

CHALLENGES IN PROCUREMENT AND USE OF DONATED MEDICAL-EQUIPMENTS: STUDY OF A SELECTED REFERRAL HOSPITAL IN TANZANIA

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ABSTRACT

Majority of the hospitals and research units in the developing countries largely rely on the donated equipments. Tanzania also depends on the partner donors for its' medical equipment needs. In Tanzanian public sector organizations, the donated equipments are also procured as per the provisions of the applicable procurement act of the land. This creates some practical challenges, as the requirement of donated equipment supply chains differ significantly. Further, the use of donated equipments often reported to trigger challenges due to some context-specific factors. Keeping these issues at focal point, the paper aims to explore the issues in procurement and use of donated medical equipments. The paper is informed by information collected using a study which focused on a selected national hospital in Dar Es Salaam region. The study was based on case-design and aimed to analyze the different interdependent issues on the basis of qualitative and quantitative responses recorded from 46 employees of the organization. The findings indicate that due to the absence of clear dedicated framework and other resource issues, often the quality assurance of donated equipments become a challenging task.

Keywords: Public Procurement; Donated Medical Equipments; Procurement in Tanzania; Donated Equipment Procurement

INTRODUCTION:

The quality of medical equipments directly affects the quality of healthcare services at different stages from diagnosis to cure and post-cure. The resource challenge often force the developing world to depend on the medical equipments donated from the donor countries from the developed or emerging economies. Although, the donation of equipments significantly helps the developing countries in improving the healthcare services, sometimes, the quality issues creep-in and adversely affect the spirit of the process. The quality assurance and maintenance of the standards are linked to the effectiveness of the procurement process, which in public sector organizations, must confirm to the applicable regulatory framework.

The studies show that as much as 96% of medical equipment in developing countries is donated and about 40% of medical equipment in the developing world is out of services. These facts have clear repercussion for health outcomes in these countries with the patients suffering from lack of accurate diagnostic or adequate treatment. Large amounts of unused donated equipment in storage put a marked strain on facilities funds (MOHSW 2008). The medical system in Tanzania too, relies heavily on the equipment's which are procured via donated projects. These equipments are usually used and second-hand but technically suitable for the intended purpose.

Realizing the high importance of quality many international agencies have developed clear guidelines for procurement of donated medical equipments (WHO, 2000). As most of the procurement is done by the public sector organizations, the process is also subject to the provisions of the Public Procurement Act (URTPPA, 2004; URTPPA; 2005). Procurement of medicines and medical supplies for public health facilities in Tanzania, particularly the goods procured under government budget and budget support by development partners, are procured by either of the Ministry of Health and Social Welfare (MOHSW), Ministerial Tender Board (MTB), Medical Stores Department (MSD) or by multilateral procuring agent. It is understood that MOHSW, MTB and MSD award contract to successful bidders and initiate contract management activities for each award. Most of MOHSW tenders and awards are based on lots whereas the MSD tenders and awards are on individual item basis. The later strives to get the lowest or competitive price of individual items, whereas the former benefit on managing fewer contracts at a time.

The Government's effort to undertake public procurement reform in Tanzania Mainland started in 1992 and consequently in year 2001 new version of Public Procurement Act introduced (Nkinga, 2003). Due to changing environmental factors subsequently, the modified versions of Public Procurement Act were introduced in 2004 and again in 2005. However, despite the many changes and alignments throughout these procurement Acts, issue of donated medical equipments procurement has not been addressed separately.

In addition to the procedural and technical requirements of the procurement, there are a number of other related factors that affect the procurement and use of donated equipments. Furthermore recipients of donated medical equipment often do not have well established selection and procurement system. Without such a system donors may not exactly know the needs and ability to use. It has been often reported that hospitals are unable to use donated equipment effectively, despite the confirmation to the specifications. This is perhaps due to the lack of consideration by donors to the infrastructure and human resource skills requirement for use and maintenance of donated equipment in frequently not fully functional. It is quite evident that by merely ensuring the physical supply of the technical equipments, the utilization can not be guaranteed.

In view of the problems and challenges in effective use of donated medical equipment, it becomes important to study the users' view point. Keeping this at the focal point, the paper deployed exploratory research study. The study specifically looked into the following research questions:

- a. To identify the challenges in procurement of donated medical equipment in the selected equipment user organization;
- b. To analyze the issues in effective use of donated medical equipment in the selected organization; and
- c. To suggest appropriate measures for improving the procurement and use of donated medical equipments.

This study intended to provide useful information to other public procurement stakeholders on the challenges of the acquisition of donated medical equipments. Being a pilot study, the findings were to help in identifying the important research issues for further exploration on this issue. In addition, the study aimed to offer inputs to the regulatory bodies and policy makers towards the required changes.

The scope of the study that informs the paper covered issues related to procurement and use of donated medical equipment including general criteria covering quality of the equipment, safety and compliance with

specifications and standards. These issues have been studied with reference to a large public sector national hospital in Tanzania. The nature of the study makes it more aligned to the issues with reference to selected case and thus, limiting any generalization. In addition, limited time and level of participation of the selected respondents were also the limiting factors. However, despite these challenges, efforts were taken to ensure the qualitative dimensions and thus, making it an effective pilot study.

LITERATURE-REVIEW:

Public procurement is an important function of government, aiming to satisfy requirements for goods, works, systems, and services in a timely manner. Ideally, public procurement should meet the basic principles of good governance: transparency, accountability, and moreover, should ensure value for money (Wittig, 2003). However, in addition to economic objectives, it also aims to accomplish many social and political objectives (Tether, 1977). Thai (2004) highlights the larger role of public procurement systems and suggests that it's instrumental in implementing national policies and to achieve social and other objectives (Thai, 2004).

Public procurement systems can be considered as a bridge between public requirements and private sector providers when the government decides to go out of house (Wittig, 2003). In terms of size and procedural systems, public sector procurement is large and complex (Rasheed, 2004), accounting for between twenty and thirty percent of gross domestic product (Thai & Grimm, 2000). Contrary to the private sector, in the public sector the buyer attempts to include as many sellers as possible in order to broaden competition and maximize opportunities for value for money. Thai (2001) analyzes the public procurement system from the perspective of complexity in sub-system, sub-structures and mutual interdependence of the sub-systems.

Procurement of donated medical equipment need to confirm to the quality assurance standards and the processes suggested by different guidelines and regulations developed for the purpose, both nationally and internationally (URTPPA, 2005; WHO, 2000). However, in order to ensure the effective output in the procurement of donated medical equipments one may have to address the issues regarding procurement procedures, installation, servicing, repair, technology issues, human resource training, users, quality assurance and logistics issues. Many developing countries are increasingly dependent on donor assistance to meet the equipment needs of their health care systems. However, because not all important parameters are taken into consideration, donations sometimes do not achieve their intended objectives, and could even constitute an added burden to the recipient health care system. There is therefore a need to improve the process of equipment donation, to the mutual benefit of both donors and recipients (WHO, 2000).

Kachieng'a and Ogara (2004) reviewed the processes of equipment planning, procurement and Management in public hospitals in Kenya and South Africa. They observed that procurement and management of health equipments required change in the approach, as it affects the quality of the healthcare services. Studies on medical equipment procurement in African region indicate the technical expertise of the tender-board members remain a matter of concern and thus, affecting both the cost and quality of medical-equipment procurement management process (Ncayiyana, 1997; Kachieng'a, 1998).

There are number of challenges in the procurement of donated medical equipments in low-income countries like Tanzania. challenges in the procurement National Health Care Technology Policy Guidelines (MOHSW, 2004) confirm that most donated equipment tended to be different from the standardized equipment. Massambu and Mwangi (2009) observed that this problem is also due to the conflicting requirements of the organizations and the Public Procurement Act, which prohibits the use of branded or specific names in equipment procurement. This gives scope to the suppliers to submit equipment description in the general terms and later they supply equipments varying from the required specifications. However, the problem of standard and quality appears to be more linked with the ethical practices of donor organizations. World Health Organization Guidelines for organization of Health Services Delivery suggests the Donors of the healthcare equipments to follow four core principles (WHO, 2000: pp 17) and stresses that should be no double standards in quality. Regarding the quality, the policy clearly indicates that the donor should ensure that donated health care equipment is fully operational at the system and sub-system levels, and that all essential accessories and supplies are available.

The outcome of donor funds results in the transfer of technology from the donor country to the recipient country. However to make it efficient a number of issues need to be aligned to the requirements including human resource training, joint technology requirement identification and local expertise development. In context of donated medical equipments, WHO guidelines provide the principles of good donation (WHO,

2000: p.1);

- a. Health care equipment donations should benefit the recipient to the maximum extent possible;
- b. Donations should be given with due respect for the wishes and authority of the recipient, and in conformity with government policies and administrative arrangements of the recipient country;
- c. There should be no double standard in quality. If the quality of an item is unacceptable in the donor country, it is also unacceptable as a donation; and
- d. There should be effective communication between the donor and the recipient, with all donations made according to a plan formulated by both parties.

Therefore, on the basis of the reviewed literature on procurement and use of donated medical equipments, the following important variables may be summarized;

- a. Quality as defined in terms of conformance to the specification and level of user satisfaction;
- b. Procurement process compliance to the regulatory framework ;
- c. Degree of collaboration between donor and the user organization during need identification and supply;
- d. Human resource capacity in user organization to effectively use the donated equipments; and
- e. Availability of infrastructure and technology related support services, as required for the operation of donated equipments.

The study aimed to explore and analyze the users' responses on the above identified parameters. In addition, the study also looked into the potential challenges in procurement and use of donated medical equipments in the selected organization.

RESEARCH METHODOLOGY:

The study was exploratory in nature and focused on studying the identified research problem in a selected organization and thus, based on case-study design. Looking at the novel nature of the research problem, lack of theoretical and empirical evidences and the limited scale of the study, the case-design approach was adopted in the study (Eisenhardt, 1989; Yin, 1994; Rowley, 2002; Kamuzora and Adam, 2008). However, some of the limitations of the approach have been addressed by careful sample selection and research strategy design. The study was conducted at a national hospital in Dar Es Salaam, Tanzania. The hospital was selected as a case because it is one of the largest public procuring entities using the donated medical equipment. Further, the accessibility and convenience in data collection added to the choice of the organization as a case.

The selected hospital is both a referral and academic research hospital with 1500 bed facility. 1,000 to 1,200 outpatients capacity per day and about 1,200 and inpatients serving capacity at a time. Due to large serving capacity, there are large number of equipments used including Radiology, Laboratory Theatre and ICU equipments. Most of the equipments are procured as donated medical equipment. The 60 employees of the hospital, involved in procurement and use of the donated medical equipments, were identified as the participants in the study. First, the employees were grouped in the different stratum, depending on their department and then selected from each stratum, depending on judgment and convenience.

The study utilized both the primary as well as secondary data. For the purpose of primary data collection, the questionnaire survey was administered and interviews of the selected participants were conducted. The questionnaire comprised of both open and closed ended items. First the variables were identified on the basis of literature review and then the related items were drawn from a questionnaire used for instrument international survey of medical equipments in South Africa (IISEM, 2004). The interviews were conducted with the 10 identified participants after the questionnaire survey. The issues for interview were identified on the basis of literature review as well as the findings of the questionnaire survey. The results are presented and analyzed in the next section.

DATA ANALYSIS AND FINDINGS:

The 60 questionnaires were distributed to potential respondents from the different departments. 46 respondents returned the filled questionnaire. The department-wise respondents' statistics is presented in Table-1.

Table 1: Distribution of respondents

Category of Respondents	Number of Target Respondents	Number of Actual Respondents
Procurement officials	10	8
Biomedical engineers	5	3
Radiologists	5	4
Cardiologists	10	8
Nursing officers	8	6
Theatre managers	2	2
Block manager	5	3
Supplies	15	12
Total	60	46
Percentage	100%	76.66%

Regarding Procurement procedures, 40 respondents Procurement Management Unit (PMU), Supplies and Management agreed that there is strong procedural framework, which guide procurement activities in the organization. However, 6 respondents, all from user departments, differed with this and indicated that they were not sure about this. Another related issue was to assess the compliance of donated medical equipment procurement with the specified procurement steps. 38 respondents, including PMU, Suppliers and management members, agreed that procedures specified in applicable Public Procurement Act are followed. Those who did not agree were found not to be much familiar with the technical procurement issues and, therefore, their opinion is not significant. Regarding compliance, 30 respondents felt that there are needs for complying with PPA during procurement activities of the Organization. Therefore, it can be concluded that the procurement process of donated medical equipments confirm to the local regulatory framework and the stakeholders see clear need for adopting the specified procurement process.

In terms of quality, the donated medical equipments were rated poorly. 36 respondents, comprising of the large number of users, clearly reflected that they are not satisfied with the donated equipment quality. Those who responded favorably on satisfaction parameter further revealed that they did not have much chance to use the donated equipments. The further exploration of the issue revealed that the dissatisfaction is not only due to the poor quality but also due to other related reasons. Some of the major causes of dissatisfaction were observed as:

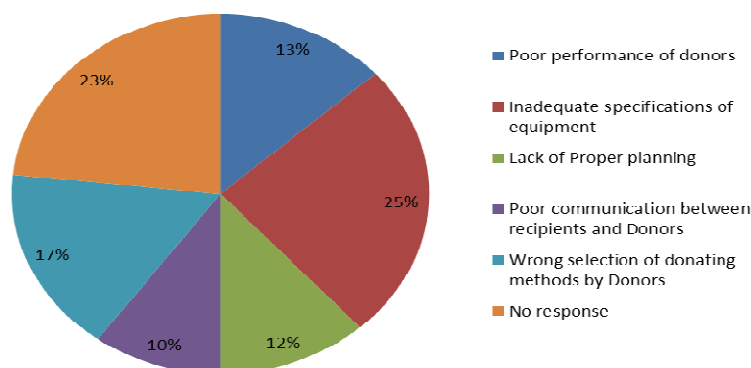
- Lack of supporting manual and training provisions on how to use the sophisticated equipments;
- Supply of medical equipments not required by the users;
- Poor communication between Recipients and Donors;
- Lack of clarity in specification development and communication; and
- Lack of proper planning on procurement of donated medical equipment.

Another important dimension was to assess the organizational practices of quality assurance. Regarding organizational policies and framework to deal with the quality of donated medical equipments, 30 respondents agreed that there are policies and procedures, which govern quality of procured donated medical equipment in the Organization. It can be seen that the organization encourages the participation of the users in the procurement process, starting from the very early stages. Majority of the respondents (76%), including large number of user department representatives, indicated that they are involved in development of the technical specification of the items to be procured.

On front of human resource development and training, the organization appears to be concerned. About 57% of the respondents indicated that during their present employment, they have attended one or more of the special courses, relevant to procurement process of donated medical equipment. Looking at the participants profile and nature of the courses, it was observed that the focus of training and development is more on the staff in procurement and management functions rather than those in user departments.

The research also aimed at identifying the different problems associated with the procurement and use of donated medical equipments. The findings are summarized in Figure 1. It can be observed that there are a number of problems in the procurement process of donated medical equipment. The majority of the respondents identified all the five challenges in the procurement. The percentage shows the number of respondents who have given highest priority to a particular problem area. This might be due to the nature of their job and function. About (13%) percentage of respondents site poor performance of the donors' supplied items as the main problem, (25%) percentage of respondents site inadequate specification of equipment is among the major problems, while (12%) percentage of respondents site lack of proper planning being the major issue. A about (10%) percentage of recipients site poor communication between recipients and donors create challenge while about (17%) percentage of Respondents site wrong selection of donating methods by donors being the problem. As mentioned earlier 14 respondents (23%) did not respond.

Figure 1: Problems faced in Procurement and Use of Donated Equipments



IMPLICATIONS OF THE FINDINGS:

Based on the analysis of the findings and further discussion with the stakeholder it was found that adequate adjustments in the policy and some managerial interventions can be helpful in improving the situation. Some of the identified measures are as under;

- a. Although, the organization follows the regulatory provisions in procurement, some structural adjustment at macro level appears to be desirable. Establishment of a central regulatory framework, dedicated to donated medical equipments, could help. The procurement standards and administrative tasks related to procurement should be centralized.
- b. Detailed Specification of the donated items should be given before procurement process begins since the qualities of equipment's are depends on the confirmation to the specifications. Adequate specification forms the base for inspection and quality control.
- c. Despite the good adherence to the procurement provisions, it was observed that efficiency of the process is adversely influenced due to large paperwork and paper-based communication. Deployment of technology, including Information Technology (IT) enabled database system can also be helpful, particularly, if it involves web-based platform to manage and share the related information. Proposed E-procurement system could eliminate unnecessary paperwork and bureaucracy.
- d. During the interview it was observed that inter-functional and intra-organizational communication lacks significantly in the organization due to the varying nature of the job. The user departments comprises of medical and para-medical professionals while the procurement and supply units consist of managerial staff. This affects the flow and exchange of information among the members. Good relationship between procurement management unit's staff and other players in the process is very important. Internal customers must be integrated actively in all the stages of procurement process.
- e. During the discussion it was observed that sometime the short-term interests of the donors and other stakeholders adversely affect the spirit of the donation. Therefore, adequate mechanism should be developed to ensure the transparency and ethical practices in the procurement of donated medical equipments.

- f. Procurement of donated items are often not dealt with the same level of seriousness as the other routine procurement items. Perhaps this is the reason why post donation inspection and certification of quality is not insisted. Therefore, it would be desirable that an expert inspection team certify the quality of items. Equipments not confirming to the parameters should be rejected. Inspection report could be linked to the release of payments if any.
- g. Regarding the training, user departments should also be trained in the issues related to procurement and use of the donated items. Further, it was identified that the organization lacks in human resource capacity to address the maintenance and repairing requirements of the donated equipments, which often leads to failure of the items before completing the life cycle. Therefore, technical training program should also be encouraged.

CONCLUSION:

The pilot study was successfully completed at a selected national hospital in Dar Es Salaam. Despite the number of limitations, the findings of the study could be utilized for further policy and managerial level analysis and research. The study broadly aimed to identify the issues related to procurement and use of donated medical equipments in the organization under focus. It was found that the organization strictly complies with the prescribed regulatory framework in the procurement of the items but at the same time, the varying need of the donated items procurement necessitates the separate mechanism. The quality was identified as one of the challenging areas and the findings indicate the need for managerial interventions to ensure the quality assurance. The training and capacity building, both in technical as well as in managerial areas, appear to be another important area of concern. The study is like to provide basis for further managerial analysis in the organization. It can also be used for further academic exploration on the related areas.

FURTHER RESEARCH LINKAGES:

The paper is based on the study, which focused at a particular organization. The researchers may like to utilize the research approach by focusing on the large number of cases at a time. Another possible area could be to study other similar case(s) and then to compare the issues. Further, the issues highlighted in the paper could be analyzed at wider level by including suppliers, donors and policy makers.

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