to be done, by whom and by when”. It also embodies key operational procedures and processes for all aspects of work, such as partnering management, contracts and procurement management, or project and programme management (UNDP JPO, 2015). During the procurement of goods and services, UNDP has recently introduced more flexible methods for low-value and low-risk purchasing, and the electronical approval of purchase orders as a manner to save time and money for the organization itself and its suppliers (UNDP i, 2017).

The procurement responsibility in UNDP is decentralized. This means that the entire procurement cycle, from sourcing to contract management, is done locally (UNDP k, 2017), or in other words, Country Offices and Business Units undertake their own purchasing. Thus in order to conduct the procurement function, UNDP delegates a significant amount of authority to the Country Offices, which enter into contract with vendors. In the Country Offices, the Operation staff is the team that tackles the procurement of civil works and services, and financial management (UNDP JPO, 2015). UNDP Headquarters, however, plays a limited role in the procurement function, just providing support and specialized assistance. In addition, the Procurement Oversight Unit (POU) in UNDP, which is an independent unit, is entrusted to review contracts that exceed the delegated authority of the Business Unit; ensure that the procurement operations comply with relevant guidelines; and carry out a proper risk assessment and management in the procurement process (UNDP k, 2017).

1.1.1 Prevailing Procurement Principles in the Organisation

In all phases of the procurement system conducted by UNDP, an array of general principles is to be applied. These are:

- **Best value for money.** It shows up as the core principle for UNDP when procuring goods, services or civil works. This principle accounts for the selection of the offer that meets the business needs while enabling an optimum combination of lifecycle costs and benefits. It does not mean only the lowest price. UNDP considers this principle as the outcome of a comprehensive offer assessment, which includes both technical, organisational and pricing factors evaluation. Environmental and social factors are also deemed as valuable in the procurement process (UNDP Procurement Support Office, 2016).

Furthermore, according to UNDP procurement team, the process itself for soliciting an offer and selecting a contractor also boost the best value for money in the procurement. In addition, they strive to maximize the competition, minimize complexities in the process, and allow a fair evaluation of the offers.

- **Effective international competition.** In UNDP tendering, competitiveness and equality² are deemed the basis to provide all eligible offerors participating in the procurement process with the same opportunity to present bids for goods, services or construction works (UNDP Procurement Support Office, 2016).
- **Fairness, integrity and transparency.** All UNDP's prospective vendors or contractors should be treated equally, and the procurement process should show clear evaluation criteria, unambiguous instructions to offerors, realistic requirements, and rules and procedures easy to understand (UNDP i, 2017). Also transparency, which ensures the equal treatment principle when tendering (Herforth, 2015), becomes a paramount factor to maintain fairness in the treatment of all offers received by UNDP (UNDP Procurement Support Office, 2016). In addition, because of UNDP is an UN programme mainly funded by donors, the procurement process must show itself as an activity wide away from fraud and corrupt practices. Indeed, restricted ethics principles to prevent dishonest behaviour is a must in the organisation.

Therefore, as per these internal principles, the interest of UNDP at any stage of the procurement of goods, services or construction works is to ensure economy and efficiency in the implementation of the programme in scope; let all interested and qualified offerors worldwide access to the procurement process; provide the same information and equal opportunities in order to enable effective competition; and guarantee transparency along the process for tendering.

1.1.2 Sustainable Procurement

UNDP strives to apply sustainability to those operations that help countries end poverty and reduce inequalities and exclusion, and to those measures contributing to the reduction of the climate change effect on vulnerable developing regions. Within this set of activities, a sustainable procurement is also chased by the organisation, which consists of ensuring that the products and services acquired have the lowest environmental impact and most positive social results. (UNDP j, 2017)

Beside sustainability, UNDP also incorporates other criteria in the acquisition of goods, works or services, such as the social costs, carbon emission, women's empowerment and South-South Cooperation³, shifting from a narrow focus on price to a calculation based on the total cost of ownership throughout the life cycle of products and services. (UNDP, 2014)

1.1.3 Procurement strategies

As per (Love, et al., 2008), two basic components are necessary to be taken into account in the selection of an appropriate procurement strategy. They are:

² In the Rome Treaty approved in 1973, the equality treatment principle sets out that in the tendering process, comparable situations must not be treated differently unless such treatment is objectively justified. (Herforth, 2015)

³ South-South Cooperation is a broad term historically used to describe the exchange of resources, knowledge, skills, and technologies between developing countries on a bilateral or regional basis to meet their development goals (UNOSSC, 2017)

- *Analysis*, which comprises assessing and establishing priorities for the project objectives and client attitude to risk; and
- *Choice*, which consists of considering possible options, evaluating them and selecting the most appropriate.

UNDP frequently develops procurement strategies for each project in order to meet the identified project goals, address the market competition and mitigate the existing risks in the process. In addition, significant purchases, i.e. “those that are of high relative expenditure and/or for which supply is difficult to secure” (UNDP Procurement Support Office, 2017), play an essential role when defining the procurement strategy that aligns with the UNDP Strategic Plan.

As observed in Figure 6, significant purchases give rise to three unfavourable purchase scenarios. These are: high in relative expenditure and easy to ensure supply (2); low in relative expenditure and difficult to ensure supply (3); and the worst-case scenario, high in relative expenditure and difficult to secure supply (4).

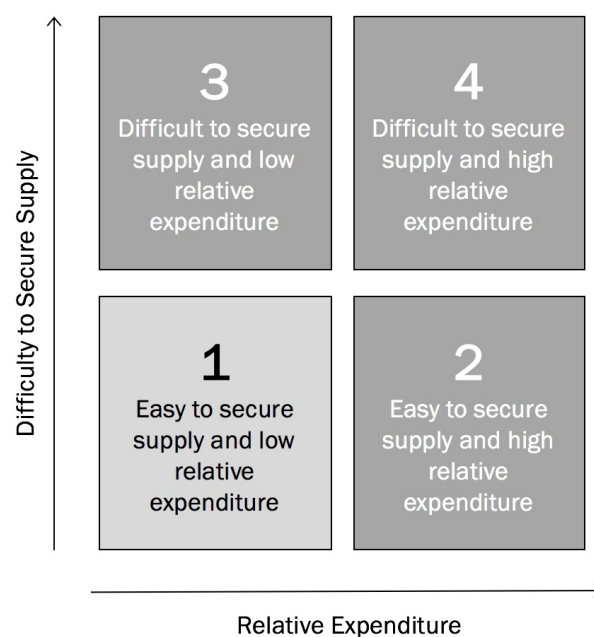


Figure 6 Significant purchases in UNDP. Based on (UNDP Procurement Support Office, 2017)

These purchase scenarios become the basis for prospective procurement strategies developed by UNDP that are unique for each project. The scenario 2 in Figure 6, i.e. an expensive purchase but easy to ensure its supply, would require a strategy aimed to ensure that the total cost is reduced, for example. The scenario 3, a purchase relatively cheap whose supply is hampered, would need a strategy aimed to ensure an ongoing supply in order to reduce the exposure. The scenario 4, in which the purchase is too expensive and its supply is hindered, would require, for instance, a special supplier management (UNDP Procurement Support Office, 2017). Finally, the strategy for the scenario 1 would not require special procurement measures, since it turns out the most favourable case for UNDP.

In order to perform a successful corporate procurement process, UNDP also integrates Risk Assessment and Risk Management strategies, which beside the development of the procurement strategy, start at the project definition stage.

A set of procurement risks triggers when defining the procurement strategy. According to UNDP POPP (2017), the political environment in the country, or the natural and delivery infrastructure environments must be treated as environmental risks. The risk of operating in the market, complexity of the Supply Chain Management, or the risk associated with the nature of the works or goods to be acquired are considered by the organisation as programme risks. UNDP also takes into consideration those risks associated with its own implementation capacity.

Therefore, the definition of a thorough action plan to mitigate all procurement strategy associated risks would let the organisation to attain the project outcomes successfully. Furthermore, in the construction industry, the choice of the most appropriate procurement strategy has been recognised as a major determinant of the project success and efficiency secured in the procurement process (Love, et al., 2008).

1.1.4 Findings on Procurement in the Organisation

As per described previously, the answer to the research question *“What is the background of UNDP in the procurement of goods, works and services?”*, is clear, UNDP has already a strong expertise in procurement of goods, works and services, due to especially the commitment of its programme to facilitate the access of vulnerable peoples to quality assured supplies at a reasonable cost and in the most effective way.

Moreover, as a public organisation funded by donors, UNDP has developed over the time robust procurement principles, procedures and policies which must guarantee that any procurement operation conducted is adhered to the requirements stipulated in its internal financial rules and regulations, and which must ensure a proper management of the procurement activity and contracting risk related aspects.

1.2 Procurement of Construction Works

Every construction project responds to the need to deliver one-off products to clients. In this sense, the construction industry differs quite a lot from the manufacturing or retail sectors, which have a continuous demand and allow to establish stable supply chains. For this reason, the procurement of construction works is also significantly different from purchasing nearly any other commodity. Looking beyond, according to Morledge & Smith (2013), construction itself is primarily a service industry, and therefore, what the client purchases is not a product but a capacity to produce.

Even though, different modalities can be found in the construction sector, the construction process is normally initiated as a strategic or business need by a client who wishes to acquire a constructed asset. In the process, the client develops first a brief for the project and establishes both priorities and specifications, for which a project team is created to provide the necessary expertise to draw the final

design. After that, a tendering process will usually follow to select a contractor who will be entrusted to build the desired asset. In most cases, the contractor will undertake the employment of specialists and subcontractors, and the procurement of specified materials. As soon as the contract is signed and sufficient amount of required information is available, the execution of the construction project can start. This includes varied activities such as obtaining materials, manufacturing, engineering works, and finally the on-site physical construction. After a successful completion of the project, a hand over takes place and the end user will be able to use the completed asset.

As per Morledge & Smith (2013), the procurement and management of the construction activity have been usually characterised by time-consuming and inefficiencies, also resulting unsatisfactory in its failure to live up to basic time, cost and quality goals. These failures may be fundamentally because the construction itself is a very complex and tricky process and due to the uniqueness of most buildings, constructed in the open air by a particular team formed for the project, which must be completed in a time, cost and quality frame. There is also evidence that the procurement phase contributes at a large scale in the eventual success of the construction project and it is considered a significant component in project failure. Therefore, the procurement method is to be chosen in accordance with the characteristics of the project and relevant factors influencing the delivery of the desired asset; and after a proper analysis of the method which can provide the best value for money, let control on risks associated, render flexibility to deal with changes during execution, and after all, meet the project goals (Love, et al., 2008).

Additionally, the degree of construction expertise of the clients significantly affects the procurement of construction works, and consequently, the proper execution of relevant buildings or infrastructures. Though, whether the client is an inexperienced small-to-medium company, or a major corporate organisation or a public body, exposure to risk is still inherent in the procurement of construction. In recent years, however, the mere selection of a correct procurement approach has been conceived as an important mean to manage the risks associated to the construction project (Morledge & Smith, 2013).

1.3 Procurement Procedure for Construction Works in UNDP

The procurement of infrastructure and construction works in UNDP has been recently established in the organisation as a new activity to enhance the controls over the Supply Chain Management and storage conditions. The requisition⁴ of civil works includes, among others, all types of civil services, from construction to water or electricity supply, as well as the supply of construction materials and equipment. During the requisition of such works, UNDP must state the expected construction period, as well as information on the topography, geotechnical conditions, access to site, transportation facilities, and method of measurement of completed construction works (UNDP Procurement Support Office a, 2016).

The procurement technique used by UNDP for construction works consists of addressing specifications that provides all relevant terms and generic criteria in the solicitation documents to encourage the

⁴ A formal request originated by a business unit or project team that is turned into purchase order afterwards. (UNDP Procurement Support Office, 2017)

widest possible competition. Among the said specifications, it is worth mentioning those related to performance, which describe what is to be achieved and the quality of materials through a reference to product standards, such as ISO; and design specifications, which can limit the competition in the tendering due to the differences in engineering practices and the uniqueness of the design (UNDP Procurement Support Office a, 2016). This task is commissioned to an engineering consultancy, which also follow up the tender process and support the UNDP procurement team in the evaluation of the technical bids submitted.

1.3.1 Tender Invitation and Submission

In public procurement of construction works, the invitation of companies to submit an offer can be made on the basis of shortlists after a prequalification phase, or in terms of a predefined number of offerors.

The prequalification process is intended when there is a wish to narrow down the number of applicants, or in order to enter into a framework arrangement. The process comprises an identification of companies interested in making an offer, and the selection of the most responsive and appropriated applicants to be included in a shortlist. The main purpose of the prequalification is, therefore, to ensure that the offerors have the necessary technical and managerial skills to complete the project; have required resources, both technical and financial to complete the works; and are willing to submit a genuinely competitive bid. In general, a list of prequalifying criteria must be met by the applicant to further continue in the tendering process. Among other aspects, the technical capability, and financial stability and capability are the most commonly used. (Morledge & Smith, 2013)

If a prequalification process is not conducted, an invitation is normally made to a certain number of competent companies. As per the text by Morledge and Smith (2013), in case that consultancies are being invited to make an offer, the number of companies should be between four and eight, while in the case of contractors, using a bill of quantities or technical specifications and drawings, is in general recommended to be between five and eight. A below number of candidates would increase the risk of a non-effective competition, as longer lists would entail that many companies quit the process due to the low probabilities of success.

The UNDP's practice to invite companies to submit an offer will be described across the following sections.

1.3.1.1. Advertising and Competition in the tendering

In any procurement process of civil or construction works, the aim is to attain the acquisition of an asset involving the best sources, and in the case of UNDP, such procurement must be planned carefully due to its public nature and its corporate's goals, including securing benefits for the development programme. Thus, the search for a competitive playing field that attracts the best potential offerors becomes more than essential to assure economy and efficiency in the procurement process conducted by the organisation.

In the case of construction and infrastructure projects, competition most commonly comprises a one-stage sealed-bid auction. A usual tendering practice followed by UNDP is to prepare a description of the works required and solicits bids from eligible bidders. After the solicitation period, the responsive bids

are kept confidential until a specific day, when they are opened in public and the bidder meeting qualifying and eligibility criteria, and offering the best value for money is normally awarded the contract. However, before the contract is awarded by UNDP, an effective competition must be secured on as wide a geographical basis as practicable and suited to market circumstances, as per UNDP Financial Regulations and Rules (Shah, 2012). “When bidders have equal access to information about the proposed work and compete with one another to win the tender, this method of awarding contracts enables economy and efficiency” in the process (The World Bank, 2011).

Depending on the requirement and total contract value, UNDP adopts different approaches to increase the competition in the procurement process.

As UNDP wishes to render equal opportunity to eligible offerors worldwide, an open market research is used to expand the competitive playing field, which includes the identification of reliable sources and direct notice to them. Also globally media resources are used to make public an open advertisement (UNDP Procurement Support Office b, 2016).

Another practice used by UNDP limits the competitive field to a shortlist of potential offerors through a “non-discriminatory evaluation of qualifications”. This competition is especially indicated for contract values lower than USD 150,000, when the market is highly regulated or it is wide known that only few entities meet the UNDP’s requirements. When applying this competition mode, UNDP must secure that at least three offerors present an offer in order to obtain value for money (UNDP Procurement Support Office b, 2016).

Even though international competition is preferred by UNDP when procuring, they may narrow down the tendering to national offerors when the contract value is below UDS 150,000. In the case of construction works, this competition mode is also performed when the country has an extensive base of qualified and competent contractors that can complete the works by using local workforce (UNDP Procurement Support Office b, 2016).

UNDP normally applies open international competition and a global open advertisement in developing countries in Africa in order to attract the largest number of competent offerors, capable to make an offer for the design and execution of pharma construction projects. Though, strong links of the offerors to the local industry and broad experience in the domestic market are usually required to companies to become an eligible and qualified candidate. By applying this kind of competition, UNDP usually assures to attract on average between four or ten potential companies to make an offer for the projects in the African countries.

1.3.1.2. Procurement Methods

In its activity, UNDP faces different operating environments and markets where the procurement risk must be assessed differently due to the myriad of issues that can come up, which must be considered into the analysis. Therefore, determining the most appropriate procurement method becomes of utmost importance to understand the purpose and the expected outcome of the works, as well as establish a framework that enable to foresee the behaviour of the offerors. Furthermore, a comprehensive

definition of specifications, terms of reference and statement of works, in the solicitation documents used in the tendering for construction works, would help to compose robust tender guidelines and reduce unexpected risks in the procurement process.

Depending on the contract value and kind of goods, services and works to be procured, UNDP opts for different procurement methods. A short description of how and when they are used by the organisation follows.

- **Request for Quotation (RFQ).** This procurement method is deployed by UNDP to procure promptly available goods, services or works, such as construction works, or any combination thereof. Furthermore, it becomes mandatory in UNDP for contract values ranged between USD 5,000 and 150,000. When applying this procurement method, a request is sent to a vendor, which embodies specifications, delivery terms and delivery location, among other aspects, also including the solicitation for a price quotation (UNDP Procurement Support Office c, 2016). Subsequently, an evaluation on the basis of the lowest price will determine which responsive offer, qualified in fully meeting basic selection criteria and in compliance with technical specifications, is the most prospective to be awarded the contract (UNDP Procurement Support Office d, 2016).

- **Invitation to Bid (ITB).** This method is used in UNDP to procure construction works or services that are quantitatively and qualitatively defined, and whose contract value is USD 150,000 or above. This procurement method is, in addition, subject to international competition, with no limit to a shortlist of potential offerors and requiring public advertisement of the procurement opportunity in the international media. However, due to the uncertainties and risks that come up when procuring construction works and the likely large number of prospective bidders in an international environment, UNDP applies pre-qualification criteria prior to the launching of the invitation. As previously described, this phase is used to restrict the awarding process only to those potential bidders who fully meet or exceed the required qualifications. The solicitation documents in the ITB issued by UNDP normally contains instructions to bid; detailed requirements, including terms of reference and scope of the requested works; bill of quantities; contract terms and conditions; and selection criteria (UNDP Procurement Support Office c, 2016). After a comprehensive evaluation of the bids, a shortlist is determined, and the appraised bid showing the best value for money and meeting all technical criteria is normally awarded the contact (UNDP Procurement Support Office d, 2016).

- **Request for Proposal (RFP).** Unlike the ITB, this procedure is intended to procure goods, services and construction works for those projects where the inputs and outputs cannot be quantitatively and qualitatively defined in detail at the time of the solicitation. Besides, the contract value must be ranged at USD 150,000 or above, or seldom less than USD 150,000 when time and resources allow. Furthermore, this procurement method is subject to international competition, although a direct notification can be sent to a qualified short list of vendors that meet the requirements. A RFP issued by UNDP embodies instruction to proposers; detailed requirements, including selection criteria; and contract terms and conditions. In this case, the proposer must submit separately a technical offer, describing how specifications, statement of works and terms of reference will be met, and a financial bid, which includes all associated costs (UNDP Procurement Support Office c, 2016). After the submission of the proposals, they are appraised according to the following

evaluation methods: the lowest price offer, or a scoring method, which assigns a weight distribution between technical and financial proposals. Thereby, the contract can be awarded to either an offeror that meets the minimum qualifying technical score and submits the lowest financial proposal, or the offeror that obtains the highest cumulative score of both technical and financial proposals combined (UNDP Procurement Support Office d, 2016).

UNDP may also face situations when a procurement requirement cannot be determined as an only procurement of construction works, but combined with a procurement of goods and services. Therefore, in those projects where services are higher in cost in the total contract than goods or works, the Request for Proposal (RFP) is used. However, when goods and works are higher in cost in the total contract than services, then the Invitation to Bid (ITB) method is applied. Additionally, in the case that any deviation of the goods or works procured by UNDP may cause a high risk to the organisation or an undesired outcome, the ITB is also chosen as the most advantageous procurement method (UNDP Procurement Support Office c, 2016).

1.3.1.3. Solicitation Documents for Construction Works

On the selection of the most suitable procurement process as to intended requirements, solicitation documents will be drawn to assist the tendering process in UNDP. Even though the nature and value of requirements can differ, as per (UNDP Procurement Support Office f, 2016), the standard solicitation documents for civil or construction works must contain as primary information: the scope of works to be executed, the location of the work and the place of installation, schedule for completion of the works, minimum performance requirements and warranty requirements, together with other terms and conditions. These documents must also define standards and methods to be applied in order to assure compliance of executed constructions works with the technical specifications and construction requirements.

Thus, standard solicitation documents for construction works, no matters the procurement method chosen by UNDP, will include in general:

- A letter of invitation to submit an offer
- Instructions to tenderers, including deadline and documents required
- Minimum qualification requirements and documents evidencing compliance of them
- Evaluation Criteria
- Standard forms for the submission of the offer
- Standard form of a draft contract to be concluded with the successful offeror, and which includes both general and special conditions of contract
- Technical specifications and detailed requirements

1.3.2 Tender Evaluation

Once the offers have been received by the procurement team in UNDP in accordance with one of the methods prior mentioned, and they have been opened publicly, it is time to appraise them so that the best offer can be awarded the contract. This evaluation of bids is performed in accordance with UNDP procurement principles and its main goal is to “ensure that UNDP awards the contract only to the most

qualified and responsive offer which provides the organisation with the best value for money” (UNDP Procurement Support Office e, 2016).

The selection of a capable contractor who will undertake the development of the construction project is one of the most challenging tasks faced by the client, who wishes to complete the project successfully. A “good contractor” is expected to complete project on time, within budgeted cost and to the desired level of quality. In order to achieve so, technical, managerial and financial skills of the participant become determining factors in the construction industry for the selection of a qualified contractor, due to especially the number of players involved (Aje, 2012). However, construction clients pay more attention to the technical competence of the contractor to execute the works, as its technical skills normally determine the quality and rate of delivery of construction projects.

The evaluation of bids performed by UNDP is based on an array of criteria that are developed in accordance with the needs of the project tendered. Besides, according to the UNDP Programme, Operations Policies and Procedure (2017), the evaluation criteria are normally divided into three main categories, included in the solicitation documents. They are administrative requirements, technical requirements and financial requirements.

- **Administrative criteria.** They comprise, among others, the submission of the offer within the stipulated deadline, or legal status of the company and all registration documents are up-to-date.
- **Technical criteria.** These criteria are related to the capacities and capabilities of the company to execute the required works, the compliance of the delivery of the works where the services are requested, or the expertise and capabilities of specific individuals who are going to perform the works to UNDP. When the procurement method chosen is ITB, as frequently used for the procurement of construction works in the organisation, these technical criteria are evaluated based on a compliance/non-compliance scheme. Some examples of technical criteria used by the UNDP to evaluate prospective bidders are, among others, previous experience in undertaking similar projects, or highly qualified individuals suitable to execute the works required.
- **Financial criteria.** This set of criteria relate to the financial capacity of the offeror to fulfil the requirements as committed, being the price an important factor in the evaluation process. Some financial criteria used by UNDP in the solicitation documents of the ITB are, among others, a certain minimum average annual turnover of the company or the submission of an audited balance that proves the current soundness of the offeror’s financial position as well as its long term profitability.

The evaluation of the above administrative, commercial and financial criteria will be drawn together and will let to make a final decision. Indeed, the selection and subsequent evaluation of responsive and eligible bids will be critical for the successful completion of the contract.

1.3.3 Award of the Contract

After the evaluation of bids, it is time to select the most appropriate contractor to execute the project. This phase of the procurement process becomes essentially important for a smooth and proper development of the construction works that are about to be awarded. Indeed, ensuring that the selected contractor has the requested combination of technical skills, managerial expertise and financial resources turns out critical to the successful execution of the project.

Contractors compete when they make an offer, as they seek to obtain the execution of the project at the highest level of profit. On the side of the public client, there exists a trend to believe that if all bidders make a bid on the basis of the same tender dossier and meet the requisite eligibility and qualifying criteria, then the offeror submitting the lowest price must represent the best value for money. However, lately this perception has been significantly changed, as contractors are also willing to take commercial risks to be awarded the contract despite competitive rivals in the tendering process (Morledge & Smith, 2013).

In UNDP, the award of the contract is normally undertaken by the Business Units. This last stage is done within the validity period of the offer and on the basis of substantially responsiveness to the requirements set out in the solicitation documents as well as offering the best value for money. When bids are solicited, the price turns out the sole determinant in making the award of the contract by the organisation. Thus, the contract is usually awarded to the lowest evaluated offer meeting qualifying and eligibility requirements and all technical criteria, such as appropriateness of the implementation of the work plan and equipment, or fully compliance of the qualification of the team assigned to the contract. Lowest evaluated price bids comprise, among the rest of qualified and eligible bids, the lowest cost of additional components, including running cost, maintenance cost, and overall life-cycle costing in the project (UNDP Procurement Support Office, 2017).

1.3.3.1. Contract types

The Procurement Principles and Processes followed by UNDP stipulate an array of contract types to furnish flexibility when acquiring goods, construction or civil works and services required by the Business Units. The types of contracts vary in accordance with the degree and timing of the costs of performance, and the amount and nature of achieving specified standards or objectives. They can be:

- **Lump-sum contract.** It is the contract type commonly used by UNDP for the awarding of civil and construction works.
- **Time and materials based contracts.** They are especially used when consultancy services are to be hired.
- **Percentage Contracts.** This type of contract is generally used for architectural services, and it accounts for measuring the consultancy costs as a percentage of total construction costs (UNDP Procurement Support Office, 2017).

Furthermore, in the tender for the design and construction of pharma storage facilities and infrastructure, UNDP awards a turn-key contract. By applying this kind of contract, there will be only a contractual relationship between UNDP and the winning bidder, who will undertake the design, execution, and risks of calculations, defects and timing. When submitting the offer, the bidder needs to include, as a part of the work plan, individual schedules for both the design and execution phases to meet the awarding criteria (Herforth, 2015).

1.3.4 Findings on Internal Procurement procedures for Construction Works

The prior study of the procurement practice and procedures followed by UNDP allows to answer the following research questions defined to address the problem statement in this project: *“Which procurement method is UNDP using in the tendering for construction works?”*; *“Is the tender advertising applied by UNDP for pharma construction projects encouraging an effective competition in Africa?”*; and finally *“How strict is the adherence to UNDP procurement policies and procedures demanded of potential candidate contractors in the tender for construction works?”*

Based upon the conducted study, ITB turns out the procurement method frequently used by UNDP in the tendering for civil works, and therefore, for pharma construction projects, especially when hazards for the organisation come up in the process, as can happens in the markets of relevant developing countries in Africa. By using this procurement method, UNDP usually applies an open international competition subject to pre-qualification phase. At this stage, the minimum requirements that must be met by the prospective bidders are, among others, holding appropriate licenses and bonds, or the submission of track record of past experience in alike contracts (UNDP Procurement Support Office, 2017).

This study also reveals that between four and ten potential contractors on average have normally submitted an offer for the pharma construction projects being executed in developing countries in Africa. As per limi (2006), this number of candidate companies are within the common frame to encourage effective competition in the tendering for infrastructure or construction projects. Therefore, it can be concluded that the tender advertising applied by UNDP is fostering an effective competition in the process in Africa.

Along the mentioned study, the Procurement Policies and Procedures followed by UNDP have been a constant reference. Therefore, it can be said that the holistic tendering process for construction works in UNDP abide by all rules contained in such guidelines, and thus the prospective offerors must adhere to the requirements demanded therein in order to become a responsive offeror, and subsequently, an eligible and qualified bidder to be awarded the contract.

1.4 European Union Public Procurement Directive

In order to evaluate the effectiveness of the procurement system conducted by UNDP to encourage an effective competition in the tender for construction works, the EU Public Procurement Directive presents itself as a strong reference of successful public performance and competition secured.

The EU Directives are legal instruments which imply that each member state binds to which they address, and they must be also incorporated into member's state legal systems (Morledge & Smith, 2013). As a part of these Directives, the European Commission lays down minimum public procurement rules aiming to create a level playing field for all business across Europe. Moreover, the rules are intended to organise and control how public authorities and operators acquire goods, services, and works, including construction activities (European Commission, 2017).

The core principles of the European Procurement Directive are transparency, fairness or equal treatment, open competition, and sound procedural management. Indeed, this Directive is fundamentally intended to create a procurement market that is competitive, open and well-regulated in order to show that public funds are put to good use (European Commission, 2017). However, it must be noted that the EU's interest to introduce a common frame for procurement practices is merely to support the functioning of the single European market, and not to ensure that clients are obtaining the maximum value for money for any specific project (Morledge & Smith, 2013).

Since its initial design in the 1970s, the EU Procurement Directive has embodied a procompetitive approach, which can be noted through the fundamental principle of competition contained in the 2004 version, which states: *"Public procurement rules have to be interpreted and applied in a procompetitive way, so that they do not hinder, limit, or distort competition. Contracting entities must refrain from implementing any procurement practices that prevent, restrict or distort competition"*. (Sanchez Graells, 2016)

In order to encourage competition, this Directive also sets out that public clients should be particularly careful in an excessive disclosure of information and transparency when there exist risks that could facilitate or reinforce collusion. Therefore, contracting authorities are called to limit the disclosure of information given to offerors in order to prevent anticompetitive practices, and therefore, to avoid a non-effective competition. (Sanchez Graells, 2016)

1.4.1 Procurement of Construction Works

The public procurement of construction works in Europe is also conducted under the European Procurement Directive (latest version, Directive 2014/24/EU). These norms lay down a methodology that must be followed when inviting tender for public construction works, and which is designed to ensure maximum equality among offerors and transparency in the tendering and contractor selection processes (European Union, 2015). The tender process for construction works is divided into three stages: prequalification and compilation of the tender list; tender invitation and submission; and tender evaluation and acceptance (Morledge & Smith, 2013).

In order to compile a list of potential candidate contractors and ensure transparency, all public sector construction projects in member states are published in the Official Journal of the European Union (OJEU), and at national level. Advertisements must contain information regarding basic details of the projects: form of the contract to be used; identity of the employer and information about key dates; a cost estimate of the project; details on award criteria and the relative weighting; and documents or certificates that will be required to make the financial and technical evaluations. In addition, the European Directive allow to perform prequalification of contractors as a way to encourage competitive tendering on the basis of a shortlist (Morledge & Smith, 2013).

According to the European Union (2015), the Directive addresses four types of tendering procedures for construction works:

- **Open tendering.** The competition is maximised when applying this tender procedure, as any contractor can submit a bid.
- **Restricted tendering.** Contracting parties can opt for restricted procedures if they wish. Under this tender procedure any contractor can ask to participate and the contracting party decides which candidates are invited to make an offer. Construction works are more often tendered under restricted arrangements.
- **Negotiated tendering.** Under this procedure contracting authorities have the legal power to negotiate the terms of the contract with one or more offerors.
- **Competitive dialogue.** This procedure is normally applied in the case of very complex projects, where the public client must agree with potential candidates upon requirements and solutions.

The award of the contract according to the EU regulations is made on the basis of the most economically advantageous tender, also taking into account quality, price and technical specifications; or on the basis of the lowest price (European Union , 2015). Besides, the contract award criteria can also contain environmental and other characteristics proved to be linked to the matter of the contract (Morledge & Smith, 2013).

After a basic study of the EU Public Procurement rules, it is noticeable that they have a clear approach to safeguarding, or at least promoting effective competition in the tendering for construction projects, and in the end, increase value for money through the procurement system stipulated.

1.5 Contrast between procurement systems: UNDP POPP and EU Procurement Directive

A comparison between the procurement systems conducted, respectively, by UNDP and the European Commission will allow to conclude the degree of expertise that UNDP has for the tender of construction works, and therefore, answer the research question proposed in the problem statement: *“How experienced is UNDP in the procurement of construction works?”*.

The EU Procurement Directives were drawn back in the 1970s, and ever since, amendments have been included over the years in order to promote an effective competition in the procurements of construction works (Sanchez Graells, 2016), fact that may prove an extensive experience on the field.

The following table gathers the primary aspects embodied in each set of procurement regulations that can encourage an effective competition in the tendering of construction works.

	UNDP POPP	EU Procurement Directive
Principles	Best value for money, effective international competition, and fairness, equality and transparency	Transparency, fairness, open competition and sound procedural management
Tender Invitation and Submission	Globally Media Resources; Open International Competition; and Prequalification phase	Official Journal of the European Union (OJEU) and at national level; Restricted tendering; and Prequalification phase
Tender Evaluation	Administrative Criteria, Technical Criteria and Financial Criteria	Price, Technical criteria and Commercial criteria
Award of the Contract	Substantially responsiveness to the requirements set out in the solicitation documents and best value for money	Most advantageous offer in terms of quality, technical specifications and price; or lowest price

Table 1 Summary of the main aspects in EU Procurement Directive and UNDP POPP regarding the tendering for construction works

As it can be observed in Table 1, the procurement system conducted by UNDP does not differ significantly from Procurement Regulations implemented by the European Commission. Indeed, the advertising procedure used by UNDP would allow to attract more international candidate contractors due to a more global approach, and therefore, it would encourage a broader competition. In the same way, an open but non-restricted tendering would also boost an effective competition in the tender procedure for pharma construction projects in relevant developing countries in Africa. The evaluation criteria used in each set of procurement regulations are alike, although the EU Procurement Directive considers the price as a more decisive factor. Additionally, both systems award the contract against very similar requirements, even though UNDP also considers environmental and social factors as valuable.

Therefore, it can be concluded that the procurement system conducted by UNDP in the tendering for civil or construction works is as valid as the one conducted by the European Commission, or even more, to encourage an effective competition.

1.6 Potential Causes Encouraging Non-Effective Competition in UNDP's procurement procedure

Even though it has been proved that the procurement system conducted by UNDP shares similarities with a system that promotes a procompetitive approach, the study carried out across this chapter unveils that there still exist some potential factors on the client side which can bring about a weak competition, and therefore, which are reducing the efficiency of the procurement process for construction works.

A description of potential causes that can potentially encourage a procurement process characterised by a non-effective competition follows.

- **Inexperience of the client.** Even though UNDP has extensive experience in the procurement of goods and services since the birth of its programme, its experience in the tendering for construction works is still quite short. This inexperience means that the organisation relies on advice from external construction professionals who, unless any genuine improvement is chased, are reluctant to use their client's project as a test bed, and therefore, potential opportunities are left behind. Despite the external support and advice, this inexperience in the tender for construction works also makes the organisation to set targets based on a set of expectations drawn from its own practice, which are not suitable for a construction project, and consequently, which can promote non-effective competition during the process.
- **Selection of an unsuitable procurement method.** The selection of an appropriate procurement system for construction projects turns out a complex and challenging task for clients in general, due to especially its influences on the final result. Indeed, according to (Love, et al., 2008), selecting a proper procurement method could reduce the construction project costs by an average of five percent, while a failure in the selection is widely cited as being the primary cause of project dissatisfaction. As mentioned previously, the inexperience of UNDP in the tendering for construction works brings about a need to seek professional advice to support the organisation through the process. Therefore, even though UNDP is applying a procurement method widely used in the construction industry, the tender dossier can lack fundamental information or show unclear qualifying and eligible criteria that would make that many potential candidate contractors refuse to submit an offer.
- **Lack of resources.** The reliance of UNDP on external funds can restrain the human resources that the organisation can deploy to conduct a proper procurement process. The composition of appropriate solicitation documents for construction works, and subsequent evaluation of bids, require of staff familiar with both the construction industry and procurement at a time. Indeed, an improper and unclear tender dossier could make that many contractors decide not to submit an offer, and consequently, the competition would decrease significantly.
- **Selection Criteria.** A strict qualifying criteria during the prequalification stage could definitely limit the number of contractors that can make a technical and price bid, and therefore, an effective competition in the tendering process would not take place. Even though UNDP applies an open international competition, some of the qualifying criteria used, such as broad experience in the domestic construction market, can hinder that a sufficient number of companies submit an offer.

- **Excessive degree of transparency.** UNDP strives to make the procurement process as transparent as possible due to its public nature and in order to show donors that funds are put to good use. However, imposing excessive disclosure of information reinforces collusion, and consequently, competition can be significantly reduced. This happens especially when there exist actual risks of strategic use of challenge procedures or the market structure is such that the increased degree of transparency could facilitate corruption and collusion (Sanchez Graells, 2016), as can occurs in the relevant developing countries in Africa where UNDP intends to develop pharma construction projects.
- **Short time scales.** The uncertain funding of the UNDP's activity entails that the organisation sometimes has to define projects in haste and improvise the required arrangements to execute construction works, including the preparation of solicitation documents. This can trigger tight deadlines and short time scales in the design and construction phases, and can imply that the quality of the tender dossier decreases. Due to this, many potential contractors may refuse submitting an offer due to unrealistic milestones in the schedule of the works and unclear qualifying and eligible criteria, what will eventually give rise to a fall of the level of competition.

2 Construction Industry in Africa

2.1 General Background

The construction sector can be understood as a joint of other disciplines related, including the building and housing industry, infrastructure, or facilities management; which in turn encompasses myriad of related activities, such planning, design, construction, maintenance and eventual demolition of the building and works. Besides, the carrying out of these activities normally requires economic partnership and social cooperation between different players and identities to be performed. The construction industry is, essentially, "a service industry, obtaining its inputs from various sectors of the economy, with which it is interrelated and interlinked in a complex manner" (Ofori, 1980).

Additionally, the construction industry has a very divergent and fragmentary nature of demand. This particular situation has given rise to a structure of contractors and practices that is different depending on the country or market (Ofori, 1980). Although in most of the industrialized countries large construction contractors compete to lead local and overseas markets, there is still a considerable number of small, and sometimes short-lived companies. Indeed, they can afford only flexible employment policies, little capital investment, low evolution and industrialization, whose success and development is limited to reasonable numbers of projects and geographical borders.

Many experts getting involved or participating in the development of the construction industry agree upon the need for improvements on capacity and effectiveness of the sector to meet the demand for building and civil engineering products. This challenge turns particularly important because of the significant role that the construction industry plays in the progress of sustained national economic and social development objectives. As per (Ofori, 2000), the construction industry fosters besides

environmental responsibility in the delivery process, increased value for money to clients and the viability and competition of domestic construction companies.

As pointed out by George Ofori in 1980, “the economic growth and social equality require the construction and more construction contributes to growth”. Nonetheless, the difficult economic conditions undertaken in recent years by many countries in Europe have demonstrated the sensitivity of the construction sector to economic fluctuations, particularly the housing industry, and the heavy influence of this sector on general economic stability. Back in 1976 the European Commission already predicted the recent financial crash due to the vulnerability of the construction industry, which is nowadays continuously questioned.

There is no market where the construction industry gets free of any major problems. However, these issues turn more severe in the developing countries where normally resources lack. Many attempts to enhance the construction sector in developing countries have chased an increase of the productive capacity. The reason is that the construction sector contributes significantly to the development of these countries, and therefore, a due performance of the construction activities enables a less restrained overall socio-economic development. Even though a development strategy driven by the construction industry in each country relies considerably upon its nature, including its size, mobility and quality, the construction becomes a main actor of the development of the domestic economy. (Ofori, 1980)

Additionally, in developing countries, the fluctuating demand of the construction activity creates a sector mainly dominated by transient building companies (Ofori, 1980). Therefore, far more input requirements and work types are necessary to sustain the construction activity in these countries as compared to industrialised countries.

In Africa, the construction sector has contributed significantly to the continent’s faster growth in the 2000s. However, according to The African Center for Economic Transformation (2014), still some barriers have to be defeated, such as missing links in regional systems, poor household access to networks, or high construction costs because of a little competition. The effect of these barriers is especially noticeable in Sub-Saharan Africa⁵, where there exists a very large gap between needs and available funds. Indeed, the development of these poor regions are extremely constrained by inadequate infrastructure, presenting an estimated annual gap in funding of about USD 45 billion.

However, assistance efforts from the international donor community, including OECD and other donors, have been increasingly concentrated on North Africa and Sub-Saharan Africa for infrastructure development. As Figure 7 shows, in 2006 about USD 30 billion were disbursed to developing countries in Africa, of which around 95 percent was contribution of Development Assistance Committee (DAC) countries⁶.

⁵ According to the UN, it comprises all African countries that are fully or partially located South of the Sahara, particularly where UNDP develops most of its programme.

⁶ DAC is a forum of the Organisation for Economic Co-operation and Development (OECD) where the governments of donor countries and multilateral organisations like the World Bank and United Nations are joined in helping the developing countries reducing poverty and reaching development goals. (Ministry of Foreign Affairs of Denmark, 2017)

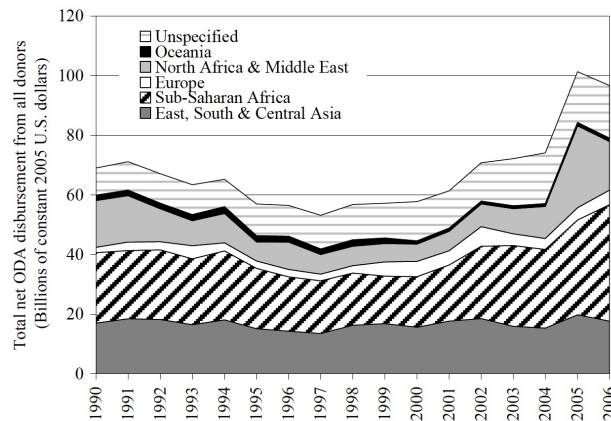


Figure 7 Net Official Development Assistance (ODA) received by developing countries from the 1990s to 2006. OECD statistics (Estache & Iimi, 2008).

2.2 Characteristics of the Construction Sector in Africa

Getting to know the main features of the construction sector in relevant developing countries in Africa, where UNDP intends to conduct a competitive procurement process for pharma construction projects, becomes paramount to identify the playing-field, as well as the trends and potential factors encouraging a poor competition in the procedure.

Historically, the economies of developing countries in Africa have been notably influenced and integrated with the former colonial powers in Europe, and in a smaller scale with North America and Japan. This fact has been reflected in the way that institutions of governance operate, in the language influences, in the infrastructure sector– during the establishment, western countries built infrastructures to facilitate the communication with the locals– in economic specialisation, and in the integrations of local producers in northern companies and value chains (OSAA, 2015). In addition, the construction industries of these developing countries face legal and technical constraints resulted from the adoption of obsolete and inappropriate practices and documents from more industrialised countries (Ofori, 1980).

As per the conclusions of the study carried out by Foster, V. and Briceño-Garmendia in 2010, three fundamental aspects characterise the construction sector in Africa:

- The Infrastructure services in Africa turn out to be twice as expensive as elsewhere, what shows diseconomies of scale in production and high profit margins caused by little competition.
- The central governments of developing countries in Africa are the main investors in infrastructure.
- The institutional, regulatory, and administrative reforms are not completely drawn yet.

Figure 8 shows the volume of public investment spent on infrastructure in 2008 in different regions in Africa. It can be observed that in the Sub-Saharan regions nearly 2% of the Global Domestic Product (GDP) was allocated to the infrastructure development. However, even though in these countries most

of the construction projects are funded by the government, only about two-thirds of the budget allocated to public investment in infrastructure is normally executed.

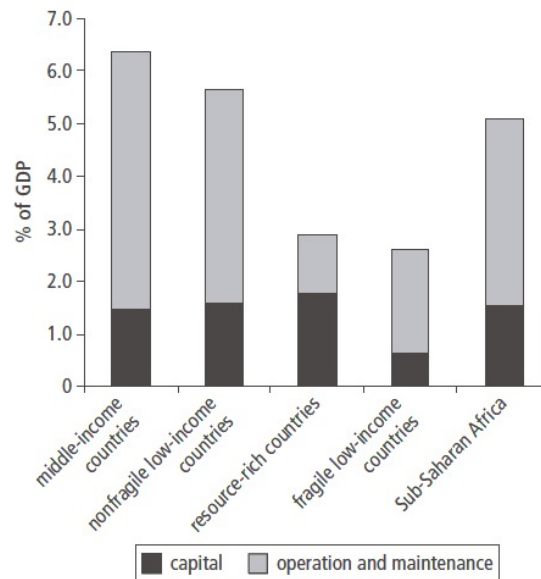


Figure 8 Infrastructure Public Investment as a Percentage of GDP in African economies in 2008 (Foster & Briceño-Garmendia, 2010)

Based on the study carried out by Andrews, et al. (1972) on the construction industries of Sub-Saharan countries, it was found that these countries were lacking a sound structural base, which would enable to build a further expansion of the sector. In addition, the construction industries in these countries were dominated on one hand by a large number of small native contractors or even self-employed artisans, and on the other hand, by a small number of large private and public contracting organisations. Furthermore, these countries face an array of structural challenges, such as the typical fragmentation of the sector, institutional weakness and a shortage of adequate resources that are entailing a poor performance of the sector due to the high cost of imported materials (Gyadu-Asiedu, 2013). The fragmentation of the industry hinders the information and knowledge sharing in these markets, and the presence of small contractors restrains the investment in research and development and in advanced information management systems that contribute to a further development. In addition, these industries lack a proper balanced between the interests of the different stakeholders, including the construction staff, public institutions and private companies. Also low productivity labour and lack of managerial and technical skills; high proportion of overheads and profits; use of ineffective designs; outdated building regulations and bye-laws ruling the industry; or the inadequacy of research and development programmes have been identified by The Economic Commission for Africa as existent problems in these construction industries.

In Africa, in turn, the construction industry is characterised by an even deeper vulnerability and instability than in industrialised countries, although problems of similar nature also come up, including discontinuous programmes, frequent stoppages of work or conflicts arising from a bad interpretation of inadequate or incomplete specifications and drawings. Besides, serious corruption and fraudulent practices dominate the construction industry in these countries (Ofori, 1980).

Though, due to the vital role that the construction industry plays in the development of a region, countries at different socio-economic level in Africa acknowledge the need and importance of taking measures to enhance the performance of the local construction industry, and enable the domestic economy to grow thereby.

Among others, the Southern African Countries are making together deliberate attempts to improve their construction industry. They have created long-term plans that will drive a continuous improvement of the industry and have formed construction industry development agencies in order to coordinate efforts and resources pools (Gyadu-Asiedu, 2013). This initiative can potentially encourage a greater sustainability and chances of success due to the involvement of the main stakeholders and beneficiaries in the planning and implementation processes. In addition, many institutions are becoming industry inspired and active participation to collaborate and contribute to development goals is increasing (Ofori, 2000).

The economic development depends on investment, which in turn depends on efficient and low-cost construction, on which the capabilities of local contractors have a significant influence. Therefore, governments and donors funding construction projects will need to pay more attention to how the procurement rules applied affect the company capacity-building and provide more support to develop a competitive and quality construction sector in Sub-Saharan regions (Gutman & Zhang, 2014).

2.2.1 The Procurement of Construction Works in African Developing Countries

In the design and construction of a specific building or infrastructure there is normally a logical sequence of apparently unique activities, from initiation, design and documenting through procurement, construction and commissioning of the project. However, as per Drewer (2001), “the construction process is neither uniquely sequential nor rigorously deterministic”. Indeed, the sequencing of these specific construction functions reflect more often national traditions and legal procedures than technical and economic imperative of construction.

In developing countries in Africa, the fact that construction activities have been carried out by members of the community who owned the work has developed a local culture in procurement that is by nature collaborative. However, the increasing international funding in the construction market and a shortage of skilled local workforce and partners are affecting this collaborative state of the procurement system (Morledge & Smith, 2013). If not collaboration is achieved, in a procurement system that is relevant to a specific construction project, at least compatibility must exist between the preference profiles of the potential contractors and suppliers, and the requirements of the specific construction project (Drewer, 2001). For this reason, despite a limited number of practices in the procurement of construction works, contractors and suppliers involved in different projects must have the capability to deliver services that fit the requirements of the individual construction project.

The below picture illustrates the standard parties that are usually involved in the construction activities that take place African developing countries.

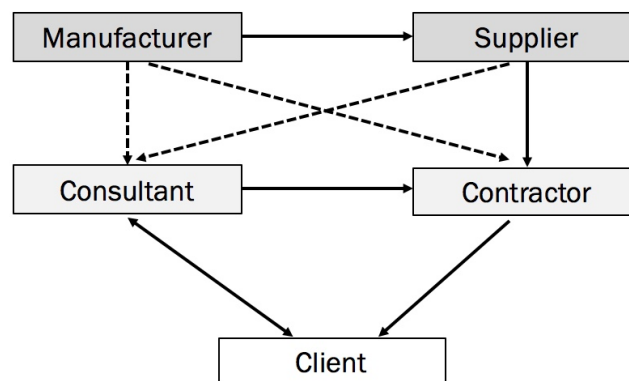


Figure 9 Partnership diagram in the construction industries of developing countries in Africa. Based on (Sichombo, et al., 2009)

At the bottom of the diagram, the client or employer comes up with an idea, and turns to consultants and contractors to request their services and products. They commonly establish partnerships through a contract. As the client is a public organisation the contract is awarded by conducting a tendering procedure, while negotiations normally take place when the client is private. The designer, usually referred to as consultant, is normally appointed by the client to render advice and assistance on the design, contract documentation, and also oversee the project execution on behalf of the client. They share, therefore, ideas and resources during the extent of the contract. The contractor is predominantly concerned with site activities and gets involved in the implementation of the design developed by the consultant through the physical erection of relevant buildings or infrastructures. The supplier is responsible for the importation and provision of building materials, plant and machinery to the contractor for the execution of the works. Finally, the manufacturer produces the buildings materials and machinery for the supply sector, or directly to the contractors (Sichombo, et al., 2009).

Within their public procurement system, most construction markets of Sub-Saharan countries share common procurement procedures for construction projects. Miscellaneous literature allows to draw a common frame for the relevant aspects affecting the competition in the procurement process conducted by the public sector in these countries.

- **Client.** The public sector client is so unpredictable, i.e. most clients, particularly governments, do not respect their obligations under the contract. This makes that many of the larger and better established contractors in the market refuse to tender for its projects.
- **Contractors.** The relative ignorance of contractors, especially local companies, to high penalties for delayed completion in prior projects or acceptance of construction projects against severe shortages of materials, has given them a feeling of false security or even invincibility. Indeed, contractors are frequently unable to meet their part of the contract with public clients, and consequently, many projects are delayed or even abandoned. Also discussions between contractors and consultants and clerk of works over the quality of materials and workmanship are a constant during the execution of the contract.

- **Consultants.** Even though consultants strive to ensure that the client gets value for his/her money during all phases of the project, they normally act in a way that hampers a smooth and successful execution of the construction project, what usually results in losses for both the contractor and the client. They also normally fail to cooperate with the relevant players involved in the project, including the client, as the conditions of the contract imply.
- **Procurement method.** Many tendering methods for construction projects have been used or are being used by public institutions in Sub-Saharan countries. The most common are open international bidding, selective tendering and sole source negotiation, including the Turn-key tendering (Chen, et al., 2007). Governments in these countries have normally use tendering procedures to encourage the participation of local contractors (Ofori, 1980)
- **The Briefing process.** A lack of communication between the procurement team and the client has become a major problem arising during the definition of objectives and requirements of the project in developing countries in Africa. The brief developed by the public clients normally contain insufficient information on which to base the design solution and unclear scope of works to be performed, bringing about misunderstandings between parties and that many offerors quit the tendering process (Bowen, et al., 1999).
- **Tender advertising.** Few public tenders are advertised in the media, but most contractors maintain constant contact with the awarding or processing agencies.
- **Tender periods.** They are so short that contractors are not able to price the bills of quantities accurately, with obvious implications at the construction stage. In addition, contractors do not receive vital production information on time.
- **Criteria for prequalification.** In the public procurement process for construction projects conducted in Sub-Saharan countries there exists a common ground for the criteria used in the prequalification, being the major criteria in order of importance technical capability, financial capability and managerial capability. Others are past performance and health and safety records (Aje, 2012).
- **Technical specifications.** The specifications in the solicitation documents lay down the use of standardised materials. The construction standards and codes to be used are chosen by the client's engineer. Besides, these documents state the quality of the workmanship. The local workforce is too little, so international labour force is allowed (Chen, et al., 2007). In addition, the choice of the construction method and costs are also addressed (Ofori, 1980).
- **Drawings.** During the public procurement of construction works in the relevant developing countries in Africa, the involvement of the contractor in the design phase is not yet a common practice. Besides, the drawings included in the solicitation documents are insufficient in terms of detail and barely provide sufficient solutions for the constructional issues. Indeed, most construction projects are begun before the design is finalised and completed on the basis of sketch drawings.

- **Bill of Quantities.** This part of the solicitation documents becomes the result of guesswork, as the quantity surveyor does not normally have sufficient information on time. This brings about uncertainty about the required quantities on site.
- **Materials.** In these countries the reliance on imported materials is very common. Indeed, in Sub-Saharan countries everything has to be imported. It is also cited by many researchers that these developing countries are characterised by lack of conformity of materials to standards that implies lower construction quality (Chen, et al., 2007). Finally, the standards defined by the public party in the solicitation documents are not often respected by the contractors (Ofori, 1980).
- **Performance bonds.** Only large contractors have to tie to performance liabilities and warranties which can be easily secured from local banks. However, these performance bonds do not limit the operations carried out by the contractors.
- **Award of the contract.** Bids are usually assessed on estimates for the duration of the project, current workload and past reputation. The lowest bid among those evaluated is awarded the contract.

Additionally, the public sector has noticed a lack of adequate experience of contractors in the design process, and a shortage of resources and expertise in consultancy, as well as unknowledgeable clients (Jaafar & Mohd Radzi, 2012).

2.2.2 Findings on African Construction Industry

The prior study of the construction industries in relevant African developing countries sheds light on the research question *“How developed is the construction industry in relevant developing countries in Africa?”*. Based upon the main characteristics and facts dominating the industry and the common procurement practices for construction works, it can be concluded that the construction industry of developing countries in Africa has still challenges to defeat as compared to the markets of industrialised countries, even though they share some characteristics, which were inherited from western countries.

A little competition in the construction markets of these countries and a notable lack of resources increases the price of the construction activity, and consequently, the acquisition of the final product. Besides, the local contractors are so small that cannot afford to invest in research and development, and therefore, remain stuck in old-fashioned management systems that hinder their performance, and therefore, the growth opportunities become limited. The level of fragmentation of the construction sector by nature gets more noticeable in these countries, where it restricts the knowledge sharing, and old and conservative building regulations entail that advancements in the industry cannot be applied, decreasing the opportunities of development and growth. In general, the expansion of the sector is also restrained by a lack of a structural base, low productivity labour and institutional weakness. All this makes that the construction industries in these countries are staying stuck at a continuous developing stage.

2.3 Competition in the Local Construction Markets

In order to know the effect of competition on the final price of the contract for a construction project, it is first necessary to be aware what competition comprises in the relevant industry, in this case in the construction industry, and the different kinds of contractors and competitive situations that can be found. For the case of developing countries in Africa, the competition relies significantly upon the competition laws in each country and the amount of local and overseas actors present in their construction markets.

In the construction industry, companies can differ in size, and they are usually divided into large companies or contractors and small ones. In general, the larger companies are more knowledgeable and competent, and they employ qualified professionals, who normally also head the company. Smaller companies are not so competent and are owned and managed by owners who are graduate builders or even with no knowledge of or qualification in construction. Indeed, they are so small that they cannot afford full-time services of qualified professional staff. In addition, larger construction companies can secure better credit terms from the bank and suppliers to develop their activity, and also have direct access to equipment, while small contractors can encounter more difficulties (Ofori, 1980). For instance, in developing countries, small contractors need to have fixed assets to be awarded a contract, but in order to obtain these they need credit, which is not accessible unless they are on a government tender list or already have had a contract. Furthermore, in order to execute a construction project efficiently they need to ensure a reliable permanent workforce which they cannot afford unless they are continuously involved in other projects. Finally, they will be awarded a contract unless they can prove that they are efficient in the completion of prior works.

Based upon the experience of some public clients in certain construction industries of developing countries in regards to the management of resources during execution, the larger contractors are normally more capable to prepare and use site layouts, different kind of software for the construction activity, material schedules, cash flow and financial plan and site cost control systems. The small companies, though, cannot afford these management resources, and therefore, they usually face delays in materials delivery, inefficient site production, and high costs. (Ofori, 1980)

The predominant size and level of sophistication of the construction companies that dominate a construction market plays, therefore, an important role in the level of competition that can be secured during the procurement of construction works. It is obvious that larger companies will have more possibilities to be awarded a contract, due to their situation to meet qualifying and eligible criteria required by the client. However, it becomes also important that the client frames the profile of the contractor required for the works being tendered, and based upon that, he/she encourages competition through suitable solicitation documents and contract type.

Based upon the conclusions of the study carried out by Estache & Iimi in 2008, the competition effect relies also on the size of the contract, and it turns of greater importance when the contract is particularly small. Indeed, the unit costs tend to decrease with the size of the contract. This means that the contract amount for a small project will be relatively high, and therefore, profitable for contractors. Thus, many of them are expected to apply, and the competition effect would influence at a large scale on the final price of the contract.

On the other hand, price-related competition in construction turns imperfect due to its links to the market forces, which do not guarantee optimally efficient economic outcomes (Drewer, 2001). On a global perspective, the trade in construction products and services varies. Thus, intra-developed country transactions dominate the trade of materials for construction, while developed and developing countries dispute the control on design and consultancy activities, as well as contractor services. In the last decades, the trend in some developing countries has been to award the contracts for construction projects to national contractors or contractors from other developing countries (Drewer, 1990).

Due to the complex competition system in the construction industry, some developing countries have attempted to strengthen their competition law. This competition law is intended “to control or eliminate restrictive agreements or arrangements among enterprises, or mergers and acquisitions or abuse of dominant positions of market power, which limit access to markets or otherwise unduly restrain competition, adversely affecting domestic or international trade or economic development” (United Nations, 2015). Some Sub-Saharan countries, such as Zambia, South Africa and Namibia, have developed Acts to enhance the promotion and safeguarding of competition, fight unfair trade practices, and consequently, encourage the socio-economic development in their countries.

2.3.1 Local Partners

Developing countries, particularly in Africa, are characterised by a relatively low level of efficiency at work and a level of technology wide below the level deployed in industrialised countries. Indeed, they normally import their construction technology from developed countries, as theirs may be useful only in the short-term or even traditional (Drewer, 1990). Additionally, the shortage of skills of all types in the construction sector of developing countries in Africa is a common standpoint among many researchers, who also notice that most of local construction companies are small, and only few are able to identify their actual rights and obligations under the contract (Ofori, 1980).

Indeed, the construction companies in African developing countries are known for their lack of knowledge, short-term orientation and lack focus on construction, and they are also unable to employ qualified professionals (Ofori, 2000).

2.3.2 Overseas actors

Globalisation has turned to an inescapable fact (Ofori, 2000), particularly within the construction industry. Indeed, any country lacking a construction resource base becomes incapable to satisfy their building and infrastructure demands, and therefore, has to access the international construction market to find companies that can satisfy such demands (Drewer, 2001). This is the case of developing countries in Africa, particularly the Sub-Saharan nations. Many construction projects required for their socio-economic development need capabilities that cannot be found in their own industries, due to especially a shortage of large companies with resources to undertake complex projects.

Thus, in developing countries in Africa there exist three trends in the construction sector (Ofori, 2000):

- A substantial extend of private-sector participation in infrastructure projects;
- A vertical integration⁷ in larger construction projects; and
- An increased foreign participation in the construction industries of most African countries.

International construction companies have always played an important role to encourage and support the local enterprise, skills and management in developing countries overall. However, they have been always characterised by having long-term profit-oriented ad-hoc trade practices, even though their interests were planned in a very beginning to align with the development goals of the relative poor countries (Ofori, 1980). These profit-oriented intends have ended damaging the economy of the developing countries, as for example, international contractors tended to work from one contract to the next, not giving opportunities to smaller local companies, and hindering their growth. Also, most construction projects executed using overseas resources have failed to deliver facilities that were intended to provide the maximum benefit for the local economy (Morledge & Smith, 2013).

The access of international construction companies into the markets of developing countries in Africa has caused, therefore an array of problems, which have damaged the local industry. However, they have also provided the developing economies with means to reach their development goals, as can be observed in Table 2.

Advantages	Disadvantages
A direct foreign investment has led to increase the construction demand, and therefore, more work opportunities for local companies have come up	Most local contractors lacked required technical and managerial capabilities to undertake foreign-funded projects
International financial resources have made possible the development of major infrastructure projects	The participation of local construction companies in privatised infrastructure projects has been too low due to a lack of financial resources and expertise
Competition between international contractors has lowered the costs of projects for local public institutions in developing countries	Due to the presence of international companies, the chances for local contractors to compete, and therefore, to grow have decreased
The presence of more international companies has offered technology transfer to local contractors, enabling them to grow and upgrading the local construction industry thereby	Even though it was promise, international companies have sometimes taken measures to avoid the technology transfer, and local contractors has lost the opportunities to benefit from it and utilise the acquired expertise

Table 2 Benefits and problems of globalisation in the construction industries of developing countries. Based on (Ofori, 2000).

⁷ Vertical integration means the combination in one company of two or more businesses at different stages of production normally operated by separate companies. (The Economist, 2009)

Indeed, as mentioned in Table 2, the gap in technology, finance and know-how between local contractors in the construction industries in Africa and foreign larger construction companies could be filled through technology transfer, for instance, via joint ventures between both groups of companies. Though, as several authors point out, technology transfer turns out tricky and full of complexities. Most foreign contractors believe that transferring their technology would disrupt their presence in the country, as it would nurture future competitors in the industry. Besides, there exists a tendency of foreign contractors to adopt strategies that do not support host countries to develop their construction industries (Ofori, 2000).

The presence of foreign contractors in the construction industries of developing countries is not so recent, and some facts and motivations brought it about. Back the 1960s, the global construction activity was mainly concentrated within the construction market of developed economies (Ofori, 1980), and ever since, their construction companies started to expand their operation predominantly into developing countries, including those in Africa. At the time, exports from poor countries would allow them to develop industrialisation programmes which would create opportunities for foreign contractors, and consequently, the competition would increase at the expense of a higher risk.

As Figure 10 illustrates, in developing countries in Africa, the trends in export competitiveness have shown over the years a notable difference as compared to the trends of earlier transformed economies, such as Brazil, Chile or Indonesia.

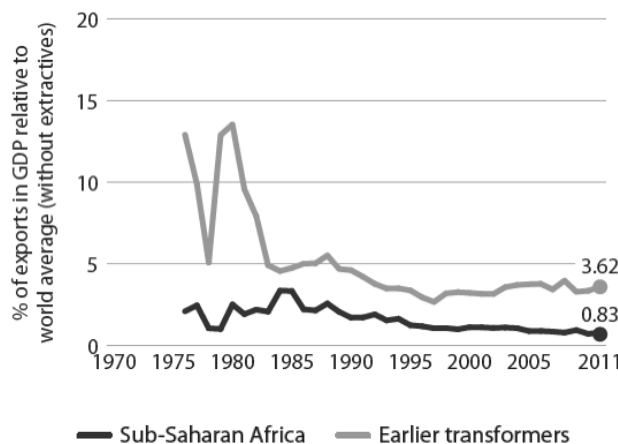


Figure 10 Export Competitiveness of Sub-Saharan countries relative to world average (The African Center for Economic Transformation, 2014)

Even though in the 1980s a rise in exports took place, since 1985 a downward trend has though dominated the export in these regions, what has implied less opportunities to expand production and foster employment, smaller incomes, and consequently, less investment. Due to this situation, local construction companies have lost the hope to invest in skills, capital and technology, and therefore, grow and secure capabilities to compete in the market.

In the context of these exports gap, emerging economic actors, such as China and India have seen opportunities in the construction markets of developing economies in Africa. China is now the second biggest economy in the world, and India is on the way to become the third largest, what means that their

expansion will have an impact on the global economy, and therefore, on the markets of poorer economies. Besides these two countries, other large and rapidly-growing economies, including Brazil, Russia, Turkey, Korea and Malaysia, are playing an increasingly important role in helping to shape Africa's future development. They have been grouped and called the New and Emerging Partners (NEPs).

Country	No.	Share of total (%)
China	141	59.0
Brazil	38	15.9
Korea	21	8.7
India	15	6.3
Turkey	14	5.9
Malaysia	5	2.1
Russia	5	2.1
Total	239	100

Table 3 Country of origin of foreign construction companies involved in Africa infrastructure projects for the period between 2000 and 2010 (OSAA , 2015).

In Table 3, can be observed that out of 239 construction projects executed in developing countries in Africa between 2000 and 2010, 141 have been linked to Chinese stakeholders, while construction companies of Brazil have become the second largest stakeholder with 15.9% of total share. On the other hand, contractors from Russia and Malaysia have been involved in 2.1% of construction projects in relevant countries in Africa.

For construction companies in the NEPs, developing African countries represent rapidly growing markets where they can apply their competencies developed in meeting the needs of their home economies, which are similar to those in the operating environments in Africa. Furthermore, governments in the NEP have increased their aid programmes to Africa, often rendering support for their private sector to participate in the infrastructural development of poor countries in the region (OSAA , 2015). For example, both governments of China and India provide access to low-cost credit to their construction companies operating in foreign countries, such Sub-Saharan economies, making them thus more competitive than local African companies (Tshabalala, 2015).

2.3.3 Degree of Corruption, Collusion and Fraud

Before studying the level of corruption, collusion and fraud in developing countries in Africa, particularly in the Sub-Saharan countries where UNDP mainly develops its procurement activity, it is of greater importance to know precisely what these practices are about. The World Bank (2011) has defined these practices as follows:

- **Corrupt practice.** It comprises “*offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party*”.

- **Fraudulent practice.** It consists of “any act or omission, including a misinterpretation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation”.
- **Collusion.** It refers to “any combination or agreement– no matter how informal– among sellers, to raise or fix prices or rig bids or to reduce output in order to increase profits”.

As per the Bidding Theory, collusive and corruptive practices and competition are closely linked. Indeed, in markets where vendors compete for contract to supply products or services with unique specifications, as the construction works are, the probability of collusion becomes more difficult as number of bidders making a bid increases (Brannan, et al., 1987). In addition, as the success of corruption relies strongly on the level of collusion among bidders, competition also facilitates that the risk of corruption also decreases. Among other practices, ensuring transparency, not excessively, and watching the capacity-building through subcontracting can turn out a manner to halt collusion and corruption by facilitating competition (The World Bank, 2011).

However, in a procurement process where the number of bidders becomes sufficient to promote competition and prevent collusive practices– i.e. about eight bidders making a bid for a construction project–, when the contract is awarded, especially for large construction projects, suspects of corruptive and fraud practices remain in the public debate: favouring the choice of local contractors, the choice of contractor is not wholly based on economic criteria, requirements were not laid down as usually, etc. Therefore, questions on corruptive and fraud practices are always in the picture.

In the case of Sub-Saharan regions, corruption has usually dominated the public institutions (The African Center for Economic Transformation, 2014). Indeed, enterprise surveys carried out by The World Bank in the 2000s unveil that informal payments have been a common practice in the public procurement system in developing countries in Africa. As figure 11 illustrates, in Sub-Saharan countries, contractors are paying as much as 3.5 per cent of the contract amount to secure a public contract from the government, becoming the highest amount paid as compared to other developing countries worldwide. Also in these African developing countries, a great number of contractors expect to pay the public institution to reach their objectives.

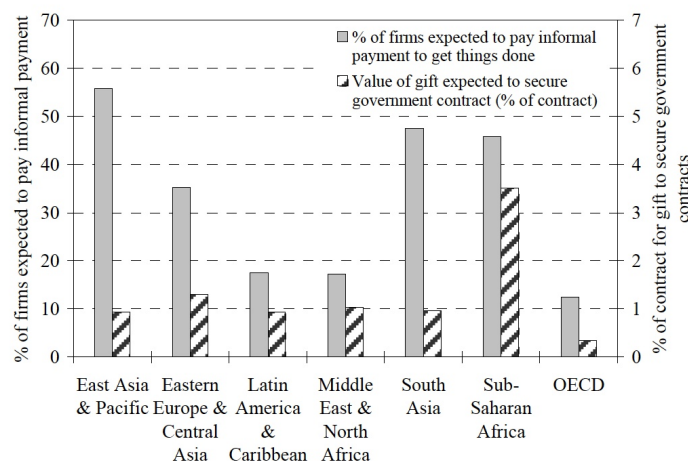


Figure 11 Informal Payment Practices in Developing Countries globally (Estache & Iimi, 2008).

These substantial amounts of public funds for public investments in infrastructure are diverted by corrupt politicians and officials through the public procurement system, and are giving rise to poor-performed construction projects, unduly disputed and prolonged tender processes, and abandoned projects or construction times excessively delayed at the wait for securing higher bribes (The African Center for Economic Transformation, 2014).

2.3.4 Findings on the Market Competition and Corruption

The study carried out across the section 2.3 allows to answer the research questions: *“How does the competition comprise in the construction markets of developing countries in Africa?”* and *“What is the level of corruptive and rigging practices in the indigenous construction industry?”*.

On the one hand, the competition in the construction market of developing countries in Africa, particularly of the Sub-Saharan countries, consists of very small local contractors and foreign construction companies from other developing economies, mostly from China. The local contractors present a lack of resources, both human and technological, that must be imported from other developed industries, while foreign construction companies show proper competencies to participate in the execution of construction and infrastructure projects in such developing countries. Based upon the analysis in Section 2.3.2 carried out by the Office of Special Adviser on Africa– part of the United Nations– can be concluded that Chinese construction companies are dominating the construction markets in developing countries in Africa, and they will be the main rivals for local and other foreign contractors for winning the contracts for the design and construction of pharma storage facilities developed by UNDP.

On the other hand, based upon the analysis in section 2.3.3, it can be concluded that the African developing regions, where UNDP is intending to increase the competition in the tender process for pharma construction projects, the level of corruptive practices is still very high. According to the Bidding Theory, this situation is bringing about a risk of non-effective competition in the relevant construction markets, as it strongly relies on the level of corruptive and collusive practices. As the number of bidder increases, the level of corruption and collusion decreases accordingly.

2.4 Potential Causes encouraging Non-Effective Competition in Developing African Countries

The study on the construction industry and public procurement in developing countries in Africa, which has been carried out across this section 2, allows to identify an array of local factors that are encouraging a non-effective competition in the procurement process conducted by UNDP for pharma construction projects in such countries. The potential causes identified involve especially the local construction industry, i.e. the domestic contractors that can opt to be awarded a contract for the construction works to be developed by UNDP. A list of potential local factors decreasing the competition in the tender follows.

- **Frequent corrupt practices.** In a construction market characterised by corrupt practices, as it is in the African developing countries, contractors only know inappropriate manners to be awarded a contract for construction or building projects. The robust and strict transparency and fairness principles of UNDP in the procurement process would create a barrier for local contractors, which

would not be able to submit an offer accordingly. As per the Bidding Theory, the competition in the process would be significantly reduced due to its reliance on the level of corruption. As corruption is widespread in the procurement system, many candidate contractors would refuse to invest in resources to submit an offer, since the winner offer is determined beforehand.

- **Absence of medium- and large-size local contractors, and lack of expertise and education in the field.** As described in the previous section, the construction markets of the relevant African developing countries are dominated mostly by small contractors. They might find it difficult to meet the requirements imposed by UNDP in the solicitation documents, and therefore, become a responsive and eligible candidate bidder. Unlike medium and large contractors, they lack financial resources and have a strong reliance on banks to invest in resources and submit an appropriate offer. Also, they are not normally able to submit the required documents on time, and their low level of technology and lack of qualified professionals in the construction field do not allow them to present an adequate technical bid. Moreover, most of them cannot identify their actual rights and obligations under the contract. This fact can make that most local contractors do not waste financial and time resources in submitting an offer, and the number of competitors decreases.
- **Shortage of quality material and equipment supply.** The material supply in Africa is a big issue. In Sub-Saharan countries the material supply and equipment do not reach the demanded quality in standards, and therefore, all must be imported. The engineer of UNDP demands in the solicitation documents for the pharma construction projects a level of quality as per international standards and codes. This fact would make that the local candidate contractors would not be willing to submit an offer that meets such quality demands, as it would imply an increase of the final budgeted price and they could not secure sufficient profit margin thereby. Therefore, the competition would be reduced significantly in the tender process against an incapability of local bidders to reach quality standards.
- **Conflicts in the culture and environment of working.** The procurement practices, procedures and partnerships in the construction industries of Sub-Saharan countries still differ from the UNDP's procurement policies and procedures, even though these developing countries inherited project procurement and administrative arrangements from western countries, and UNDP's procurement process shares many similarities with them– e.g. with the EU Procurement Directive. However, “universal solutions are not practical” (Ofori, 2000). Indeed, the procurement procedures and methodologies conducted by UNDP do not reach most local companies with a profile determined by the history of the domestic industry, their size, specific corporate goals and objectives, and their technology of production; and which are used to a certain market and operating environment. Similarly, individual differences in culture, perceptions, skills and understanding of the construction activity can contribute to refuse to compete in a procurement process conducted by an international company driven by people of many nationalities. Although promotional efforts can achieve some favourable responses, some ideas rooted in history and culture can barely be shaken. Furthermore, the procurement approach formulated by UNDP and its relative financial regulations and rules are so strict that local companies might not adhere to them, and finally they would decide to quit the process due to very demanding qualifying and eligibility criteria.

- **Language barriers.** Due to UNDP is part of a public international organisation, its corporate language is English. This fact can bring about communication issues between the potential bidders and the client. Small local contractors in the Sub-Saharan countries lack personnel with advanced English skills to clearly understand the needs and scope of the works in the project. Indeed, submitted documents to establish qualifying and eligibility criteria are usually rejected by UNDP, since they do not contain the requested information. The fact that the solicitation documents are in a language other than the native language can make many local offerors to quit the tendering process, and consequently, competition can be lowered.

Chapter IV Actions to Solve the Problem

[In this chapter an array of prospective measures and actions to encourage an effective competition will be proposed on the basis of the procedural and environmental causes studied in the prior chapter. These measures and actions have been mainly thought to support the current procurement practice used by UNDP in the context of the construction markets of developing countries in Africa]

1 Procedural Simplification

As described in Section 1.6 of Chapter III, the tendering of construction and civil works in UNDP is a new activity in the public function of the organization, which aims to improve the Supply Chain Management and storage conditions of pharma products in developing regions in Africa. Even though the UNDP POPP lay down robust guidelines and procedures for the procurement of civil works, this inexperience makes organisation to set targets on its previous procurement experience for goods and other kind of services, and draw solicitation documents for construction projects on the basis of unsuitable goals and needs. This fact makes that many bidders, especially local contractors, do not understand the requirements on which to base their technical and price bids, and they quit the process at an early stage. Therefore, the level of competition decreases significantly.

So far, the procurement technique used by UNDP for construction works comprises the description of an array of specifications to provide all relevant terms and generic criteria in the solicitation documents and encourage the widest possible competition thereby. However, these documents present so many ambiguities and discrepancies in the qualifying and eligibility criteria and contract conditions that need to be simplified and restructured in order to secure a better adherence to the financial rules and regulations followed by the organisation, and therefore, ensure a more effective competition.

This solution comprises, therefore, a simplification of the solicitation documents for pharma construction projects by ensuring a balance between the adherence to the requirements stipulated in the UNDP POPP; simplicity and user friendliness in order to enhance the widest possible effective competition; and robustness and fit for purpose so as to properly manage procurement and contracting risk related aspects. A revision could be carried out from the perspective of a potential offeror, and a simplification could be suggested afterwards in order to raise the level of clarity and simplicity of the documents, and therefore, reduce as far as possible ambiguities and inconsistencies in the requirements to be awarded the contract.

The implementation of this measure would make the procurement process conducted by UNDP for construction works more procompetitive. Indeed, it would enable the candidate contractors to better and easier understand and interpret the requirements and criteria to be awarded the contract, and therefore, they would be able to better plan their human and financial resources for the tendering, so their winning expectations would increase substantially.

2 Disposal of Pre-Qualification Phase in the ITB

In the procurement method used by UNDP for the tendering of pharma construction projects, a pre-qualification phase is applied prior to the launching of the invitation to bid, as described in Section 1.3.1.2 of Chapter III. According to (Aje, 2012), this prequalification stage prior to the bidding process allows UNDP to identify a shortlist of competitive and competent contractors which could, after a preliminary evaluation, execute the construction works in accordance to the requirements of the project and the objectives and desires of the client. This situation would improve, therefore, the performance during the execution.

However, even though UNDP applies an open international competition, some prequalification requirements are so strict, such as broad experience in the domestic construction market, that can discourage some companies from bidding, and therefore, the competition would be significantly reduced. In this situation the winning bid would be higher as fewer companies make a bid. This is more likely to happen in the construction markets of the developing countries in Africa where small and non-qualified local contractors exist. Indeed, as per G. Ofori (1980), the prequalification phase can act as a barrier to entry into bidding when the pre-qualifying criteria are so demanding.

In order to prevent a fall of the level of competition in the tender for construction works in developing countries in Africa, a potential solution could be to cancel the prequalification stage in the ITB process conducted by UNDP, and transfer the criteria in this phase into the package of qualifying and eligibility criteria in the solicitation documents. This measure would dispose a barrier to many local contractors in the relevant African construction markets, and in the solicitation documents, the requirements that bidders have to meet to win the contract would be reinforced.

By keeping an open international competition and cancelling the prequalification phase, a larger number of local and overseas contractors would submit an offer to win the contract for the design and execution of pharma construction projects in developing countries in Africa. As per a study carried out by The World Bank (2011) on tenders for some infrastructure projects in Kenya, when this measure was applied, three or four qualified bids more than average were attracted by the tender than when prequalification was required. Moreover, the winning bids were below the engineer's estimates, what was a bit rare in Kenya infrastructure tenders. Even though a competent and capable competition may not be ensured in the African developing countries, a sufficient number of construction companies making a bid would be secured, and consequently, the competition would rise.

3 Promotion of Joint Ventures and Consortiums

The findings on the competition in Chapter III told us that the construction markets of Sub-Saharan countries are mainly dominated by foreign contractors, especially from China. These overseas contractors show strong and competent skills to meet the demanding requirements to win a contract in the bidding process conducted by UNDP in the relevant African countries. Besides, they can get access to different public financial advantages in their host country to help poor countries develop their infrastructural plans, which have made them very competitive against the local construction companies. Indeed, the local contractors are very small and have a scarcity of technical and qualified human

resources which have to be imported from other industrialised countries. For these reasons, these domestic contractors normally encounter a barrier in their hopes to win the contract, or even participate, in the tender process for pharma construction projects to be developed by UNDP in their host countries.

Joint venture or consortium, which consist of a business agreement between two or more parties, present as an opportunity for these smaller local contractors to participate in the contract for project design and execution of works, as they could reduce the risks and complexities associated to construction projects by entering to this kind of collaboration. Indeed, joint ventures making a bid for construction projects have significantly increased in most developing countries (Famakin, et al., 2012).

Currently, the qualifying and eligibility criteria in the solicitation documents of UNDP to make a bid embody continuous references to the requirements that joint ventures and consortiums must meet just in case a group of companies submit an offer. But they are only indications, no stimulations. The measure at this point would consist of encouraging companies to make a bid together, by entering into a joint venture or consortium. In order to so, UNDP should set out in the solicitation documents as an award criterion that the candidate contractors have submitted an offer together with other qualified companies under a joint venture or consortium. This would be only a complementary decision factor to the most important award criterion for UNDP, the lowest evaluated price, but it should be laid down in such a way to highly contribute to the final selection. Furthermore, because of foreign companies have more opportunities to win the contract in the relative construction markets, the joint ventures or consortiums involving local African companies would secure strong arguments during the awarding.

This measure would give more options to local small contractors to participate in international projects and collaborate with larger construction companies. Their lack of financial and human resources would not be any longer a barrier for them to make a bid for the design and execution of the pharma construction projects, and they would find an opportunity to grow and increase their credit in the host construction market. Additionally, fostering the involvement of small local construction companies in the tender process conducted by UNDP would increase the number of participants, and therefore, the level of effective competition would increase. Although these small contractors could not meet the required quality performance due to their low qualified skills, their larger partners would be able to guarantee it.

4 Increase the Contingent of Professional UNDP Staff with Expertise in Construction

The inexperience of UNDP in the tendering for construction works brings about a need to search for professional advice in order to support the organisation through the preliminary design phase in the process. UNDP delegates this task to its office in the relevant African country, the so-called Country Office (CO), whose staff take care of some of the previous phases in the tender process for construction works, among others, a preliminary design phase. Before the launch of an invitation to bid for the design and execution of pharma construction projects, an external engineering consultancy is entrusted by UNDP CO to draw the technical specifications of the works to be performed, sketch the preliminary drawings and define the engineering cost estimate. The UNDP procurement team, in turn, define the qualifying and eligibility criteria as well as the award criteria and conditions in the contract. Both design and qualifying specifications must render all relevant terms and generic requirements in the solicitation

documents, while encouraging the widest possible competition in the pertinent construction markets, in this case of developing countries in Africa.

The participation of both internal and external parties in the composition of the solicitation documents for the ITB creates discrepancies in the qualifying criteria and technical requirements as well as inconsistencies in the conditions of the contract, giving rise to misconception and room for interpretation. Bidders, therefore, refuse to make a bid against an uncertain frame of the works to be executed, as it can put too much risk on their shoulders. This situation turns even worse for the small local contractors in the relevant construction markets which, without qualified skills, could not even understand properly the scope of the works and would trust in an uncertain set of rights and obligations under the contract. Thus, the fact that the solicitation documents are composed separately by two different parties turns out impractical for UNDP and entails that the level of competition in the procurement process for pharma construction projects falls significantly.

A simpler remedy to start tackling the competition issue in this regard would be to strengthen the professional technical capacity of the UNDP's procurement team, through the hiring of a consultant engineer for the tender period, who would collaborate closely to the procurement team in the relevant UNDP CO. At the design stage these professionals can detect potential weaknesses or omissions and help make solicitation documents more reliable with less room for interpretation (The World Bank, 2011). This approach would provide a much-improved vision on quantity surveying and know-how as well as it would reduce the risk for bidders against unclear solicitation documents. More contractors, both foreign and local, would be attracted by clearer solicitation documents, and therefore, an effective competition in the procurement process for civil works could be secured, particularly, for the construction of the warehouses for the storage of pharma commodities in developing countries in Africa. Additionally, a third party technical audit solution would remain expensive for an organisation funded by donations, as the costs of an external consultancy rise very much as compared to the salary of an internal employee hired temporarily for only the composition of the design package.

5 Split of the Project into Small-Scale Contract Lots

As described in section 1.3.3 of Chapter III, the tender for construction projects conducted by UNDP addresses a unique contract for both the design and construction – the so-called design/build contract – of infrastructure for the storage and distribution of pharma products and health commodities in African developing countries. In a typical design/build delivery system, the client issues the requirements for the project on target, and awards a contract to exclusively one company who will design and build the project. Thus, there is only one procurement step, as the design activity and all construction related tasks are entrusted to only one contractor (Hale, 2008). Even though a unique candidate contractor is encouraged to make a bid, when submitting an offer against the requirements and specifications in the solicitation documents launched by UNDP, the bidder must state in the offer the percentage of works and the specific related contract activities that he/she desires to subcontract to other contractors and suppliers.

Based upon the study of Estache & Iimi in 2008, the size of the contract has a component that highly influences on the level of competition in the tender process for construction works. This is because the

unit costs tend to decrease as the size of the contract increases, i.e. the contract amount for a small project will be relatively higher, and therefore, a larger number of contractors will be attracted by the project. Even though procuring pharma construction projects under a single contract would generally help UNDP to secure cost saving, it would also restrain local construction companies from making a bid for such a large contract, and therefore, the competition would be reduced in the relevant market.

The action to be taken in this matter would be to divide the current single contract for the pharma construction projects into contract lots of small scale. This measure would allow more local and also more foreign contractors to submit an offer for each contract lot, as small contracts would turn out more profitable for them. Furthermore, the indigenous contractors would see reinforced their presence in the market, since in their role of small contractors, they could make a bid for specific project activities for which they can provide the required expertise. Fostering the participation of both qualified overseas construction companies and small local contractors would significantly increase the level of competition in each of the relative procurement processes conducted by UNDP.

However, it is important to mention that the core procurement principle for civil works in UNDP– get the best value for money– would be hindered by applying this measure. Indeed, this measure would imply higher project costs for UNDP, as the price of smaller contracts tend to rise. But since the focus of this project is to encourage an effective competition in the tender process conducted by the organisation in developing countries in Africa, this effect would be left for a secondary study.

6 Training Programmes for Local Contractors

After the study on the African construction markets carried out in Chapter III of this project, it was found that most of local construction companies in Sub-Saharan Africa show a lack of technical expertise, short-term orientation and a lack of focus on construction. They are also unable to employ qualified professionals, due to both a lack of financial resources and a scarcity in these countries of educated people in the construction and civil engineering field. Indeed, as per many researchers, in most developing countries in Africa there appears to be a need for upgrading the existing professionals and the educational programmes at technical schools and universities. Moreover, a larger number of local architects, engineers, project managers in construction and better qualified workers in construction are required.

Even though a large amount of qualified foreign construction companies has entered into the construction markets of African developing countries, there is still a potential group of local contractors that could participate in the tender for pharma construction projects conducted by UNDP, and therefore, increase the level of effective competition in the process. In order to assist them, education and training programmes, which would render them with the proper skills to submit an offer in accordance to the technical and qualifying requirements in the solicitation documents, could be promoted and intensified on the field.

In the case of UNDP, before the procurement process is initiated, the relevant Country Offices could conduct workshops and training courses for those local contractors willing to participate in the bidding for pharma construction projects. These workshops would address, for example, an introduction to the

basics on tendering for construction works and the tender procedures used by the organisation. Local contractors could also opt to participate in training programmes where their employees would be able to upgrade their technical and bidding skills.

This measure would absolutely require time and financial resources from UNDP, which would turn challenging due to its nature of public organisation funded by international donors. However, the cost of the investment in this kind of assistance and training courses would be reverted, since an effective competition could be secured afterwards. According to the Bidding Theory, the higher the number of bidders, the higher the number of expected winning bids, and therefore, the lower budgeted price.

Chapter V Conclusions

A public international organisation as UNDP, whose fund programme comprises voluntary contributions from United Nations member states, bilateral donors and multilateral partners, both private sector and foundations, is obliged to find a proper strategy through which their financial resources are spent in the most justified and reliable way. Within the UNDP development programme, the procurement of construction of pharma storage facilities and infrastructure has been recently incorporated in the organisation functions package as an activity to enhance the controls over the Supply Chain Management and the storage conditions of pharma products, including medicines and health commodities, in developing countries.

Therefore, the public nature of UNDP and its fund programme force the procurement agency in the organisation to secure the best value for money in each contracting operation for the design and execution of such construction projects. Indeed, as per the Procurement Principles and Policies (POPP) followed in UNDP, this goal is the core procurement principle and the main awarding criterion required to bidders in order to win a contract with the organisation. However, the level of competition becomes a determinant factor to get the best value for money in the procurement process for construction works. According to the Bidding Theory, a sufficient number of bidders, which in the UNDP's tendering for construction projects is between four and ten candidate contractors on average, tends to provide a high number of bids that are expected to win the contract. This fact generally will make that the estimated project costs fall, by meeting quality, time and environment requirements, and therefore, the best value for money can be secured.

In developing countries in Africa, particularly in the Sub-Saharan construction markets, UNDP is though facing a low level of effective competition that is bringing about a rise of the final price for the design and execution of the pharma construction projects, and which is hindering the obtaining of the best value for money in the process. In order to identify the reasons of this competition challenge for the organisation, the procurement procedure used by the procuring team in UNDP for construction works have been researched by a qualitative method of collection of data. This same methodology has been applied for a comprehensive study of the construction markets in the relevant countries in Africa. The level of reliability and validity of the data and information gathered for the study in this project can be considered as sufficient due to the use of a large number of documents which did show evidence of the facts exposed and the correlation of their contents to the subject in this project. Furthermore, even though the context for the tendering process can differ significantly, the comparison of the procurement rules in UNDP with a proved procompetitive set of procurement rules, such as the EU Directive, has allowed to identify the shortcomings and room for improvement on the basis of a competition issue in the UNDP procurement practice.

The research carried out in this project allows to draw an array of conclusions on the studied subject:

- Even though the procuring agency in UNDP has a broad experience in procurement overall, the organisation still relies on the advice of external professionals to tender for construction projects, situation that is entailing a bad quality of the solicitation documents in the ITB.

- The open international tender used by UNDP has been proved to attract a sufficient number of candidate contractors to make a bid, however, the use of a pre-qualification phase results in a barrier to encourage a larger number of construction companies to make a bid in developing countries in Africa.
- The presence of small local contractors in the construction markets of developing countries in Africa, which show a lack of resources and expertise in construction, contribute to reduce the level of effective competition in the tender process conducted by UNDP, even though competent foreign construction companies have already presence in the market.
- A generalized use of corruptive and collusive practices in the construction markets of the relevant countries in Africa have implications for the level of effective competition secured by a public organisation, such as UNDP, which promotes transparency and equity in the procurement process.
- Due to the complexities of the construction markets of developing countries in Africa, all measures to secure an effective competition in the tender process conducted by UNDP involve actions to be taken by the procuring agency in the organisation.

These conclusions give an overall picture of the challenges to which UNDP would need to pay attention in order to initiate actions that are prone to increase the level of effective competition in the tender process. By ensuring effective competition, the best value for money can be also secured in the design and execution of pharma storage facilities and infrastructure projects in developing regions in Africa.

Chapter VI Perspectives

The focus of this project has been on exploring the potential causes which are triggering a lack of effective competition in the procurement process conducted by UNDP for the design and execution of pharma construction projects in African developing countries, and which are creating a barrier to secure the best value for money for the organisation. Both the tendering procedure applied by UNDP for construction works and the context of the relevant construction markets in Africa have been studied so as to identify potential actions and measures that will allow to reach an effective competition during the tender for such construction works.

However, a deeper research on the subject could have provided more reliable and accurate outputs. Indeed, a different approach to undertake the problem could have resulted in another action plan to attain an effective competition and secure the best value for money for UNDP in the tendering for construction works. Thus, the following points could have been covered and implemented in this project to get different outcomes:

- **Interviews with participant contractors in the tender process of UNDP.** Contractors participating in the tender process for the design and construction of pharma storage infrastructure would have allowed to know their concerns related to the procedure applied by UNDP in developing countries in Africa. They could have been asked for the potential issues that they encounter in the solicitation documents issued by the organisation and the challenges they perceive to win the contract. Indeed, when gathering information from an external perspective, the validity of the information in this project could have been enhanced. Furthermore, the dispatch of the transcribed interviews and the confirmation of their contents by the interviewees could have provided this project with high valuable and quality information. However, the access to such contractors has been significantly limited, since all of them were sitting in the relevant African country. The embassies or consulates of these African countries in Denmark could have been also a source of information in this regard.
- **Interviews with procurement team in UNDP.** Even though observations at the UNDP office in Copenhagen, Denmark, have been done and informal conversations have been held with relevant individuals of the team, much more information on the procurement practice in UNDP could have been gathered by having structured interviews with the main procurement agents in the organisation. Such interviews could have rendered a better understanding of the procurement principles and policies in the organisation, and a broader internal perception of the competition issues to be defeated could have been obtained.
- **Use of the LFA method.** The project could have been given another research perspective in the very beginning and the Logical Framework Approach, better known as LFA method, could have used in in order to identify the causes for the problem that UNDP is facing. The LFA method provides a problem tree that highlights a key problem to be solved, which is turned afterwards into an objective tree that highlights a target to solve the problem. After an identification and combination of the effects generated by the prevailing procurement procedure applied by UNDP and the context of the construction market where UNDP is trying to develop the pharma construction projects, a key problem would have been found. Afterwards, the causes for the problem would have been identified.

- **Contrast of UNDP procurement procedures with other sets of procurement rules in a same context.** Procurement frameworks of other public international organisations– e.g. The World Bank –could have been investigated and be subjected to an evaluation as to the level of competition secured in their diverse construction projects executed in developing countries. Likely, these other procurement policies and regulations could have become the benchmark of the procurement process conducted by UNDP for construction works, to explore measures proved to be successful in encouraging an effective competition in the relevant construction markets of Africa.
- **More specific research on the market.** The construction markets of developing countries in Africa have been comprehensively studied in this project, including the competition in the relevant markets and the common procurement practices to win a public contract. Though, a deeper research on the profile of local and overseas contractors that have already made a bid to win the contract for pharma construction projects could have provided a more precise knowledge of the type of contractors which have not been still invited by the organisation to submit an offer, and which can be seen as an opportunity to increase the number of bidders, and therefore, the competition in the tender process.
- **Benchmark on FIDIC contracts.** The most frequently used worldwide standard contract forms for international construction and infrastructure projects are those of the International Federation of Consulting Engineers (FIDIC) (Jaeger & Hök, 2010). As an attempt to frame a procurement process that encourages an effective competition in developing countries in Africa, these contract types could have addressed in the project as an alternative to the contract designed by UNDP.
- **Research on the status of the communication infrastructure in developing countries in Africa.** One of the recommendations of the OECD to enhance competition in public tenders is to encourage agencies and organisation to use electronic bidding systems– e.g. E-procurement– which may be accessible to a wider group of companies and less expensive (Sanchez Graells, 2016). It can also facilitate small and medium-sized construction companies to get access to public procurement (European Commission, 2017). However, the creation of a E-Procurement infrastructure appears to be potentially problematic, due to the peculiarities of standardisation and technological pooling, and the existence of significant interoperability and compatibility of the system related issues. UNDP is already encouraging bidders in the solicitation documents of the ITB to submit the bid in an electronic form, although the post form is still optional. For this reason, a research of the status of the IT infrastructure in African developing countries could have provided insights on the opportunities that these countries present to reinforce the E-procurement system of UNDP, and therefore, increase the competition in the tender for pharma construction projects.

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