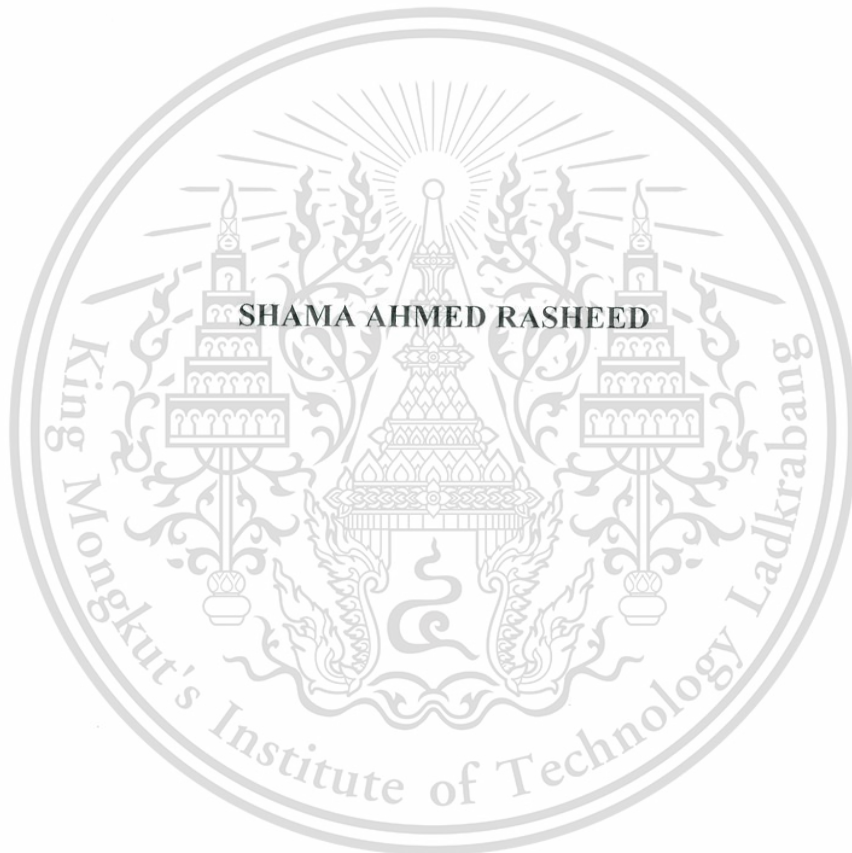


**IMPROVEMENT OF INVENTORY MANAEMENT IN PUBLIC SECTOR: A  
CASE STUDY OF FIXED ASSET MANAGEMENT SURVEY IN MINISTRY  
OF ENVIRONMENT AND ENERGY, MALDIVES**



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**AN INDEPENDENT STUDY SUBMITTED IN PARTIAL FULFILLMENT  
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**RESEARCH TITLE** Improvement of Inventory Management in Public Sector: A Case Study of Fixed Asset Management Survey in Ministry of Environment and Energy, Maldives.

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### ABSTRACT

Today, one of the problems faced by public and private sector is the management of fixed asset inventory. Fixed asset management of moveable assets is very challenging. These days developed countries public sector are looking forward to managing and adopt best inventory management policies. Mismanagement of inventory can lose control over the fixed asset of an organization.

This research focuses on fixed asset inventory of furniture, vehicles, plants, and equipment's under Ministry of Environment and Energy (MEE). The purpose of this research is to improve fixed asset inventory management in MEE. Firstly, the current process of fixed asset inventory management of MEE was reviewed.

In order to identify more details of current problems in inventory management, a Likert scale survey was conducted. The target population was staffs of MEE. Secondary data from the MEE inventory register was used for further analysis. The findings from the study show that there are several problems in process, procedures, and controls of fixed asset inventory.

After a meeting with heads of departments and other guests who were invited, suggestions were provided to improve managing fixed asset inventory according to the findings, which could lead to improved service quality. This will ensure the asset

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lifecycle process is smooth, acquisition and delivery process, optimize asset performance, and provide an appropriate disposal program of assets.



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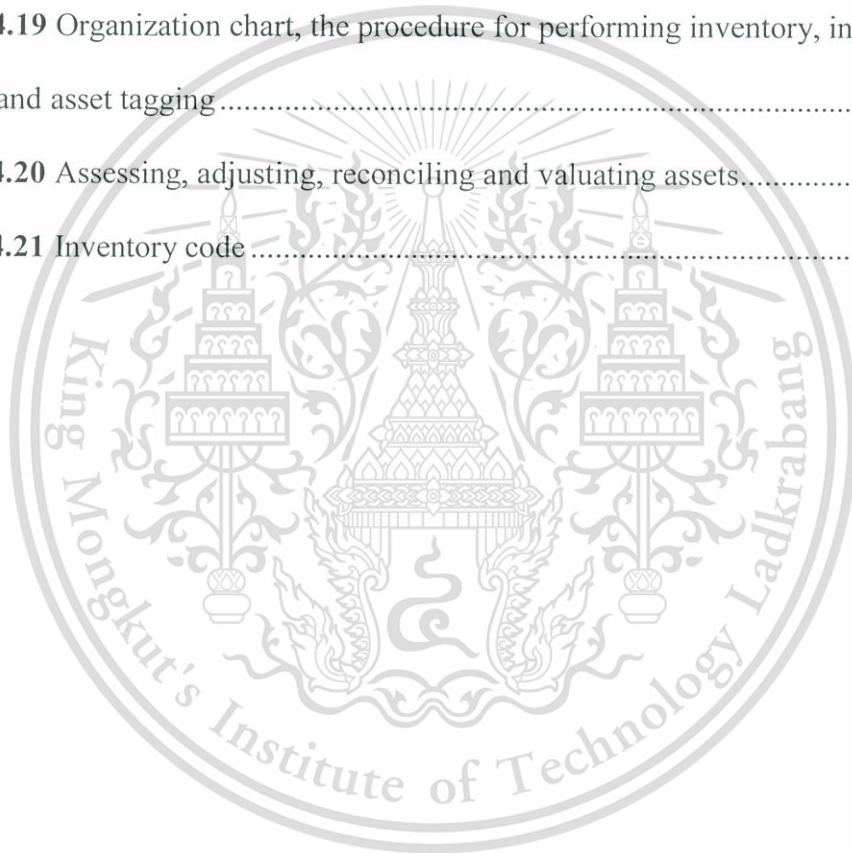
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## LIST OF DEFINITIONS

<b>MEE</b>	Ministry of Environment and Energy
<b>MVR</b>	Maldivian Currency
<b>MOFT</b>	Ministry of Finance and Treasury



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# CHAPTER 1

## INTRODUCTION

### 1.1 Research Background

Fixed asset is a key resource in the books of account in everyday business. There are always challenges to track the location, quantity maintenance and depreciation status of fixed assets. To avoid error and to have accurate figures in the books of accounts, it is very important to reconcile, record and to maintain a fixed asset register properly or there is a chance of losing control over the assets. According to A.M.Batara, (2015) to optimize the performance of any organization and to achieve organization goals it is important to manage assets.

In managing fixed assets, asset tracking is also important. In order to maintain equipment in different activities by reducing time and loss of the asset tracking plays an important role in managing inventory. By tracking assets an organization can maintain and optimize its assets by increasing efficiency of an organization (A.Lehtoviita, 2016).

Fixed assets in the service sectors are also important as fixed asset used for the production of goods. To run an organization fixed assets in the service sector also plays an important role and it includes a huge amount of money.

Fixed asset management is not only important in the private sector, it is also important in public sector. Public administration is an essential element of government in all countries and its purpose is to provide a range of services for the benefits of countries citizens. The importance of public asset management has been a concern for government authorities.

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Fixed asset used in the public service sector is the second largest category after property and infrastructure. To manage the fixed asset, it is also important to have a good inventory management. Regardless of policies and procedures established in government, challenges to manage fixed asset are not less. With every passing day, fixed asset inventory management is becoming a challenge which needs to be addressed soon.

Thus, this case study focuses on improving fixed asset inventory management in the Ministry of Environment and Energy, Maldives.

## **1.2 Problem Statement**

In public sector managing, fixed asset inventory is very challenging. Public service sector holds lots of staff, which means lots of fixed assets. Each and every year millions are spent on purchasing fixed assets. These assets are important and valuable to the government, without these assets it is impossible to provide or continue services on a daily basis to achieve certain goals. At the end of each year, auditors are sent from the auditor general office to conduct a physical inventory. After conducting physical inventory if any problem occurs, asset focal point and the head of the management is questioned.

While observing physical inventory of MEE in 2017. Firstly, it was noted that for every year the inventory register was different and there is no combined inventory list of all assets. While some assets were untagged, other assets were missing. And some of the assets have same assets number.

To overcome the issues and to improve the current system, it is very important to identify the reason for such issues in the current system, policies and regulation.

### **1.3 Objectives of the study**

- 1) To study current fixed asset inventory system in the MEE.
- 2) To identifying the factors which influence current fixed asset inventory in MEE.
- 3) Identifying how to improve inventory management system by modifying current process.

### **1.4 Scope of the study**

The study is focusing on the fixed asset inventory of Maldivian government. The research attempts to understand the factors which influence inventory by studying the current method of handling fixed asset inventory. The study will also focus on how to improve fixed asset inventory management. The researcher limited this research to fixed asset inventory management in the MEE. The research excludes other agencies and authorities (Baa atoll biosphere reserve office, Environment protection agency, Maldives energy authority and Maldives meteorological services) under MEE. In order to identify the factors which, influence current fixed asset inventory in MEE a survey was conducted.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Fixed Asset

##### 2.1.1 Meaning

Fixed asset may be a small or large item which cost a certain amount of money, with a minimum 1 year of useful life. Although when we say it's a fixed asset it doesn't mean that the asset is fixed in one place for its useful life. A fixed asset can be a movable asset, equipment, or a property. As the asset is moveable, it's been a challenge to the management to keep track of each and every asset. When the useful life of the asset is over the asset is sold by getting a salvage value depending on the asset condition.

International Accounting Standards 16 prescribe how accounting treats Property, Plants, and Equipment (PPE). Standard 16 includes tangible assets used for the production of goods or delivery services and assets used for the administrative purpose. Which include buildings, machinery, furniture, land, and vehicles.

##### 2.1.2 Fixed Assets Definition

Fixed assets are non-consumable goods, tangible in nature and have a useful life longer than one year. According to Brady, (2001), "personal property that is not permanently attached to real property, buildings or grounds; that is moveable; has a useful life of at least one year and a minimum acquisition cost established by the organization." The acquisition cost of a fixed asset is normally fixed by the organization.

## **2.2 Recording Fixed Asset**

The fixed asset must be acquired and recorded in the books of account. To acquire or purchase a fixed asset in an organization usually uses a purchase order. And the asset detail information will be recorded in fixed asset inventory. But some of the organization fails to keep the record of the fixed assets. All assets which fulfill the requirement of an asset must be recorded in the inventory and also it is important to remove old assets which no longer have a useful life.

When it comes to movable assets most of the organization get concerned how to record and manage the assets. Assets like furniture, computer, laptops, equipment's and vehicles which need to be controlled as they are moveable and they are highly considered to be misused or theft.

## **2.3 Controlling Fixed Assets**

Controlling fixed asset is a difficult task when there are lots of moveable fixed assets in an organization. To keep control of the assets all asset must be clearly marked so it can be physically identified. It is also important to assign responsibility to the asset custodian. According to Baez, (2004). Policies and procedures oh how to control the organization's fixed asset should be in place.

## **2.4 Valuation of Fixed Asset**

Valuation of assets is done in some circumstance. Some of these circumstances, include obtaining assets with no original documents, auctioning assets, transferring assets with compensation, and trading state-owned assets (H.Wang, 2010). In such circumstance assets are assessed or evaluated by qualified organizations. The department who is in charge of the asset must approve the valuation.

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## 2.5 Fixed asset management

For the purpose of financial accounting, it is very important to manage the fixed asset. Managing fixed asset doesn't mean only to track the fixed asset location, it also includes maintaining the fixed asset and preventing any theft. Every company finds it challenging to track the location, quantity, condition, maintaining and depreciating the fixed assets. All assets must be physically identified, clearly marked, and the responsibility for their custody must be assigned (Baez, 2004).

To manage fixed asset inventory, an organization must have written policies and procedures on how to manage the fixed asset. As Brady, (2001) explains, "the primary purpose of fixed assets management is to ensure accountability of the significant investment in fixed assets entrusted to administrators "

To keep an eye on organization assets different organizations use different methods. By affixing a serially numbered tag on each asset and making the identification tag permanent will make it easy to track the asset. If the identification tag affixed to the asset is non-durable, the organization may lose the control on their fixed assets. Normally in-service sector organizations own multiples of fixed assets which are identical. Due to identical assets, it can be very easy to make mistakes by creating duplicate asset records or failing to dispose of the correct asset when identical assets are retired (Sage, 2014). To avoid this each of the fixed assets must be tagged with a unique tag as soon as the asset is purchased.

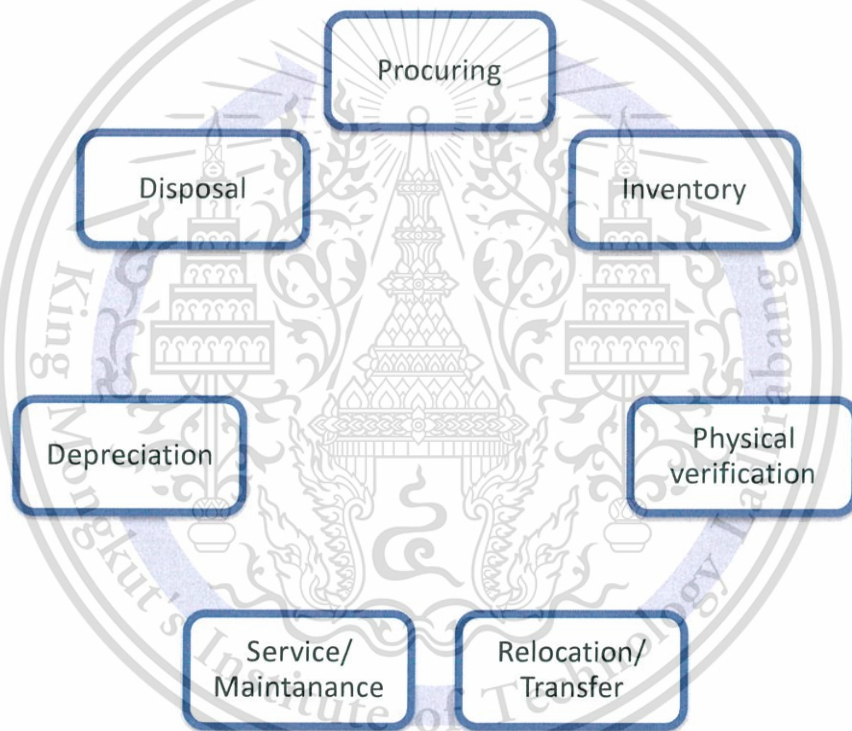
Nowadays it's common to use serial numbered asset tags and barcodes for accuracy and it's one of the easiest ways to keep track of assets. Now there are different asset management software available around the world which is the best practice for asset management.

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According to P.Irrinki, (2010-2012) fixed asset management cycle includes seven steps which are, acquisition, receiving, payment, identification, inventory, excess, and surplus. Where the cycle begins with the acquisition of fixed asset the process of purchasing and identifying the limit to be capitalized as an asset. The cycle continues receiving the asset, paying the invoice, identifying asset by tagging, inventorying the asset according to the policies, transferring asset and the life cycle end by disposing of the asset.

**Process Flow – Fixed Assets, Life Cycle**



**Figure 2.1** Process Flow-Fixed Asset Life Cycle

Source: P.Irrinki. (2010-2012). *A Study of Fixed Asset Management at Kesoram Cement*. (Master of Business Administration), Jawaharlal Technological University, Hyderabad.

As figure 2.1 shows, the life cycle of fixed assets generally can be classified 7 tasks. The fixed asset life in an organization starts when the asset is purchased. The next stage is inventorying the asset. Normally every year through an audit asset are physically verified. Inter-department or interoffice assets might be relocated or

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transferred. Service and maintenance is a very important part of an asset. To make an asset working for its useful life you need to maintain and service the assets. Every year asset is depreciated by using the most beneficial method of depreciation.

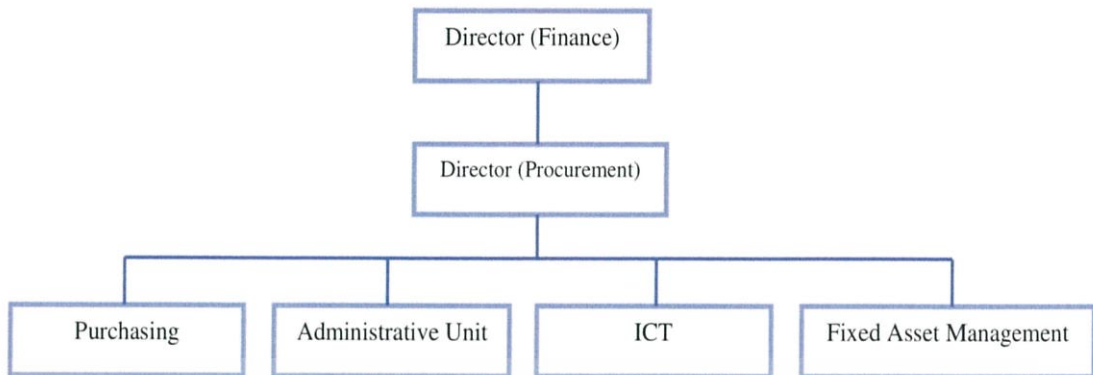
## **2.6 Fixed Asset Management Public Sector**

Public asset management is the process which makes decisions for the acquisition and utilization of asset, and disposition after its useful life. The definition includes the life of asset by starting with the acquisition, using the asset until the end of its life and disposition.

When it comes to standard public sector fixed asset management procedures, the different organization may have different standards or policies and procedures. As public sector has wide diversity it is difficult to apply one standard to all but it is possible to apply one standard to the same variety of assets. In some of the organization, procurement officer or admin officer is responsible for inventory and tracking the asset.

According to Brady, (2001), there should be an organization chart that accurately shows the line of authority, responsibility, and accountability for the function in an organization. So, each and every person will have a clear picture of the responsibilities assigned to each person. The organization chart is always important as it shows the big picture of the small task linking together starts to the endpoint.

### Typical Organizational Placement



**Figure 2.2** Fixed Asset Management, Organizational Placement

Source: Brady, W. D. (2001). *Managing Fixed Assets in the Public Sector*. . Florida, United States: Universal Publishers.

Some of the government agencies don't measure the performance of fixed asset in fiscal terms. According to F.Conway, (2006) fixed asset management has been inactive due to the traditional way of fixed asset management and government considering fixed asset as free goods by not considering the cost. If the cost of the fixed asset is not considered by the organization, then the user will not bother about the asset. Public fixed asset management is affected by various factors, legal, administrative frameworks, political influence, regulatory aspects, organizational arrangement, and stakeholders (Fernholz, 2007). These Factors affect the procurement process and other processes too. In addition, these factors also determine the specific modes in which public fixed assets are managed, such as public-private partnerships, coordination, and cooperation between government agencies, participation of stakeholders, measures for transparency, measures for maximizing the value of fixed assets and improving the efficiency of using fixed assets (Lu, 2011).

### 2.7 Public Asset Classification

Assets can be classified in a different perspective, accounting perspective, the result of past event which helps an organization gain future benefits by a resource

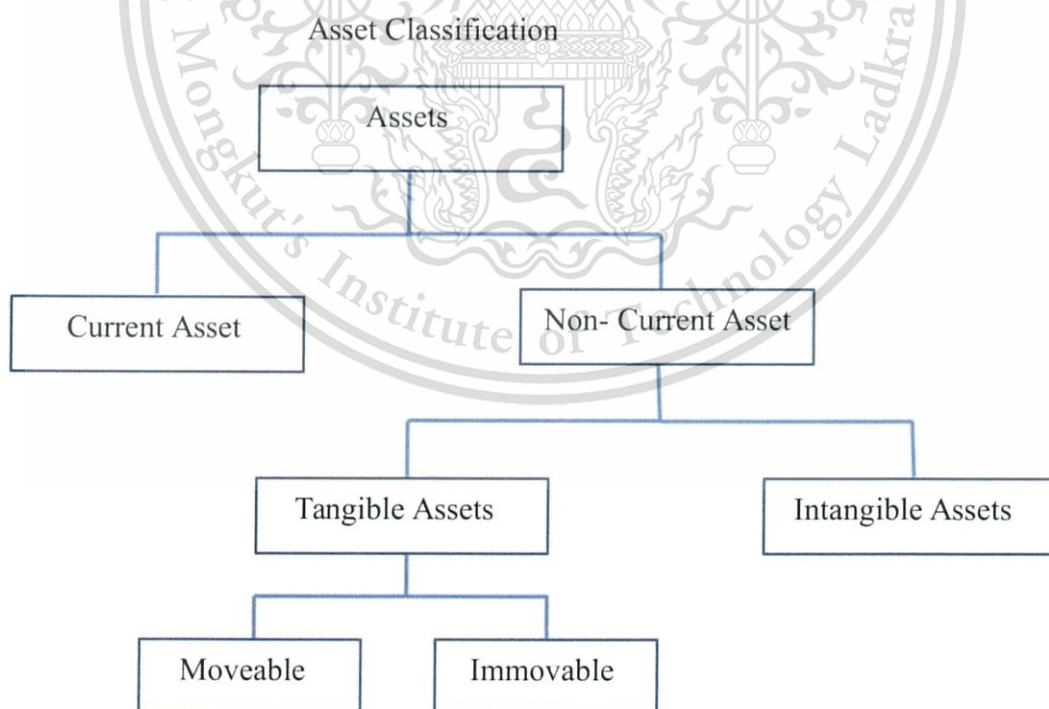
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controlled by the organization. Broadly speaking assets is something that is in control of someone with restriction of access by other people, an economic resource which has the ability to generate future economic benefits (Lu, 2011).

Assets are categorized as tangible and intangible. Intangible assets are corporate intellectual property which is not physical in nature, such as patents, trademarks, copyrights, etc.

Tangible assets have a physical presence. Tangible assets can be classified as non-current assets and current assets. Noncurrent assets which provide future economic benefits one or more year. Noncurrent assets can be classified as land, building, machinery, and equipment. On the other hand, current assets provide future economic benefits less than one year or a year as these assets usually are consumed within one year. Current assets are cash at bank, cash on hand, stationery, and stock in trade. Figure 2.3 shows the classification of assets.



**Figure 2.3** Asset Classification

Source: IAS 1 — Presentation of Financial Statements. (2007). *Current and non-current classification*. This material is reserved for educational use only, not allowed for commercial use.

In different levels of government or same level may have different groups of assets. Generally, public assets are which government operates to provide public services. According to Lu, (2011) assets used in operations of an organization which extends its useful life further than single accounting period are capital assets.

## **2.8 Inventory Management**

Firstly, to start with inventory, all fixed and controlled asset must be accounted and tracked. All information should be fed to the system. To start with the initial inventory, we need to identify all the changes made to an asset within its life period. The asset shall be tagged with the unique code, the physical condition of the asset must be assessed and full detail of the asset must be incorporated into the system. All equipment should be tagged, including equipment that is being leased to the business (Brady, 2001)

Maintaining an accurate fixed asset inventory is very important, to have knowledge about the asset location, the actual number of assets on hand and changes made to an asset. Without an accurate inventory, there is a chance of theft or miss use of the asset. All assets must be placed in its original location once the assets are inventoried.

Physical inventory is the hardest part of fixed asset inventory. Normally in an organization, moveable assets get moved from its original place without the knowledge of the custodian of the asset (Brady, 2001). When conducting a physical checkup of assets, it is advisable to have a person who doesn't have any direct responsibility for the asset. The person who conducts the information must be well trained. The person must have knowledge of how the process is carried out, what information must be recorded and how to deal with the assets which are located but in

physical the assets is not there. In most of the organizations, a physical checkup is conducted once or a periodic basis.

To manage inventory, it is very important to understand the inventory process. To keep a track on organization Fixed asset inventory consisting all fixed assets. For instance, a company may use vehicles, furniture's, computer equipment and other machinery to complete the daily tasks. So, these items for the organization will be important; therefore, the assets need to be tracked to prevent misuse or theft. To maintain an effective inventory management, we need to know the process of inventory. In a different organization, there might be slight changes in some process, but mostly if you need qualitative Inventory you need to maintain step-by-step process with the following factors.

**1. The threshold for Fixed Asset:** When it comes to fixed asset every organization will be having some setup threshold for the fixed asset. When it comes to private sector normally top management take the decision of fixed asset threshold. On the other hand, in public sector listed committee of people are selected to fix a threshold.

**2. Document the inventory process and procedures:** When there is a written document of the policies and procedures, it is clear to the person who handles the inventory to identify which needs to be inventoried in which category. The procedures and policy must guide the person; what details should be entered, transfer of the asset, disposal, how to treat lost asset, etc.

**3. Involve all Departments:** For some organization involvement of all departments in inventory may be wired, but this is very important when you think at the point of the asset manager or asset focal point. When it comes moveable assets if they have no knowledge, there is a possibility of moving the location of the asset without informing

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the asset focal point. So, to manage a quality fixed asset inventory involvement of other department is important.

**4. Implementing a good asset inventory solution:** Now a day there are many inventory solution software's available on the market. Which can track and keep a good record of the fixed assets? Most of the organizations use spreadsheets, which is user-friendly. But still, using a spreadsheet for an organization which holds lots of assets will be difficult. If the organization use a software, it will be easy to do depreciation and asset reconciliation. Having a good fixed asset solution will help the organization to reduce mistakes and errors.

**5. Tagging asset:** To tag fixed asset it is advisable to use the unique identifying code, which will help to distinguish similar assets. By using a good solution for tagging the asset, when it comes to physical inventory or tracking it will reduce the time taken. Barcode scanners provide increased efficiency, effectiveness, and accuracy of the asset inventory process. When selecting the solution, organizations should look for an appropriate one for business.

**6. Training employees:** All the employees who deal with inventory must be trained once the process is done. Whenever some new employees join the team, the new employee also needs to be trained. The employees must understand the impacts, process, policies, and procedures.

## 2.9 Fixed Asset Transaction

The fixed asset transaction begins with the procurement of the fixed assets and ends up with the disposal of the asset. Basic transactions can be depreciation, acquisition costs, written-down, transfer, and disposals. All fixed asset transactions must be posted in the general ledger and journals. And these transactions also need to be updated in fixed asset register or inventory if the organization has a separate

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system. When an asset goes missing or lost, one must record this transaction too. It is also important to check the transaction in a routine checkup. Once fixed asset record is established you should always maintain (Baez, 2004).

### **2.10 Fixed Asset Transfer**

When it comes to moveable assets, these assets are most often transferred from one location to another or one department to another. When managing assets to keep track on change of location within an organization is very important. It is advisable to use a user-friendly format form for this procedure, which is approved by the authorities. This form will act as a release of responsibility from the current custodian of asset and transfer the responsibility to the new user or custodian. The fixed asset focal point is responsible to update changed information of location and custodian in the fixed asset inventory register (Baez, 2004).

### **2.11 Lost, Missing or Stolen Fixed Assets**

According to Brady, (2001) “No matter how good the fixed assets management policies and procedures are, there will be lost assets”. Normally these losses are noticed while conducting a physical inventory. When these losses are noticed one must investigate the reason for such issues. When the investigation is over with the reason of the loss fixed asset inventory must be updated and informed to accounts. By conducting unannounced physical inventory, or increasing security measures and giving education these losses can be minimized (Brady, 2001).

### **2.12 Disposition of Fixed Assets**

When assets useful life is ended, the assets may be disposed of. Even though the useful life of assets is over in business operation still the asset may hold a value. Assets which are no longer useful for the business are disposed and business considers this as surplus. Mostly when an asset is sent to disposal the assets are sent to  
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the asset focal point. Then the asset focal point sends assets for disposal after taking down the inventory number of assets. Once the asset is sent for disposal asset should be removed from inventory.

## 2.13 Depreciation

Depreciation is an accounting method which helps to allocate the cost of tangible assets over its useful life. Depreciation doesn't provide the company additional revenue. This allows a company to see the use of an asset's value over time and use that information to report actual asset expenses compared to just the cost of purchasing the asset (Brouwer, 2018). To choose an economic benefit method for depreciating method we need to understand the methods which we can use in accounting system as per IAS. Methods include straight-line method, the diminishing balance method and the units of production method.

### 1. Straight-line Method (SLM)

This method is very simple, an equal amount of asset cost is equally allocated for each year of its expected useful of life. The maintenance and repairs of the asset in its early life are less, but when the asset becomes old there more repairs and maintenance. So, in some circumstance, this method may not be true.

Annual Depreciation =  $(\text{Asset cost} - \text{Residual Value}) / \text{Useful life of the asset}$

### 2. Diminishing Balance Method

The diminishing balance method, also known as written-down value (WDV). This method is suitable when receipts are expected to decline, as the assets get older and it is believed that the allocation of depreciation should be related to the pattern of the asset's expected life (Konstantinos J.Liapis, 2015). So, this means in the early years of the asset there will be a rapid write-off. And when the assets are near its termination charges will be less. This method is used when the asset deteriorates more

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in its early life and asset become no more usable and it is left with only a salvage value.

$$r = 1 - N\sqrt{s/c}$$

r = Depreciation rate

N = Numbers of years

c = Cost of asset

s = Disposal Value

### 3. Units-of-production method

In this method depreciation charges based on usage of the asset. When there is a higher usage of asset higher depreciation is charged. And when asset usage is less, less depreciation is charged. In this method, the life of assets is in terms of the number of operations or number of machine hours. When the company has many fixed assets, which vary the usage this method can be useful.

The formula is used to calculate units-of-production method:

$$\text{Depreciation} = \text{Number of Units Produced} \div \text{Life in Number of Units} \\ \times (\text{cost} - \text{Salvage Value})$$

To calculate depreciation an organization must know the factors below.

1. **The cost of the asset:** When an asset is purchased, the price paid, plus all incidental expenses which are required to the asset into use are the cost of the asset. Also, when there is a heavy repair which extends the life of the asset are also included.

2. **Useful life:** The estimated time period, which an asset is expected to be productive by the organization is called the useful life of the asset. Depreciation is calculated

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based on the estimated time that the asset expects to be productive. So, when it comes to depreciation one must know the useful life of the asset.

**3. Salvage value:** When an asset is no more in use or the business get rid of an asset, the asset will be sold for a reduced amount, this amount is called salvage value of the asset. When we subtract the original asset price by salvage value we will get the depreciated price.

**4. Depreciation method:** there are different methods of depreciation most commonly used methods are the straight-line and diminishing balance. In addition, the units-of-production method.

#### 2.14 Disposal of Asset

When an organization has an asset which is no more in use or the asset is beyond repair, than the asset is sent for disposal. Before asset is sent for disposal, it must be approved by the focal point of the asset. Most of the company nowadays use a specific type of form for disposal or transfer of assets. When an asset is sent for disposal, it is accounted for removing the cost from the books of accounts and from inventory. It is always important to have some policies and procedures, whether it is asset disposal or registering an asset.

#### 2.15 Procurement Management

In different organizations, the procurement process is different. The procurement process is designed based on the goods and services the company needs. Both private and public sectors have a different objective. The private sector cannot exist without profit in the market, so they aim to maximize the profit by minimizing the expenses. When procuring any goods or service in private sector, the company aim to minimize cost. While public sector exists to serve the country. Public sector procurement tries to streamline the process, finding the best suppliers that are willing

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to provide the required goods and services is low price. As defined by Mantzaris, (2014) the acquisition of goods and services – other than the services of officials – for the citizens and their administration by means of commercial transactions. The public sector spends a large sum of money to procure goods and services. This creates room for corruptions, so we need a proper management of procurement activities.

Procurement policies and practices are normally documented and wherever needed changes for improvement is introduced. Based on the policies and regulation, the procurement process is carried out. And every year the administrative routines are audited. Money spent by government to purchase goods and services are tax payer's money. So, in order to spend taxpayers, money government should adopt best practices of procurement (D.Luyimbazi, 2014).

### **2.16 Different Categories of Procurement**

Procurement takes place at different levels in a typical public sector organization, depending on the value of the transaction (Mantzaris, 2014). Purchasing stationary, tickets, staff refreshment and other consumable things which are needed for day to day activities, may have quite few procurement rules. When it comes to the middle range, few competitive quotations from different available suppliers are collected and evaluated. Next threshold includes complex tendering, which is known as competitive tendering. For the first level of procurement in Maldivian procurement regulation from 2008 to 2017 included one quotation with a threshold of MVR 1000. However, from 2017 February the new regulation increased the threshold up to MVR 2000 with minimum three quotations. The second procurement level includes three quotations with threshold MVR 2000 to MVR 35,000. Normally using this threshold most of the daily service or goods are procured.

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Any procurement between MVR 35,000 to MVR 2,500,000 must be advertised in the Maldives national gazette. In the first round, there must be minimum three bids for evaluation, and a contract will be signed between two parties. This requirement mostly favors the best price bid. Such purchases are often a capital nature, for example, office furniture or computer equipment and other assets, which means that the purchased items are subject to the controls of asset registering and related accounting practice (Mantzaris, 2014)

Next procurement threshold is MVR 2,500,000 to MVR 5,000,000 which is quite similar to the mid value. But this includes additional regulation competitive tendering is a process where organization the supply of goods and services, and then awards the contract to the best offer, according to predetermined criteria, without negotiation. Procurement through tendering has various interesting characteristics. These include the following:

1. It ensures good economy by awarding the contract to the most responsive lowest bidder.
2. To ensure fair competition among the bidders, all bids are kept in a closed envelope. All the bids are collected on due time and open in front of the bidders. Price of the bids are recorded and called out. Any collusion between the bidders is strictly forbidden.
3. After the deadline for the bids and before the awarding date any negotiation is prohibited. If the bid is accepted or rejected, the bidder must be informed.

Tender processes ensure practices that favor transparency, fairness and the acquisition of comparable value for money. The various tender committees are required to make procurement regulations within the established government tender

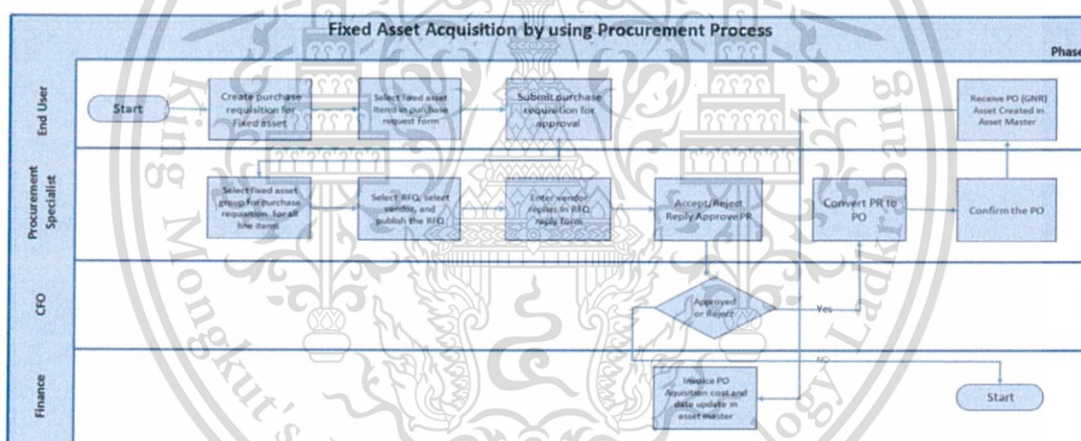
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rules framework, ensure that laid-down policies and procedures are adhered to, assess the bids submitted, and award contracts to winning bidders (Mantzaris, 2014).

## 2.17 Procurement Process

Procurement process starts by sending a purchase requisition to procurement with the requirement or specification of the goods to be purchased. When the request is received by procurement, request for quotation is sent to the suppliers. And the quotation is received based on the specification. The good or services are procured by creating and send the purchase order to the vendor. When the goods or service is received, the process ends by paying the invoice through finance. This process can be varied based on government based on the amount of money.



**Figure 2.4** Process flow diagram of fixed asset procurement

Source: Danish, A. (2017). Fixed Asset Acquisition by using Procurement Business Process.

Above figure 2.4 shows a process flow diagram of fixed asset procurement. The end user starts the process by selecting the fixed asset and entering the item to purchase requisition form. When the form is submitted to procurement specialist, the specialist makes sure to create the request for quotation (RFQ). While creating RFQ procurement specialist will enter the details provided in the purchase request form.

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After receiving vendor reply procurement specialist enter the reply and accept by approving purchase requisitions. After approving the purchase requisition, the purchase order is created. When every purchase order is created, the system will create a purchase order number. Next purchase order is confirmed. Once the purchase order is confirmed, the system will create the fixed asset number. Once the fixed asset and invoice is received, the invoice is sent to finance. When finance post the invoice acquisition cost and date is updated in the system (Danish, 2017).

### 2.18 Likert Scale

Likert scale is one of the most widely used scaling approaches in survey research. Likert scale allows a range of answering option. Giving the answering option of “yes” or “no” may not be the accurate answer. The Likert scale will get you more granular feedback regarding the question, whether the respondent strongly agrees or disagree with your question (Spencer E.Harpe, 2015).

This method will let you uncover degrees of opinion that could make a real difference in understanding the feedback you’re getting. And it can also pinpoint the areas where you might want to improve.

It is good to have a large sample size as this will validate the results by comparing the findings. Some researchers create their scales depending on their studies, but most of them adopt previous scales. When we use a range of scales in the study it provides a bigger picture of the issue. Commonly used scales are from 5 to 7 and it is rated from low to high. “It is common to have some items in a scale that are ‘negatively worded’ and respondents have to reverse their thinking when saying that they agree or disagree with them” (Hartley, 2013).

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## 2.19 Sample Size

Determining sample size is one of most important part of a survey. To get an appropriate sample size: level of precision, level of confidence or risk, and the degree of variability in the attributes being measured need to be studied.

Approaches to determining the sample size can be a census for small populations, imitating a sample size of similar studies, using published tables, and applying formulas to calculate a sample size.

One approach is to use the entire population as the sample. Although the cost to survey the whole population will make this difficult, a census is attractive for small populations (e.g., 200 or less). A census eliminates sampling error and provides data on all the individuals in the population (Israel, 1992). Although Yamane, Taro provides a simplified formula to calculate sample sizes, this research covers the whole population. So, Yamane, Taro formula will not be used in the research.

## 2.20 Related Works

Most of the research is focused on category A (Property and Infrastructure) of fixed asset management. Study of M.H.Hanis, (2012) focused on local government of Indonesia. The research aim was to develop an asset management framework for infrastructure and property under local government. The research aim was to study current asset management procedure, factors influencing asset management and to develop a framework for fixed asset management. To collect useful data notes, voice recorders, cameras and other tools were used. Data were analyzed by using content analysis. The researcher ends his research by recommending to study category B.assets (furniture, plant, machinery, and equipment).

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The study of T.B.Assey\*, (2016) identifies the individual factors which influence local government authorities fixed asset management by surveying 9 LGA using Likert scale questionnaires. The researcher used multivariate data analysis in SPSS version 20 for the survey result. According to the case study result, most influencing factors for fixed asset management for LGA in Tanzania was physical verification and fixed asset tracking, rather than asset losses. The researcher recommended reviewing strategy and guidelines. And to increase the frequency of fixed asset physical verification.



## CHAPTER 3

### RESEARCH METHODOLOGY

#### 3.1 Ministry Overview

The Maldives is a coral grouped island country consists of 1192 islands grouped in a double chain of 26 atolls. The Maldives is a South Asian country, located in the Indian Ocean. The capital of Maldives (Male'), holds a population of 103,693. The Maldives achieved independence on 26th July 1965. The Maldives is an Islamic country (InKunming, 2016).

Towards a Cleaner, Greener and Safer Maldives Ministry of Environment and Energy (MEE) was established by President Dr., Mohamed Waheed on 21 May 2012 under the powers granted to him by the Constitution of the Republic of Maldives. For the post of Minister Dr. Mariyam Shakeela was appointed. Earlier MEE was under the Ministry of Housing and Environment.

Ministry of the Environment and Energy is handling the measures of Energy, climate policies and environment issues of Maldives. Ministry works on several issues related to the water environment, nature, marine, climate, energy, biological diversity, chemicals, Eco cycles and international environmental cooperation (Energy, 2018).

Environment Protection Agency (EPA), Maldives Meteorological Services (MMS), Maldives Energy Authority (MEA), UNESCO Baa Atoll Biosphere Reserve Office (BR Office), Baa Atoll Conservation fund are affiliated and function under Ministry direct supervision.

To conduct day to day works in MEE and local projects total number of 215 employers is employed. For each and every employer working station is set up in Green Building.

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### 3.2 Process Flow of Fixed Asset Inventory

The Process flow of inventory of assets in the government of the Maldives is carried out as per National Procurement Regulation (Dhaulathuge Maaliyathuge Gavaaidhu). Under National Procurement Regulation sub clause 11 all the assets procured from government budgets, assets procured to use in other government offices from the fund accounts, assets received from donations are the property of Maldivian government. All the assets have to be registered under the principle rules provided by Ministry of Finance and Treasury (MOFT) unless there is any change.

Each and every government office must have separate asset inventory register. In addition, MOFT will have a separate inventory register of all government assets. The inventory register must include the following point.

1. Name of the asset (brand, model, serial number, condition of the asset and other important features and information about the asset).
2. Inventory code number (the code must be written on asset too)
3. Location of the asset.
4. Date of goods received.
5. Price of the asset.
6. Other information's if any changes brought to assets.

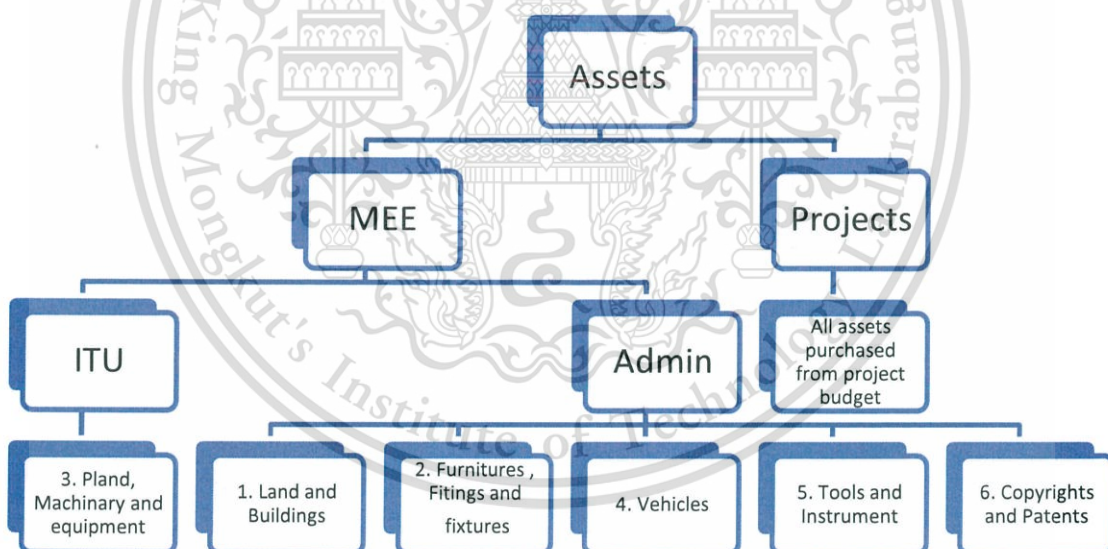
Procurement of all assets of government must be carried out as per sub clause 10 under National Procurement Regulation of Maldives. As per sub clause, 11 assets are categorized into 8 categories.

1. Land, Buildings (Office building, Harbors, Water breaks, Water and Sewerage systems, Stadiums, Parks, Bridge, Roads)
2. Furniture, Fixtures and Fittings (Chair, Tables, Panel board, Cupboards etc.)

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3. Plant, Machinery, Equipment's, Software's and Other things related to Information Technology (Desalination plants, Engine, equipment's, Computer hardware and software, Phone, Television, Air Condition, Printers, Photocopy Machine, Shredder, etc.)
4. Vehicles (Land air and water vehicles, etc.)
5. Tools, Instruments and Apparatus (Laboratory tools, Machine tools and other special instruments).
6. Copyrights and Patents (Trademarks, licenses, etc.)
7. Ancient Historical Artifacts Places and Items (All the Ancient Historical Artifacts Places and Items under Government of Maldives).
8. Uninhabited Islands, Mangroves, Coral Reefs, and other living organisms in there.



**Figure 3.1** Categorization of Asset

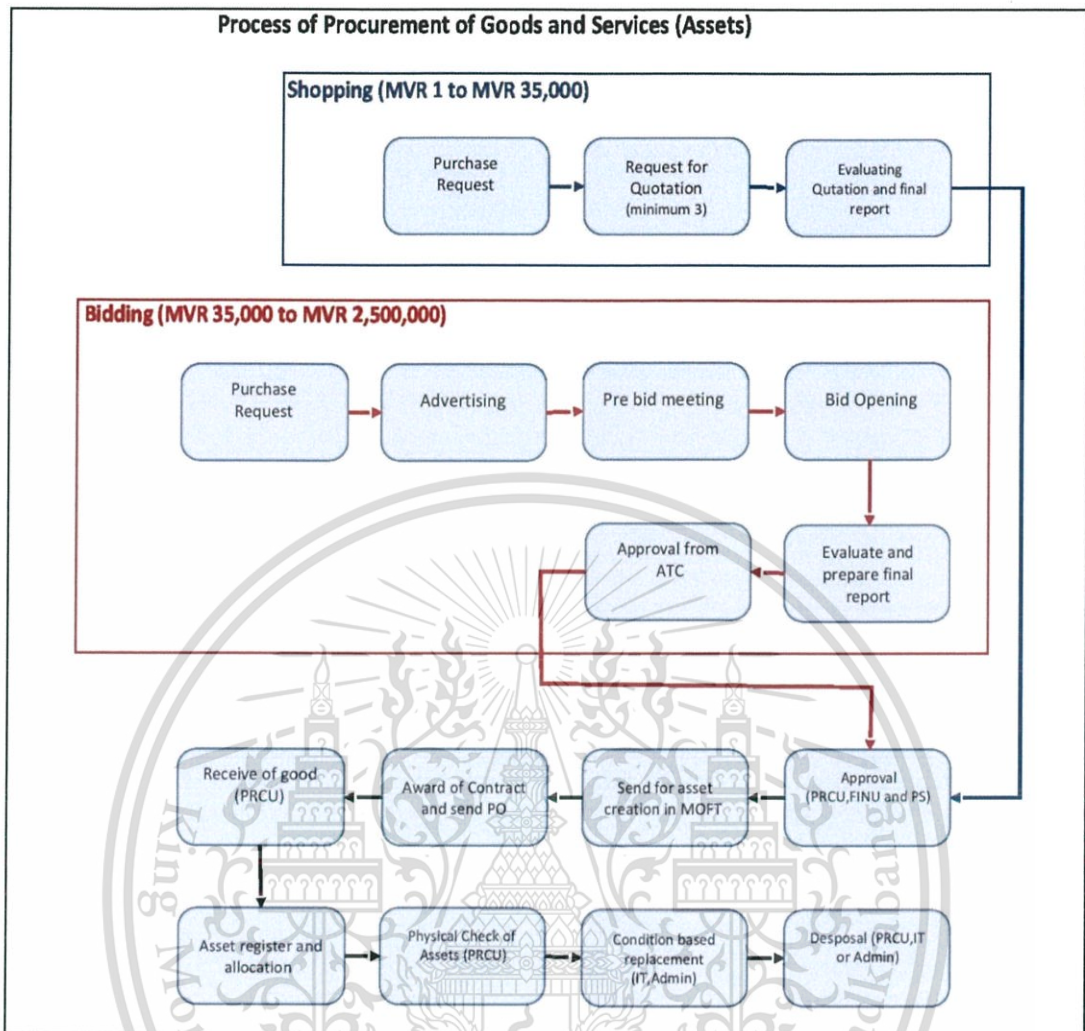
Figure 3.1 shows the categories of assets handle by day to day basis in MEE. In MEE Inventory register is handled by procurement unit. Information Technology Unit (ITU) and Admin play the role of intermediate between procurement and other departments. All ITU related assets will be checked by ITU before any assets are

allocated to any employer of MEE. ITU will take care of category 3 assets if there is any problem faced by the asset user. ITU will not take responsibility for any assets misplaced unless it's assigned to ITU with written notice. Admin helps procurement in maintenance work of category 1 (Office building), 2, 4, 5 and 6. Any assets purchased from the project fund other than Maldivian government will be handled by the project unit until the project is closed. Project unit is also established in Green building due to this procurement unit will have a list of project assets in the MEE inventory register.

### **3.3 Procurement Procedure of Fixed Asset**

1. According to National Procurement Regulation sub clause, 11 procurement of assets will be carried out according to National Procurement Regulation sub clause 10. There are different thresholds for procurement of goods and services under National Procurement Regulation sub clause 10. Below mentioned are the thresholds for procurement of goods and services.
2. Below MVR 2,000: Three written quotations and approval from Head of Procurement.
3. MVR 2,000 to MVR 35,000: Three written quotations and approval from Financial Executive (Permanent Secretary).
4. MVR 35,000 to MVR 2,500,000: Competitive tendering (Advertise on National Gazette of Maldives), approval from Bid committee and Financial Executive (Permanent Secretary).
5. MVR 2,500,000 to MVR 5,000,000: Competitive tendering (International advertisement), approval from the national tender board and Financial Executive (Permanent Secretary).

Procurement work starts after receiving the purchase request. When purchase request form enters procurement unit, head of procurement check for the basic requested requirements. If the estimated price of goods is less than MVR 35,000 through email request for quotation will be sent to the relevant vendors with the requirements as shown in figure 3.2. If the estimated price of goods is above MVR 35,000 up to MVR 2,500,000 than it is advertised on the national gazette of Maldives. After receiving minimum 3 quotations or 3 bid document, the quotations or bids are evaluated by a 3 member team. The quotation with the highest score is selected. Next step is to get approval from the Agency tender committee (Above MVR 35,000) head of Procurement, head of Finance and Financial Executive. After getting the approval asset creation form is send to MOFT (not applicable to projects). When MOFT send the asset number of assets, purchase order (PO) is sent to the vendor and contract is signed between vendor and MEE. After assets are received, it is registered in the inventory and allocated to the relevant department. Invoice is sent to Finance Department for payment. End of every financial year physical checkup of inventory of assets is done. Condition-based replacement of assets is carried out by IT and Admin. If the assets are not in a useable condition it is sent to disposal or auction as per National Procurement Regulation.



**Figure 3.2** Process flow diagram of procurement of goods and services

The figure 3.2 shows how the current process of procurement of goods and services in MEE. Figure 3.2 shows the procurement process of bidding and shopping, within the limit, provided avoiding competitive bidding process.

### 3.4 Problem Analysis Method

The strategy used to achieve the objective of this research are two approaches, namely conducting survey and document analyzing. Analyzing the document shows policies and procedure used in asset management by understanding asset lifecycle. Which includes the assets owned by MEE and current inventory register. A Likert scale survey was conducted using the door to door method by validating questionnaire. This material is reserved for educational use only, not allowed for commercial use.

with 3 different stakeholders. The survey question was designed to understand the factors which influence current fixed asset management in MEE. When the factors influencing is identified, it will be easy to improve the current fixed asset management system.

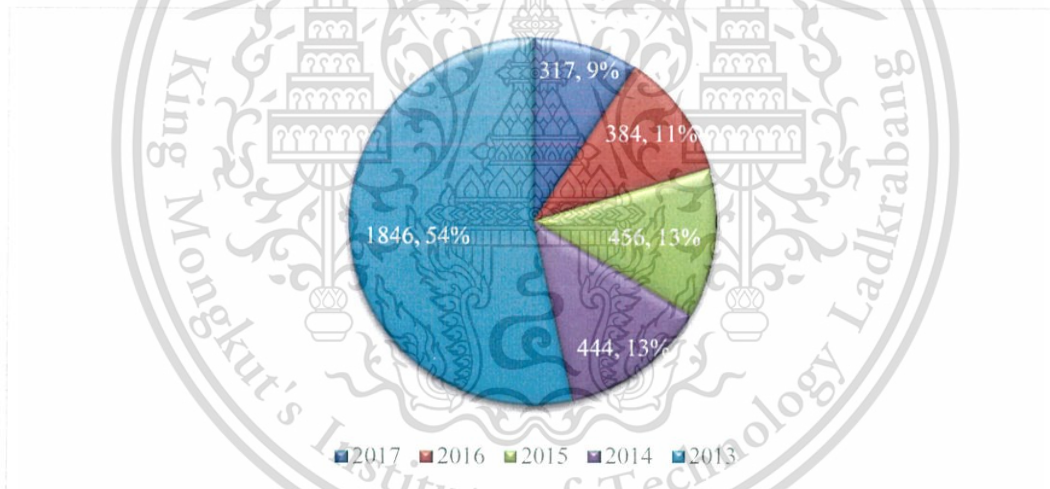


## CHAPTER 4

### RESULTS AND DISCUSSIONS

#### 4.1 Analyzing Fixed Asset Inventory of MEE

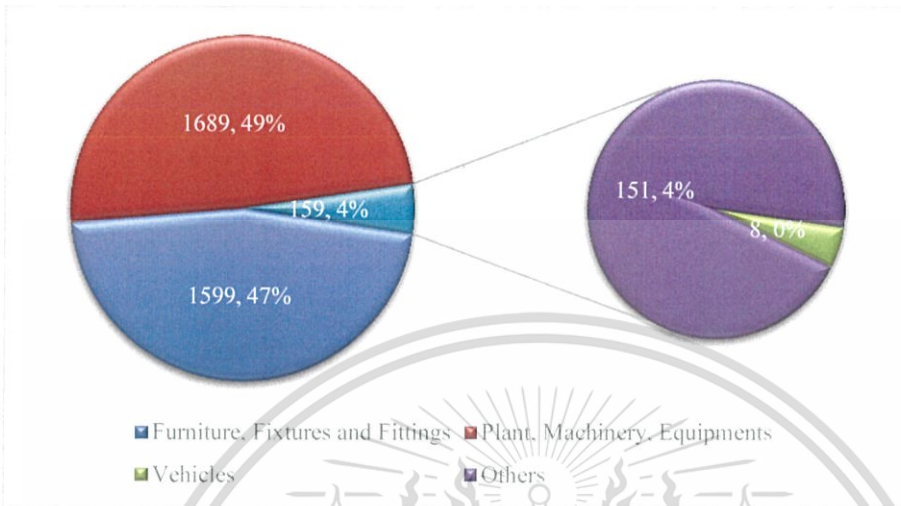
According to inventory data provided by MEE up to the second quarter of 2017. Figure 4.1 shows the total number of assets purchased in each year. Figure 4.2 shows the total number of assets in each category, this will help us to identify the total amount of assets in each category. Fixed assets in MEE were inventoried in 2013 because 2013 was the first financial year of MEE after establishment. All the values used in this research are in Maldivian Currency (MVR), 1\$ is equal to MVR 15.42.



**Figure 4.1** Total number of asset registered

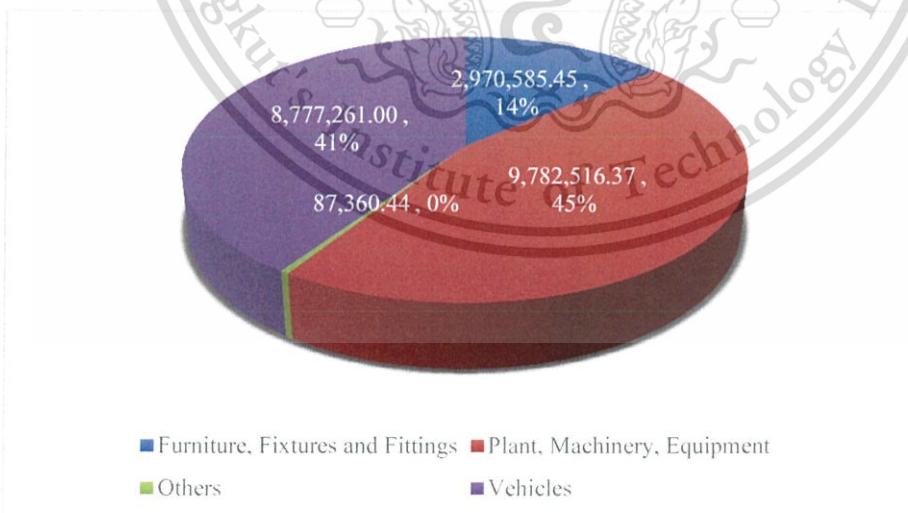
Figure 4.1 shows the total number of assets purchased and registered under MEE up to the second quarter of 2017. From the pie chart, it is clear that majority of assets was purchased in 2013, which is 54% of total assets. In 2014 and 2015 each year, 13% of total assets were purchased and inventoried under MEE. In 2016 11% of assets was registered. In 2017 up to the second quarter 9%, of the asset was purchased

and registered. Overall an average of 10% to 15% of assets has been purchased in each year after 2013.



**Figure 4.2** Total number of assets in each category

Figure 4.2 shows the number and the percentage of assets in each category. Figure 4.2 shows that Plant, Machinery, equipment's category has the highest amount of fixed asset registered. With 47% furniture, Fixtures and Fittings are the second highest category of asset, which includes tables, chairs, filing cabinets, etc.



**Figure 4.3** Total value of asset in each category

Figure 4.3 shows the total value of assets in each category. With a total of 45% Plant, machinery and equipment hold the highest value. Even though the number

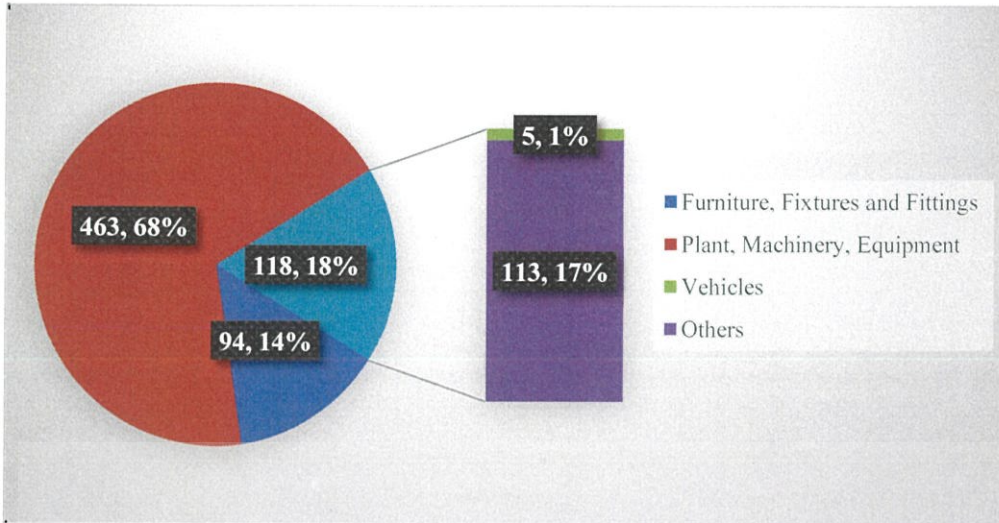
of vehicles in MEE is less, it holds 41% of the value in the books of account.

Furniture, Fixtures, and fittings hold 14% of the total value in the books of account.

**Table 4.1** The cost of assets (yearly and category)

Category	2017	2016	2015	2014	2013	Total
Furniture, Fixtures and Fittings	274,363	256,507	1,031,476	1,139,219	269,021	2,970,585
Plant, Machinery and Equipment	955,886	980,716	2,151,207	380,771	5,313,936	9,782,516
Others	4,682	9,787	16,971	23,633	32,288	87,360
Vehicles					8,777,261	8,777,261
Total	1,234,930	1,247,010	3,199,654	1,543,623	14,392,507	21,617,723

Table 4.1 shows the value of total assets in each category and each year as per the inventory register. Although 2013 holds most of the asset in furniture, fixture, and fitting in inventory register, it holds only MVR 269, 021. And in category wise plant, machinery and equipment hold the highest value in the records of inventory. Vehicles were purchased in 2013 only. The fixed asset register provided by MEE was with the original value, and there was no depreciation calculated. After analyzing the data, it was noticed that some of the assets didn't have any value in inventory register.



**Figure 4.4** Number of assets with no value

Figure 4.4 shows assets which don't have any value recorded in an inventory register of MEE. All asset which doesn't have value in inventory register is from the year 2013. To have an idea of the total asset value in MEE, it is very important to do a revaluation of assets.

**Table 4.2** Values after revaluation of assets

Category	After revaluation	Old values	Difference
	2013	2013	
Furniture, Fixtures and Fittings	1,571,815.00	269,021.00	1,302,794.00
Plant, Machinery and Equipment	7,382,516.00	5,313,936.40	2,068,579.60
Others	82,787.03	32,288.14	50,498.89
Vehicles	12,695,257.00	8,777,261.00	3,917,996.00
<b>Total</b>	<b>21,732,375.03</b>	<b>14,392,506.54</b>	<b>7,339,868.49</b>

Table 4.2 shows the value of assets after revaluation of assets. The difference between total assets of in 2013 after valuation is MVR 7,339,868.49. Total asset value of 2013 has increased from MVR 14,392,506.54 to MVR 21,732,375.03. Furniture,

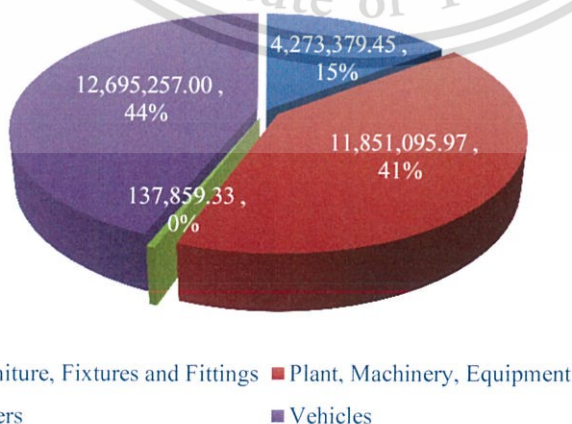
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fixtures and fittings value has increased from MVR 269,021.00 to MVR 1,571,815.00 which is a huge amount. Plant, Machinery and Equipment value has increased from MVR 5,313,936.40 to MVR 7,382,516.00. Category other asset value has increased from MVR 32,288.14 to MVR 82,787.03.

**Table 4.3** Total asset value

Category	2017	2016	2015	2014	2013	Total
Furniture, Fixtures and Fittings	274,363	256,507	1,031,476	1,139,219	1,571,815	<b>4,273,379</b>
Plant, Machinery and Equipment	955,886	980,716	2,151,207	380,771	7,382,516	<b>11,851,096</b>
Others	4,682	9,787	16,971	23,633	82,787	<b>137,859</b>
Vehicles					12,695,257	<b>12,695,257</b>
<b>Total</b>	<b>1,234,930</b>	<b>1,247,010</b>	<b>3,199,654</b>	<b>1,543,623</b>	<b>21,732,375</b>	<b>28,957,592</b>

Table 4.3 shows a clear picture of total amount of fixed asset inventory of MEE. So, by the end of second quarter of 2017 the total assets value in MEE has to be MVR 28,957,592.



**Figure 4.5** Total asset value in percentage and value in each category

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Figure 4.5 shows the value of assets after asset valuation. Most of the assets transferred from Ministry of Housing and Infrastructure were entered without any value. After doing the valuation of assets for 2013 the fixed assets value under MEE will be as figure 4.5.

## **4.2 Findings after analyzing fixed asset inventory**

For each year there was a different inventory register sheet created in excel. The format of the inventory register had changed every year (old inventory register sample in Appendix A). To analyze data from inventory register all data were imported to one uniform format (Appendix B), which was created according to Maldivian procurement regulation 2017.

This process also helped, to find out assets which had same inventory number and assets which had no original value recorded. As there is no minimum value set up for the fixed assets to be registered in inventory register stock items like stapler, letter tray, etc., was registered with others in inventory register.

Assets which had same inventory number was reported to MEE. And a data cleansing process was conducted by assets valuation. Data cleansing process helped to find out the total asset value in fixed asset inventory which increased by 34%.

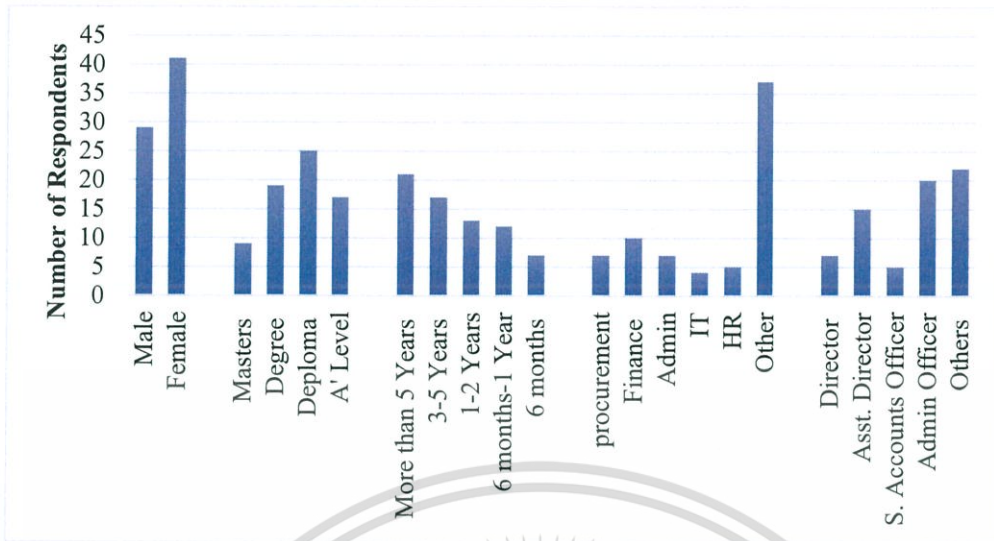
## **4.3 Survey Results**

The survey was conducted including the whole population for the studies. Thus, Yamane, Taro formula is not used to find the sample size. All staffs working in MEE were invited to participate in the survey, of 200 staff who received the survey 100 of them responded. From the 100 forms, 30 forms were incomplete. The survey form is attached in Appendix C.

The graph outlines the result of the survey carried out to determine the current factors which influence fixed asset inventory management in MEE.

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**Figure 4.6** Background information of Respondents

Figure 4.6 shows the background information of survey respondents conducted in December 2017 in Ministry of Environment and Energy. Based on the 70 completed survey forms 29 were male and 41 were female. Out of 70 respondents, 42 were undergraduate and 28 of them were graduates. Looking into the experience of respondents in MEE 21 respondents have been working in MEE for more than five years, however, 19 of them has experienced less than one year. Thirty-three respondents are from the corporate department (procurement unit, finance unit, administrative unit, Information technology unit, human resource unit) and 37 of the respondents are from another department (Climate Change Department, Environment Department, Waste Department, Water and Sanitation Department) in MEE. Out of 70 respondents, 7 is director level, 15 are assistant director level, 5 are senior accounts officers, 20 are admin level staffs and 22 are from other positions.

Part B of the survey form was input to have knowledge about the procurement process in MEE. The first question asked in part b is there a manual for the procurement process and all of the respondents' answer was yes there is a

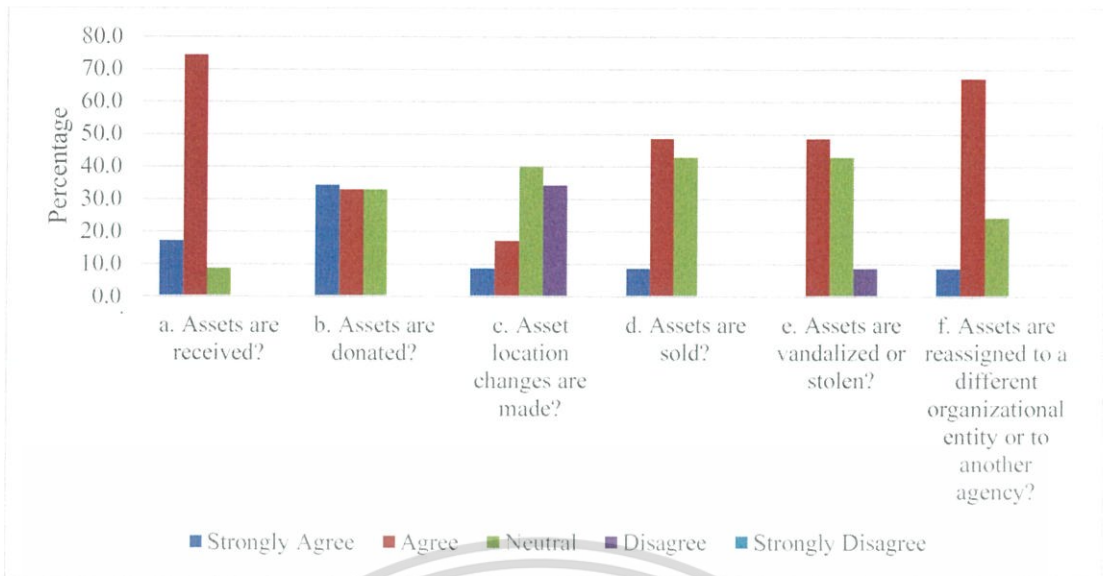
procurement manual in MEE. The next question in part b was if there is any software or a system they use to procure the goods and services. All of the respondents answered that MEE uses SAP system. And the last question for part b is once they receive the assets from vendors, is the asset verified as per purchase order (PO), for which all respondents agree.

Part C of the survey form consists of 24 questions related to fixed asset inventory of MEE. First question aims were to understand how the inventory is tracked. Part c of the survey forms also aims to find out the factors which influence inventory management. To come up with the final results, each and every respondent's answer need to be examined.



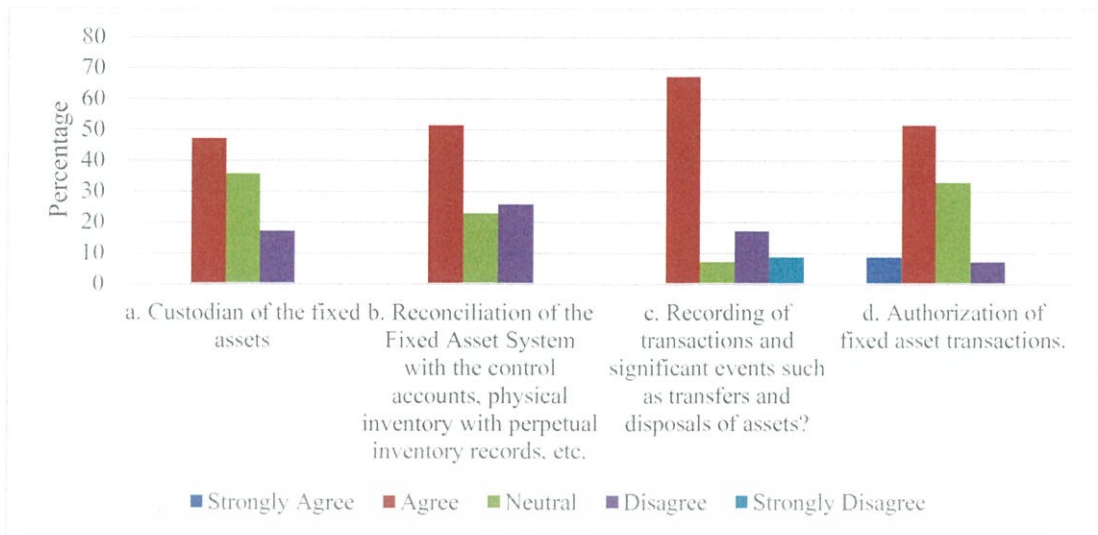
**Figure 4.7** How Inventory is tracked

Figure 4.7 shows that 100% responded that MEE uses a spreadsheet to track inventory. Although MEE use SAP system to procure items and for asset registration, MEE uses a spreadsheet to track assets.



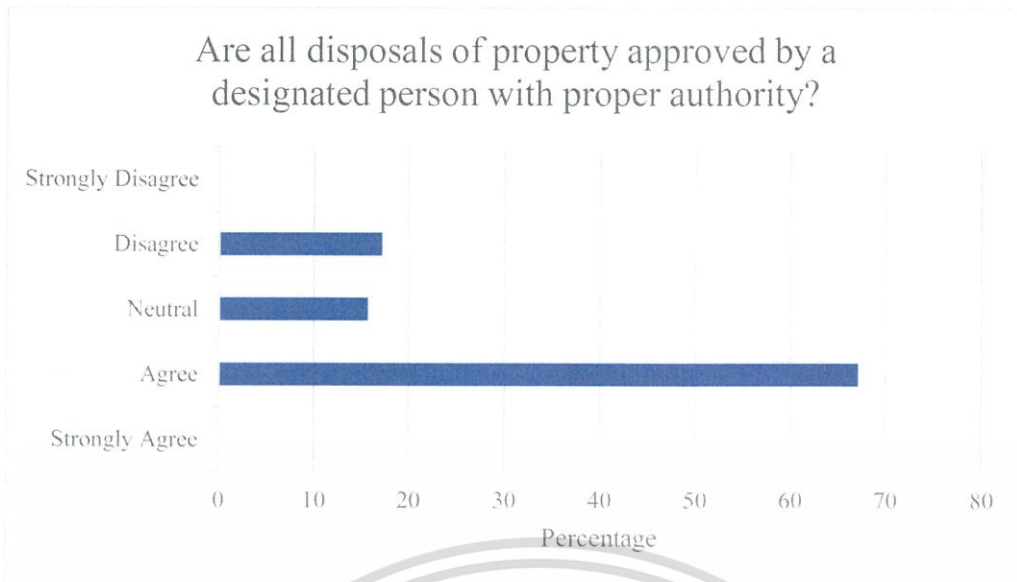
**Figure 4.8** Notification of Individual Responsibility when the different circumstance is met

Figure 4.8 shows result for the question whether individual responsibility for a fixed asset is notified when the different circumstance is met. The aim of asking these questions is to examine how proper the assets are maintained. And to find out the loopholes in inventory management. Figure 4.8 shows clearly that the majority believes when assets are received, the person who is responsible is notified. Almost 2/3 agreed that individuals who are responsible are notified when the assets are donated. Whenever there is a change in the location of the assets 34% respond that individuals who are responsible weren't notified, 40% respond that its neutral and the rest of the responded agreed that the individual respondents are notified. Changing location without notifying can be one issue that leads to mismanagement of inventory.



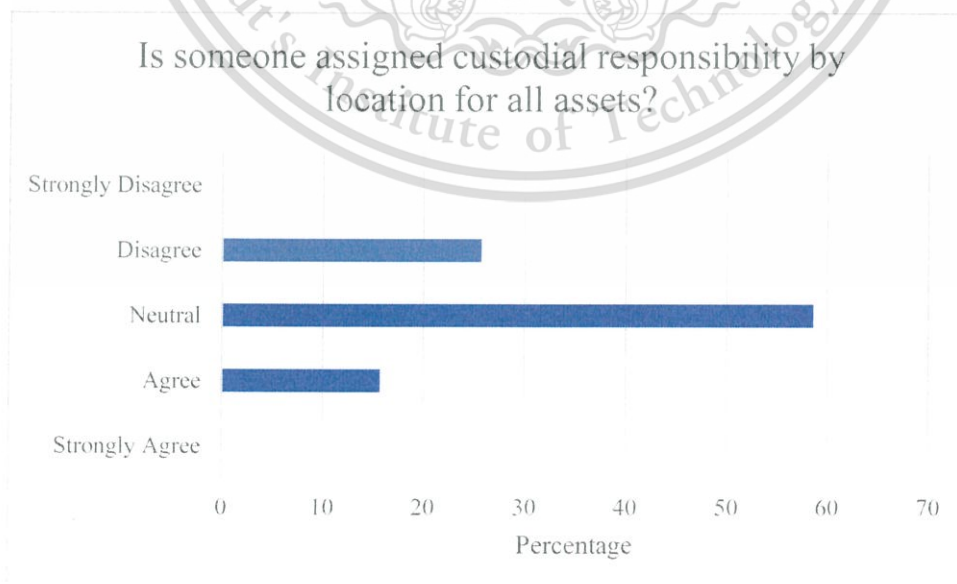
**Figure 4.9** General duties performed by different people

Figure 4.9 shows the result of separate tasks performed by different people. 47% agree that the custodian of the fixed asset is performed by different people. Almost 38% respond that its neutral and the rest 17% disagree with the statement. Over 51% of respondent's agreed that the reconciliation of the fixed asset system with the control accounts, physical inventory with perpetual inventory records are generally performed by different people. On the other hand, 26% disagree on this and 23% respond neutral. Recording of the transaction and significant events such as transfer and disposal of assets 67% agreed to the statement and 26% disagreed and rest of them answered neutral.



**Figure 4.10** Disposals of property approved by a designated person with proper authority

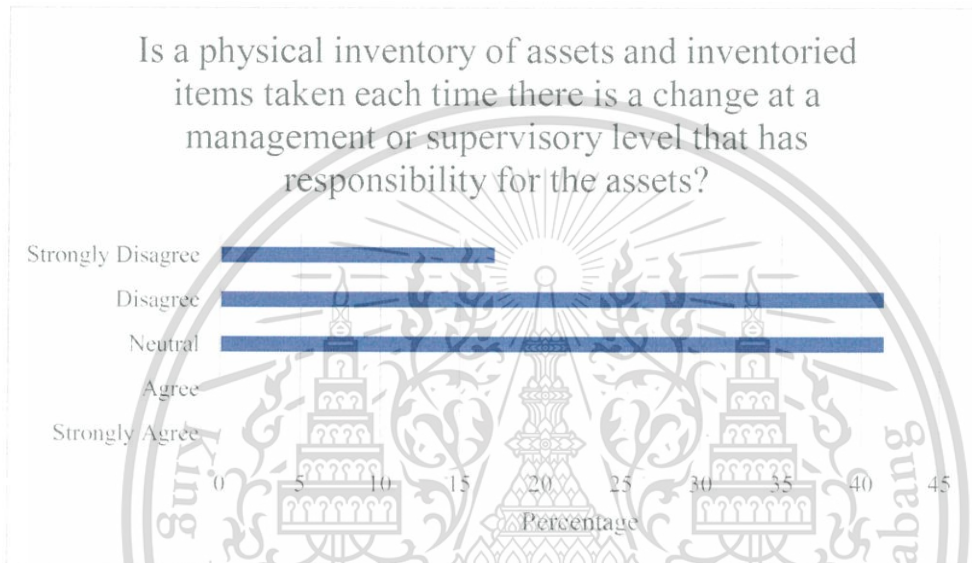
Figure 4.10 shows that 67% respondent agreed that all disposals of the property are approved by the designated person and 17% disagree on this. And the rest responded neutral. In Maldives government regulation 2002 it's cleared that when the property is sent for disposal, it needs to be approved by the designated person in writing. The matter needs to be concerned and this can also lead to mismanagement of inventory.



**Figure 4.11** Assigning custodial responsibility by location

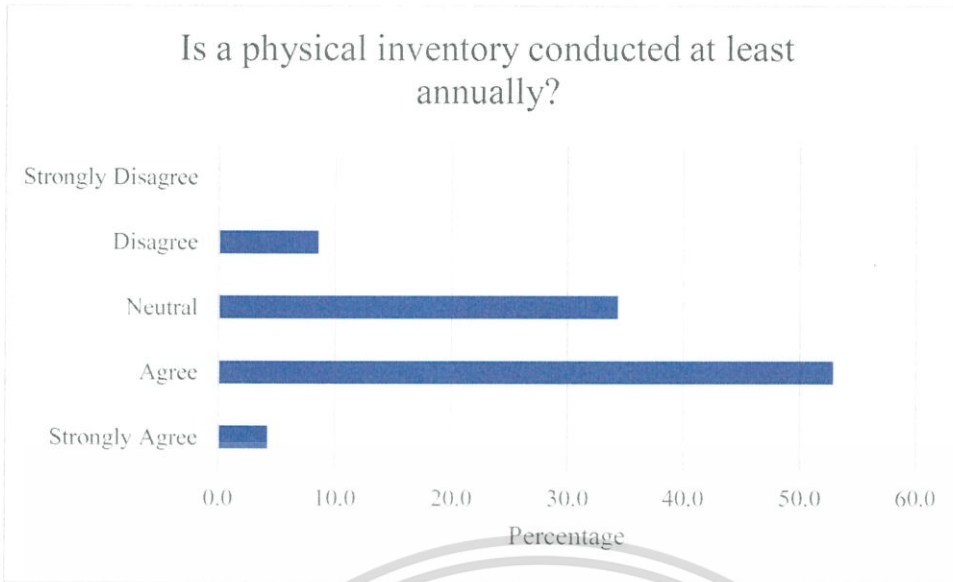
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The result of the following figure 4.11 shows that only 16% agree that there is someone assigned custodial responsibility by the location of all assets, and 27% disagree with the statement and the rest of the respondent stay neutral. It is very important to assign custodial responsibility based on the location of the assets. This will reduce mismanagement of assets at each location, as the assets will be handled by different people finally reporting to the asset focal point.



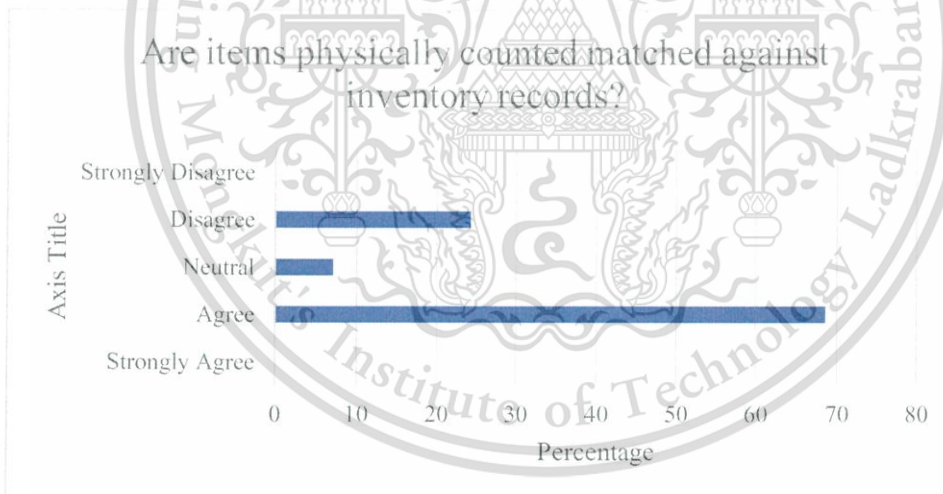
**Figure 4.12** Physical inventory taken when there change at the management level

More than 50% disagree with the statement that physical inventory of assets and inventoried items taken each time there is a change in management or supervisory level that has responsibility for the assets. Whenever there is a change in the supervisory level that is responsible for the assets it is very important to conduct a physical inventory so that the new person who is responsible for the assets will know the current situation of the asset and inventory.



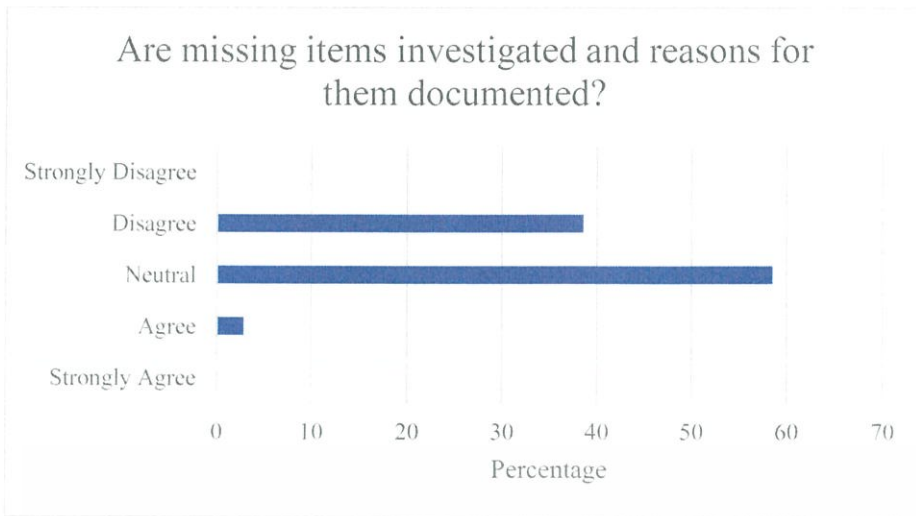
**Figure 4.13** Physical inventory conducted annually

More than a half agreed that physical inventory is conducted once in a year. But there 8.6% chance that physical inventory isn't conducted once in a year. And almost 34% responded neutral.



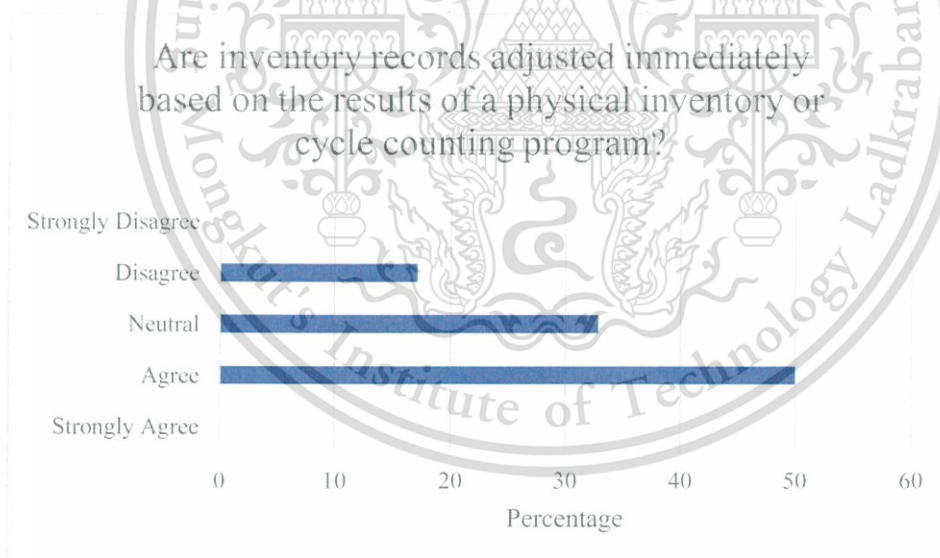
**Figure 4.14** Physical counting and matching with inventory records

When a physical inventory is conducted, each and every asset must be counted and match against the inventory records or the register. Figure 4.14 shows that 69% agree that it is matched against the records, 24% disagree with the statement and the rest of the respondents say it's neutral.



**Figure 4.15** Investigation and documentation of missing assets

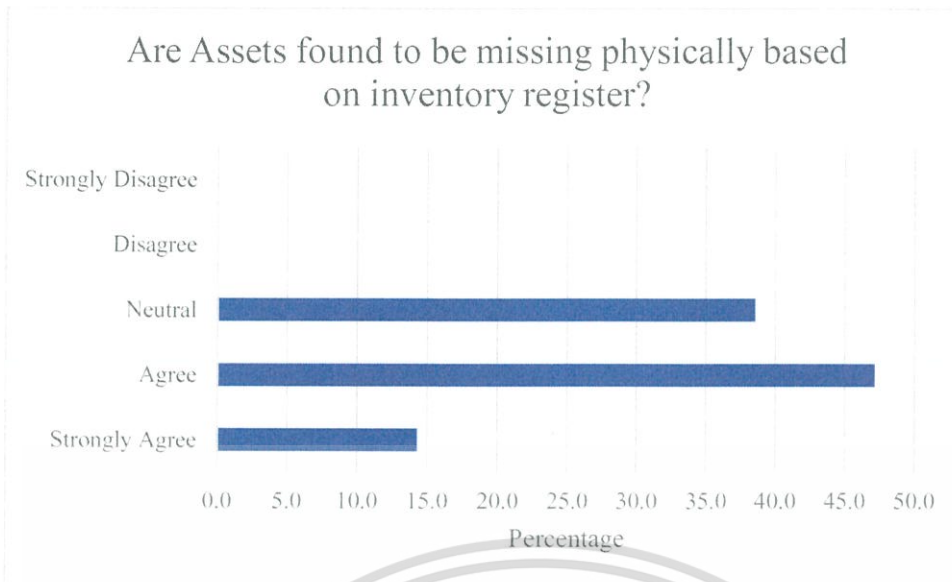
Figure 4.15 shows 39% of the respondents disagreed with the statement if the missing items are investigated and the reason for missing them are documented. Around 59% respond neutral and only 3% agreed with the statement. This means whenever there is an asset gone missing no action is taken at all.



**Figure 4.16** Adjusting assets in the records after physical inventory

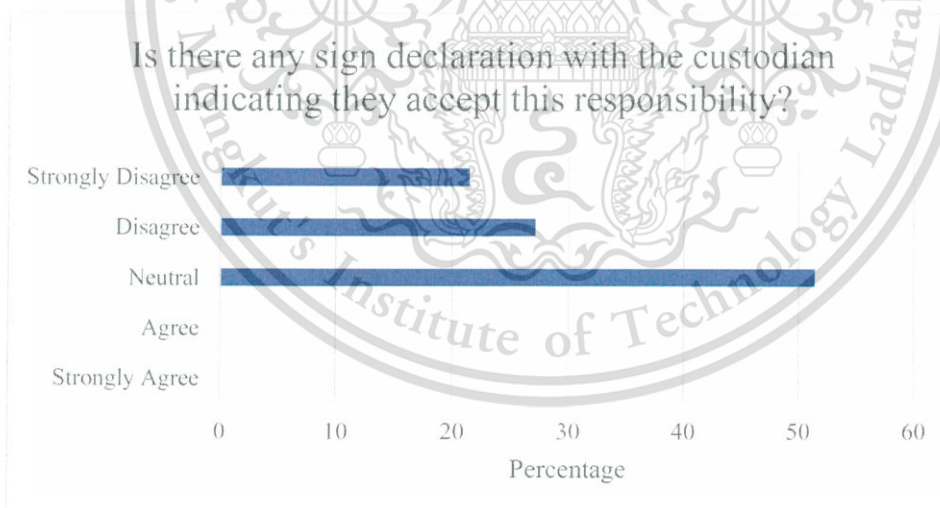
The aim of this question is to verify after taking the physical inventory was the inventory adjusted based on the result of counting immediately. Figure 4.16 shows that 50% agree that after physical counting items are adjusted. While 17% disagree with the statement and 33% responded neutral.

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**Figure 4.17** Assets found to be missing based on inventory

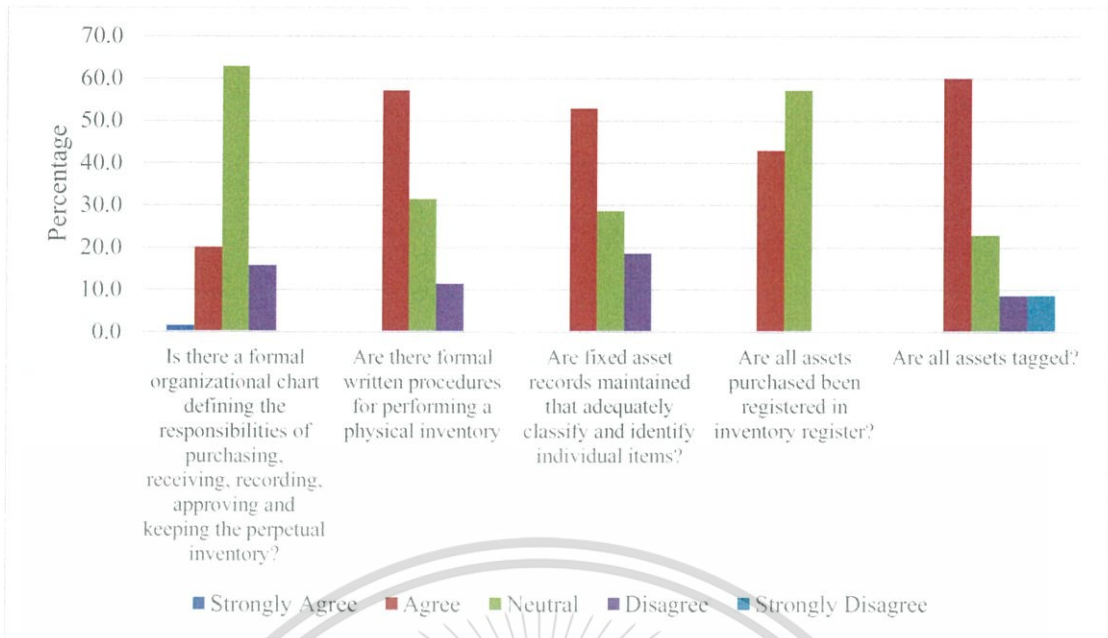
Figure 4.17 shows that assets are found to be missing physically based on the inventory register. This means without the knowledge of the asset focal point assets are moved from the place of its origin. Almost 61% agree with the statement while the rest respond as neutral.



**Figure 4.18** Signed declaration with the custodian

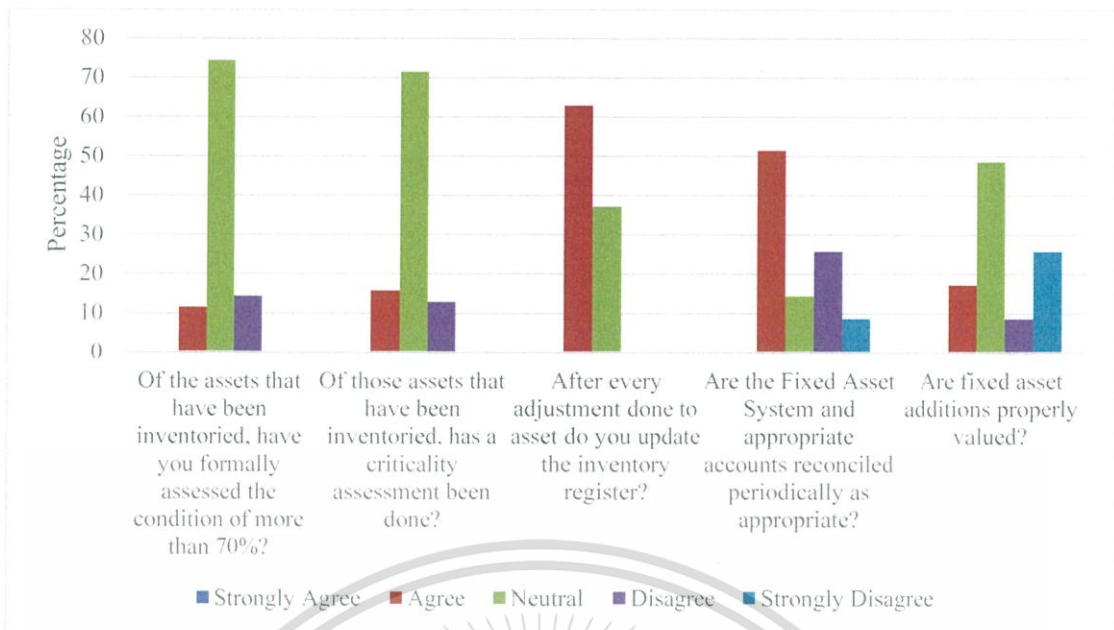
Almost 49% disagree to agree with the statement that there is a sign declaration with the custodian indicating that they accept the responsibility towards the asset. And 51% respond neutral. This indicates that officially no staff will be responsible if there is any problem occurred to the asset or if the asset goes missing.

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**Figure 4.19** Organization chart, the procedure for performing inventory, inventory register and asset tagging

Figure 4.19 shows questions regarding the organization chart, procedures for performing inventory, inventory register, and asset tagging. The graph shows that around 16% disagree that there is an organizational chart defining the responsibilities of purchasing to keeping a perpetual inventory. Almost 63% respond neutral and 21% agree that there is an organizational chart with the responsibilities. Almost 11% disagree that there is no physical inventory performing procedures in MEE. According to 19% of respondents' assets records are not maintained that adequately and 29% responded neutral. Figure 4.19 also shows that 43% agreed that all purchased assets are registered in inventory while 57% responded neutral. Almost 18% responded that all assets are tagged in MEE, 8% responded neutral and rest of 60% agreed that assets are tagged.



**Figure 4.20** Assessing, adjusting, reconciling and valuating assets

Figure 4.20 shows question which is important for depreciation process of fixed assets. Figure 4.20 shows that 11% and almost 15% disagreed that assets have been assessed the condition and 74% respond neutral to the question. Almost 16% agreed that critical assessment has been done for the fixed asset which is very low. Updating inventory up to date is a problem faced by each and every company. Figure 4.20 shows that nearly 63% agrees that inventory is updated after every adjustment. And 37% neither agrees nor disagree. Half of the respondents agreed with the statement that fixed asset system and appropriate reconciliation done periodically, while 14% are neutral and 34% disagree. Fixed asset valuation methods are the cost of acquisition, replacement cost, and accumulated depreciation value. Figure 4.20 shows that 35% disagree with the statement that fixed assets additions are properly valued, 49% responding neutral and rest 17% agree with the statement.

#### 4.4 Introducing new procedures

In order, to improve the process of inventory of asset management. All the tasks starting from purchase requisition to the disposal of the asset have been broken down into a small task (summarized table in Appendix D). To make the process smooth, some task had been added to the procedure. That would help the asset focal point to manage asset more effectively. With the new changes, the asset user will be responsible for the asset.

##### **Task 1: Purchased Request**

Procurement of goods and services in MEE starts with the purchase request. A purchase request form is also called a budget spending form (budget form). This is mainly because by sending a purchase request the department is requesting to spend the budget given to the department/unit for the current year. If a department or unit is in need of certain goods or services, a purchase request is sent to the procurement unit with the specification of good/service. When procurement unit received the purchase request, the procurement officer who received the request form will check to confirm whether the form has been fully completed. A complete request form includes the following; budget form number (request form number), budget code (code given to specific expense) of the department, Specification/ terms of reference (Standard TOR format provided by procurement unit) of the item to be purchased. Signature of the requested person and department head/unit head.

##### **Task 2: Checking and Finalizing TOR/Specification**

This task is to check and finalize the specifications provided by the requesting department/unit. It is a responsibility of procurement officer to check the evaluation criteria. As evaluation criteria depend on the type of good/services to be procured, It is also important to double check the specification to avoid mistakes/errors and most

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importantly to avoid delay in the procurement process. If there are no errors, the procurement officer starts to plan the process by estimating the price, whether to advertise or to go for shopping (the process of requesting for quotation from vendors, for this process we need minimum three quotations). Once it is finalized to advertise or to go shopping, next is to finalize the deadline for submission of the bids/quotation.

Thus; when doing time frame, one must always consider the holidays, time of advertisement to go live (to go live on Thursday one must upload the advertisement before 12PM Monday and to go live on Monday one must upload the advertisement before 12PM Thursday as an advertisement will go live only on these two days a week), and also ensures to give adequate time to submit bids or quotations.

### **Task 3: Request for Quotation/Advertisement**

Request for quotation includes standard email templates and the deadline for submission. Advertisement process takes more time as it involves a huge amount of money.

The advertisement should be written based on the item to be procured and uploaded on the national gazette of Maldives for screening before it may be published. After uploading the advertisement procurement officer must check whether the advertisement has gone live or it's rejected by gazette unit based in the president's office. If there are any error or spelling mistakes in the advertisement it will be rejected by gazette unit, also if the contents of the advertisement violate any law of the country. Procurement officers are responsible for booking meeting rooms and to set the event on Google calendar to notify admin and respective department or unit.

### **Task 4: Pre-Bid Meeting**

Where procurement officer responsibility is to check if the meeting room is ready, timing and taking minutes of the meeting and taking attendance at the pre-bid

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meeting. In general, the procurement officer task is to make sure that the pre-bid meeting is going smoothly and according to the procurement guidelines.

The responsibility of the department or unit who sends the purchase request is to provide technical information about the goods or service by attending to the queries. If there are any queries not answered in the meeting the department should give the answers in written form to procurement officer who handles the case. And the procurement officer will forward the answers to all the bidders via mail.

#### **Task 5: Bid opening**

There are two types of bid opening, it depends on the bidding procedures carried out by the procurement unit. Either two envelope process or one envelope process. If it is two envelope process, there will be two bid opening one for technical and the other for financial. To avoid any corruption or fraud any bidder who comes late to the meeting is not allowed. In bid opening process, procurement officer's responsibilities are to arrange a meeting room, documenting the bid price and reading out the bid prices. In addition, providing a copy of the bid price sheet to each bidder.

#### **Task 6: Bid Evaluation**

All submitted bids are handed over to an expert team of minimum three people to evaluate the bids based on evaluation criteria. All the evaluators are provided with evaluation sheets. After evaluating the bids, evaluation sheets are handed over to the procurement officer to prepare the evaluation report. Once the report is prepared, the evaluators check the report for errors or mistakes and sign the report. It is also important to get the signature of permanent secretary on the final report before submitting the report to agency tender committee.

Once the evaluation report is ready procurement officer will note the recommended bidder's value in the budget form and get the signature of procurement

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head, then the budget form is sent to Finance department for approval in order to spend that amount of money. This process will help procurement and finance whether there is enough amount of money in the budget code provided by the requesting department. Once finance head signs the budget form, the documents (case) are submitted to the agency tender committee for approval.

### **Task 7: Agency Tender Committee Approval**

The agency tender committee secretary is handled by procurement unit head. So, it is a responsibility of secretary to check the documents of the case before submitting the documents to the committee. Procurement head will set the agenda and organize an agency tender committee after consulting agency tender committee chairperson. In each case, there is a set time. The case will be presented by the requesting department. Once the case is presented, committee members will check each and every document to assess if the case is processed as per national procurement guidelines. If there are some quarries, the committee member will ask the presenter for clarification, but if there are no quarries, the presenter is asked to leave the room and wait for the secretary to report the final result of the case by the committee.

Reports of the meeting and minutes are prepared by the secretary of the committee. For every case, there is a report. Once the meeting is over, reports will be signed by all the committee members including the chairperson. Every meeting minutes has to be written and signed at the following meeting.

### **Task 8: Contract/Award/PO**

After approval of agency tender committee, the financial executive (permanent secretary) will sign the budget form. The awarding letter is then signed by permanent secretary when contract award checklist is presented. It is important to get the

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signature of permanent secretary on the checklist and various files and documents should be properly kept for future use. The standard contract is provided by procurement to draft the contract to the relevant department.

### **Task 9: Contract/Award/PO**

Once the contract is drafted, procurement officer will send the draft agreement with awarding letter to the selected party for their comments. After receiving the comments, the contract is finalized, awarded party and MEE will sign the contract. Lastly, the purchase order from SAP system has to be created and send to the contractor.

### **Task 10: Contract management**

Contract management is very important, many of the projects get delayed due to mismanagement, and therefore it is critical to follow step by step diligently in order to avoid unnecessary delay. Both procurement and requested department must oversee the contract deliverables and ensures that the vendor meets the deadline. In procurement, the officer who handled the case from the beginning is given the responsibility of contract management. One of the duties of the procurement officer is to create a reminder for the contact in Google calendar. If it is a service contract and there happens to be a delay in reporting by the contractor, the department must inform procurement, thus the procurement officer must take action on delays. Also, when assets or goods are not delivered on the requested date as per National procurement regulation, action must be taken. Communication between the contractor and procurement must be in written form and well documented, as it must be filed later with the case documents.

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### **Task 11: Performance Evaluation & Closure**

Once the goods or services are received, before sending invoices for payment, performance evaluation form must be filled by both procurement and the department. This will help in future to avoid delays in the procurement process, as procurement will have an idea of the performance of the contractor.

### **Task 12: Receive of Assets**

When the assets are delivered by the vendor, it's a responsibility of procurement officer to check each and every item with the specification in the contract or purchase order. If the items meet the requirements and are free from the damage the assets are accepted. Once the assets are received from the SAP system invoice is send to finance department for payments.

### **Task 13: Asset register Tagging and Allocation**

The next step is to register all asset in inventory register including the amount, detail information about the asset, received date, location, the name of the custodian, etc. After creating the inventory number for the asset, the asset should be tagged. The duty of procurement officer (asset focal point) is to locate the asset in the right place. And assigning the asset to its custodian.

### **Task 14: Segregation of Duties**

Segregation of duties is very important in managing inventory of assets. Mostly in MEE, all the duties of assets are officially on the head of the procurement. It is important to allocate assets responsibilities to the user of assets and to monitor. Most of the times the user of the assets acts carelessly towards the asset. Some of the staffs may move the assets based on their comfort from the asset location to new location, which will make difficulties to the asset focal point to trace back to the asset. Sometimes the user of the asset may be changed without informing the asset focal

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point. At the end when the audit comes, assets are then listed as missing and all the blame falls on the asset focal point. Therefore, to avoid such things segregation of duties is very important. The duties should be divided among the users, this will help to solve miss management of assets in MEE. When the user is responsible for assets, the user will make sure to address procurement when there is a change in location or replaced. Fixed asset custodians will be the user of the specific asset if the assets are for the department use, and admin level staff will be the custodian of the assets.

Approving authorities to move an asset (asset relocation form), movements of fixed assets, responsibility will be divided into three units (Furniture's will be handled by admin, and IT related equipment's. Machinery will be handled by the ITU and both of them will inform procurement about the maintenance). All asset verification will be done by asset focal point.

#### **Task 15: Physical Check of Inventory (Assets)**

The physical check of assets will be done twice a year. The asset focal point will send a list of all tag items to the custodian of assets. Furthermore, the asset custodian must verify the list within two days, and send the list to the assets focal point. When assets focal point receives the verified list of assets, the focal point checks each asset physically. After verifying the list sent by the asset custodian, if any assets go missing the missing asset must be searched within 10 days. And the reason should be filed. In the end, the inventory of assets must be updated as needed.

#### **Task 16: Replacement of Asset**

Replacement of assets can be done when an asset fails to perform its job. Normally when an asset fails, the custodian of the assets must inform the maintenance officer based on the item either admin or ITU. The other reason for the replacement of

assets is before it fails. It can be a time-based replacement, condition based replacement and age-based replacement.

Once the custodian request for a replacement of the asset. Asset focal point and the maintenance unit will check the condition of the asset. And then categories the replacement.

### **Asset Relocation Form**

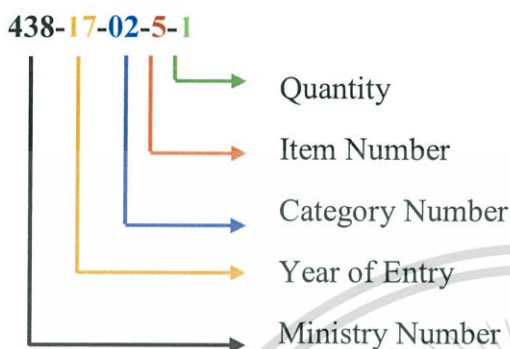
Asset relocation form must be used whenever there is a change of asset location in MEE. If the asset location has a temporary or a permanent change the asset relocation form (Appendix E) should be filled by the relevant department and submitted to asset focal point in MEE. To implement this procedure in MEE a MEMO signed by Minister, and Permanent Secretary will be circulated. Asset relocation form includes a process of three different parties. First party request to relocate the asset, the second part needs to be filled by IT or Admin it depends on the category of the asset. The focal point is the third party involves the form. After receiving the form focal point of asset duty is to check if the changes are made, and also have to update the asset register according to the changes brought. At last the form must be filed. Asset relocation form will be used in excel format to make it easy to use and implement.

### **Task 17: Disposal**

When the life of the assets ends, the assets are sent for disposal. The maintenance officer sends a request to the focal point with a list of assets. The focal point of assets will check the condition, and study the reason for disposal including the reason for disposal. Once the focal point of assets decides the assets need to be disposed of, inventory register is updated with the information. And the assets are sent

for disposal to Maldives transport and contracting company as per National Procurement Regulation with the disposal form.

#### 4.5 Inventory Code



**Figure 4.21** Inventory code

Figure 4.21 shows how the inventory code for the fixed assets of MEE will be. Number 438 is the office number given to Ministry of Environment and Energy by the government of Maldives. Number 17 resembles the year of the asset purchased. Category number is a number which resembles whether the assets is a furniture, IT-related equipment or tools, vehicle, etc. Figure 4.21 shows how the inventory code for the fixed assets of MEE will be. Number 438 is the office number given to Ministry of Environment and Energy by the government of Maldives. Number 17 resembles the year of the asset purchased. Category number is a number which resembles whether the assets is furniture, IT-related equipment or tools, vehicle, etc.

#### 4.6 Finalizing and Implementation of new procedures

To finalize and to implement new procedures introduced to MEE to improve current fixed asset inventory management system a meeting was called. Staffs from relevant departments and heads of MEE was invited. In addition, some guest from other ministry and the tender board was invited.

The aim of the meeting was to show the current problems faced by fixed asset inventory management in MEE. And to introduce new procedures and policies that can improve current fixed asset inventory process. In the meeting, it was discussed and agreed to assign custodial responsibility to the individual with sign declaration. Use one format in excel to manage fixed asset inventory to avoid double entry It was also agreed that new internal audit unit would conduct a physical inventory at the end of each year.

The meeting concluded by agreeing that improvements can be adopted after giving training to the department staffs, in the future who are going to work with procurement staffs. Heads of MEE assured that within the next three months all changes will be applied to the current fixed asset inventory management. All the staff who attended the meeting from other ministries also supported the new process and procedures which were introduced.

## CHAPTER 5

### CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Conclusions

This research focuses on improvement of inventory management in the public sector, taking the Ministry of Environment and Energy as a case study. The scope of studies is limited to fixed asset inventory management in the Ministry of Environment and Energy, which excludes the authorities and agencies under MEE.

The aim of the research is to understand current fixed asset inventory system of MEE. Identifying the factors which influence current fixed asset inventory. And to improve inventory management system. Chapter 2 includes a literature review, related processes and the life cycle of the fixed assets including the methods of depreciation. In addition, this chapter describes the inventory management as a whole by classifying public assets.

Chapter 3 gives an overview of the ministry and review the current process of fixed asset management. Further, in details, the chapter describes the life cycle of fixed asset in MEE.

Chapter 4 analyzes factors that influence current inventory management in MEE using survey and current inventory register. From 2013 to 2017 MEE used different inventory register and all assets were not updated in the latest register. Due to this some of the assets were tagged with same inventory numbers. In addition, it was also discovered that in 2013 most of the assets were entered without asset value. A survey was conducted to identify factors which influence fixed asset inventory management.

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Result and findings from the research suggest MEE fixed asset management practices need to be developed in order to improve the fixed asset inventory. The specific areas that need to be improved are asset physical identification, data management, human resources training, lack of asset lifecycle guidance, insufficient regulations and procedures.

New procedures and changers will provide a better asset lifecycle process, which will improve asset acquisition and delivery processes, optimizes asset performance, and provide an appropriate disposal program. In addition, it will improve asset identification and inventory system.

A meeting was arranged with heads of departments of MEE and guest from other ministry was invited for discussion to implement these new procedures in the current process of inventory management. It has been acknowledged that these procedures will be implemented upcoming three months.

## **5.2 Recommendation**

As the Ministry use SAP system for procurement and finance purpose, it is advisable to manage fixed asset inventory through SAP system.

Besides fixed assets category studied in this research, property, and infrastructure is an important part of the fixed asset. As property and infrastructure are the largest groups of fixed assets under the government, the area needs serious attention.

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APENDIX A

Inventory register used 2013 in MEE

MG/PR01										
ردیف	کد	تاریخ خرید	نام فروشنده	مکان	شرح	مکان	تاریخ	مکان	مقدار	تاریخ
16,652.60	5750	5/5/2013	zidna	موسسه تخصصی زبان	موسسه تخصصی زبان	موسسه تخصصی زبان	موسسه تخصصی زبان	موسسه تخصصی زبان	438	2013
		5/5/2013	zidna	موسسه تخصصی زبان	موسسه تخصصی زبان	موسسه تخصصی زبان	موسسه تخصصی زبان	438	2013	
		5/5/2013	zidna	موسسه تخصصی زبان	موسسه تخصصی زبان	موسسه تخصصی زبان	موسسه تخصصی زبان	438	2013	
		5/5/2013	zidna	موسسه تخصصی زبان	موسسه تخصصی زبان	موسسه تخصصی زبان	موسسه تخصصی زبان	438	2013	
		5/5/2013	zidna	موسسه تخصصی زبان	موسسه تخصصی زبان	موسسه تخصصی زبان	موسسه تخصصی زبان	438	2013	

Inventory register used 2014 in MEE

Asset Code	Asset Name & Description	Asset Location	Received Date	Price (MVR)	Vendor	GL Code	Code Number	updated	Remarks
68007052-0	Book shelf	Ministers Room	27-Jan-14	5,088.00	Sun front Livin	423001 MB	438 2014 2	1	
70004488-0	Water Filter machine	Pantry	27-Jan-14	7250.4	La Isla Trading Co Pvt Ltd	423002 Pantry	438 2014 7	38	
68007053-0	Half Frosted glass Partition with partition poles	Ministers Bureau	28-Jan-14	17,193.20	Allora Furniture	423001 MB	438 2014 2	31	
68007054-0	Executive Table	Deputy Minister	16-Feb-14	8,427.00	Sun front Livin	423001 MB	438 2014 2	27	Deputy Minister
68007267-0	Coffee Table 3069 A	Ministers Bureau	25-Feb-14	2,226.00	Rainbow Enterprises Pvt Ltd	423001 MB	438 2014 7	37	
68007268-0	Coffee Table 3069 B	Ministers Bureau	25-Feb-14	4,664.00	Rainbow Enterprises Pvt Ltd	423001 MB	438 2014 7	37	

Inventory register used 2015 in MEE

Fixed Asset Register as at 2015

BA	Asset Code	Asset Name & Description	Asset Location	Received Date	Price (MVR)	Vendor	GI Code	Code Number	updated
<b>January</b>									
1229	55007062-0	Network Switch - LAN Base Switch	Go Down	05.01.15	24835.663	Focus Computers	423008	438 2015	Go down 2nd floor near nizam
1229	55007062-0	Network Switch - LAN Base Switch	Go Down	05.01.15	24835.663	Focus Computers	423008	438 2015	Go down 2nd floor behind thalooth
1229	55007062-0	Network Switch - LAN Base Switch	Go Down	05.01.15	24835.663	Focus Computers	423008	438 2015	go down meeting room 1
1229	55007062-0	Network Switch - LAN Base Switch	WATSAN	05.01.15	24835.663	Focus Computers	423008	438 2015	water and sanitation - near sobah

Inventory register used 2016 in MEE

Fixed Asset Register as at 2016												
BA	Asset Code	Asset Name & Description	Asset Location	Received Date	Price (MVR)	Vendor	GL Code				updated	
<b>January</b>												
SCZMC		Executive Chairs (Low Back Blue)	OLD ENERGY	01.01.2016	450	n/a	423001	438	2016	2	4	64
SCZMC		Executive Chairs (Low Back Blue)	OLD ENERGY	01.01.2016	450	n/a	423001	438	2016	2	4	65
SCZMC		Executive Chairs (Low Back Blue)	OLD ENERGY	01.01.2016	450	n/a	423001	438	2016	2	4	66
SCZMC		Executive Chairs (Low Back Blue)	OLD ENERGY	01.01.2016	450	n/a	423001	438	2016	2	4	67
SCZMC		Executive Chairs (Low Back Blue)	OLD ENERGY	01.01.2016	450	n/a	423001	438	2016	2	4	68
SCZMC		Executive Chairs (Low Back Blue)	ADMIN	01.01.2016	450	n/a	423001	438	2016	2	4	69
SCZMC		Executive Chairs (Low Back Blue)	ADMIN	01.01.2016	450	n/a	423001	438	2016	2	4	70
SCZMC		Office Chair	OLD ENERGY	01.01.2016	450	n/a	423001	438	2016	2	11	205

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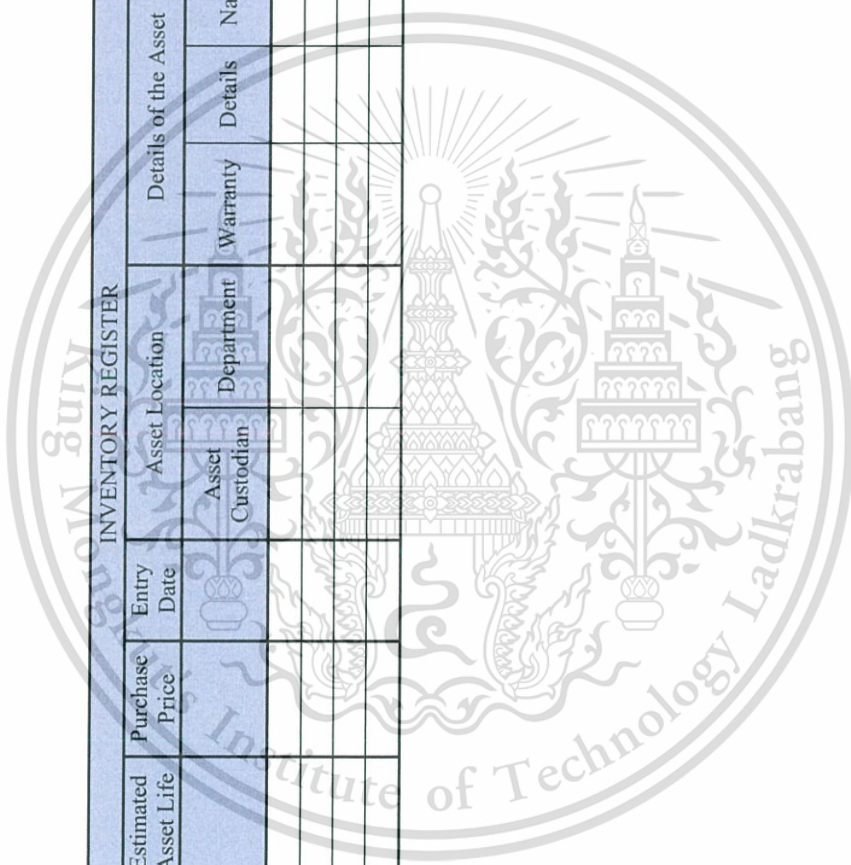
Inventory register used 2017 in MEE

GL CODE	ASSET NAME	BRAND/MODEL	MODEL NO./SN.	COLOR	LOCATION	WORK ST.	AMT	REC.V DATE	VENDOR	MIN	YEAR	CAT.NO	ITEM NO.	SN.	REMARKS
423008	DELL 24" E2417H MONITOR 23.8"	DELL	SN: CN-OVHXPY- 74261-6BJ-H0K8B- A00	BLACK	CCD (LCEI)		6,800.0	01.03.17	MAXCOM	438	2017	4	21	216	
423008	DELL 24" E2417H MONITOR 23.8"	DELL	SN: CN-OVHXPY- 74261-6ZC-0IKB- A00	BLACK	CCD (LCEI)					438	2017	4	21	217	
423008	DELL E1916H 18.5"	DELL	OPTILEX 6TH GENERATION 3046 MT	BLACK	CCD	HULHULHE				438	2017	4	21	215	
423008	DELL OPTILEX 3046MT (INTEL CORE IS (6TH GEN) 6500 )	DELL		BLACK	CCD	HULHULHE	11,000.0	20.03.17	MAXCOM	438	2017	4	23	185	
423008	DELL KB212-B KEY BOARD	DELL	KB212-B	BLACK	CCD	HULHULHE				438	2017	4	5	207	
423008	DELL MS111 MOUSE	DELL		BLACK	CCD	HULHULHE				438	2017	4	24	187	

## APPENDIX B

Inventory register for future use

INVENTORY REGISTER												
Additional Information	Net Book Value (purchase price - Depreciation)	Depreciation	Estimated Asset Life	Purchase Price	Entry Date	Asset Location		Details of the Asset			Inventory Number	
						Asset Custodian	Department	Warranty	Details	Name		



## APPENDIX C

### Survey Questionnaire

#### PART A: RESPONDANT BACKGROUND

1. Gender

Male.

Female.

2. Please name your country of residence: \_\_\_\_\_

3. What is the highest level of formal education you have completed?

'O' Level

'A' Level

Diploma

Bachelor's Degree

Master's Degree

Doctorial

4. How long have you worked at MEE?

Less than 6 months

6 months to 1 year

1 - 2 years

3 - 5 years

More than 5 years

5. Which of the following best describes the department/Unit you work in?

Finance

Procurement

Administrative

Human Resource

Information Technology

Others

Please specify:

6. Which of the following best describes your position?

Administrative officer

S. Accounts Officer

Assistant Director

Director

Others

Please specify: \_\_\_\_\_

### PART B: PROCUREMENT PROCEDURES

1. Is there a procurement process manual for goods and works?

Yes

No

2. Do you use any software to purchase goods and service? If yes please specify name of the software?

Yes

No

Please specify: \_\_\_\_\_

3. Once you receive the assets from vendor, do you verify that the assets are as per purchase order (PO)?

Yes

No

Please specify: \_\_\_\_\_

**PART C: FIXED ASSETS INVENTORY (Asset Condition, Asset Inventory Resources, etc.)**

1. How is the inventory tracked?

A computer software.	<input type="checkbox"/>	A Paper copy	<input type="checkbox"/>
A spreadsheet (e.g. Microsoft)	<input type="checkbox"/>	Other.	<input type="checkbox"/>

Please specify: \_\_\_\_\_

Answer the following based on opinion. Give that; 1(Strongly Agree), 2(Agree), 3(Neutral), 4(Disagree), 5(Strongly Disagree).

		1	2	3	4	5
2	Is there a formal organizational chart defining the responsibilities of purchasing, receiving, recording, approving and keeping the perpetual inventory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Are there formal written procedures for performing a physical inventory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Are fixed asset records maintained that adequately classify and identify individual items?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Are assets believed to be missing, stolen or vandalized reported to the appropriate authorities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Are the Fixed Asset System and appropriate accounts reconciled periodically as appropriate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	<b>Is the individual responsible for fixed assets notified when:</b>					
	a. Assets are received?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b. Assets are donated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	c. Asset location changes are made?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	d. Assets are sold?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	e. Assets are vandalized or stolen?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	f. Assets are reassigned to a different organizational entity or to another agency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Are fixed asset additions properly valued?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	<b>Are the following duties generally performed by different people:</b>  a. Custodian of the fixed assets b. Reconciliation of the Fixed Asset System with the control accounts, physical inventory with perpetual inventory records, etc. c. Recording of transactions and significant events such as transfers and disposals of assets? d. Authorization of fixed asset transactions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	Are all disposals of property approved by a designated person with proper authority?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	Are all assets tagged?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	Is someone assigned custodial responsibility by location for all assets?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	Is access to the perpetual fixed asset records limited to authorized individuals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	Is a physical inventory of assets and inventoried items taken each time there is a change at a management or supervisory level that has responsibility for the assets?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	Are missing items investigated and reasons for them documented?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	Is a physical inventory conducted at least annually?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17	Are items physically counted matched against inventory records?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18	Are inventory records adjusted immediately based on the results of a physical inventory or cycle counting program?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	Are Assets found to be missing physically based on inventory register?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	Is there any sign declaration with the custodian indicating they accept this responsibility?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21	Are all assets purchased been registered in inventory register?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22	Of the assets that have been inventoried, have you formally assessed the condition of more than 70%?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23	Of those assets that have been inventoried, has a criticality assessment been done?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24	After every adjustment done to asset do you update the inventory register?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**THANK YOU FOR YOUR TIME AND COOPERATIO**

## APPENDIX D

#	Task	Responsible Departments	Details of task	Documents
1	Purchased Request	Dept./Unit	<ol style="list-style-type: none"> <li>1. Budget form number</li> <li>2. Budget code</li> <li>3. Specifications/TOR</li> <li>4. Requested person signature</li> <li>5. Department/Unit head signature</li> </ol>	<ul style="list-style-type: none"> <li>• Standard TOR Format (Works, Goods, Services, or Consultation)</li> </ul>
2	Checking/Finalizing TOR/Specification	Procurement	<ol style="list-style-type: none"> <li>1. Evaluation Criteria</li> <li>2. Specification of the requested item.</li> <li>3. Planning advertisement/request for quotation dates</li> <li>4. Deadline for Submission (i.e. Holiday? Adequate Time Frame?)</li> </ol>	<ul style="list-style-type: none"> <li>• TOR Checklist</li> </ul>
3	Request for Quotation	Procurement	<ol style="list-style-type: none"> <li>1. Standard E-mail Templates</li> <li>2. Deadlines</li> </ol>	
	Request for advertisement	Procurement	<ol style="list-style-type: none"> <li>1. Standard Advertisement Templates</li> <li>2. Deadlines</li> <li>3. Meeting Room Booking</li> <li>4. Set Event on 'Google Calendar' and notify Admin &amp; Respective Dept./Unit</li> </ol>	<ul style="list-style-type: none"> <li>• Advertisement Checklist</li> <li>• Advertisement Templates</li> </ul>

4	Pre Bid Meetings	Procurement	<ol style="list-style-type: none"> <li>1. Check meeting Room</li> <li>2. Minutes of Pre-bid meeting</li> <li>3. Attendance of Pre-bid Meeting</li> <li>4. Forward the responses of queries to all attendees</li> </ol>	<ul style="list-style-type: none"> <li>● Attendance Sheet</li> <li>● Minutes of Pre-Bid Format</li> </ul>
5	Bid Opening	Dept./Unit	<ol style="list-style-type: none"> <li>1. Technical Personnel to provide information</li> <li>2. Attend to Bidders Queries</li> <li>3. Respond to queries via Procurement</li> </ol>	
6	Bid Evaluation	Procurement	<ol style="list-style-type: none"> <li>1. Check meeting Room</li> <li>2. Documenting Bid Price</li> <li>3. Reading out Bid Prices</li> <li>4. Passing a copy to all attendees</li> </ol>	<ul style="list-style-type: none"> <li>● Attendance Sheet with Bid Price Registry</li> </ul>
7	Agency Tender Committee Approval	Procurement	<ol style="list-style-type: none"> <li>1. Correcting Price for evaluation (GST adjustments, price adjustments)</li> <li>2. Preparing Evaluation Summary report, signed by Evaluation Team</li> </ol>	<ul style="list-style-type: none"> <li>● Standard Price Adjustment Format</li> <li>● Standard Evaluation Format</li> <li>● Standard Evaluation Report Format</li> </ul>
		Dept./Unit	<ol style="list-style-type: none"> <li>1. Select expert team (minimum 3 members) to evaluate</li> <li>2. Evaluate and Forward the results to Procurement</li> </ol>	
		Procurement	<ol style="list-style-type: none"> <li>1. Organize ATC meeting</li> <li>2. Set Agenda</li> <li>3. Document Approval by ATC and communicate with Dept./Unit</li> <li>4. Minutes of ATC Meeting</li> </ol>	<ul style="list-style-type: none"> <li>● ATC Agenda Sheet</li> <li>● ATC Attendance Sheet</li> <li>● ATC Report</li> <li>● ATC Minutes</li> </ul> <p><i>Refer to ATC in national procurement regulation</i></p>
		Dept./Unit	<ol style="list-style-type: none"> <li>1. Present the case to ATC</li> </ol>	

8	Contract/Award/P O	Procurement	<ol style="list-style-type: none"> <li>1. Check list for Contract Award</li> <li>2. Purchase Order/Contract/Award Letter upon ATC approval</li> <li>3. Present Contract Award Check List PS sign</li> </ol>	<ul style="list-style-type: none"> <li>• Standard Contract/Award Letter</li> <li>• Contract Award Checklist</li> <li>• Purchased Order from SAP</li> </ul>
	Drafting Contract	Dept./Unit	<ol style="list-style-type: none"> <li>1. Draft Contract according to Templates (Goods, Works, Consultation)</li> </ol>	<ul style="list-style-type: none"> <li>• Standard Contract Templates (Goods, Works, Consultation)</li> </ul>
9	Checking & Signing Contract	Procurement	<ol style="list-style-type: none"> <li>1. Check list for Contract Terms (draft one from National Procurement Regulation sub clause 10)</li> <li>2. Communicate Draft contract with the Contractor (via email and or document it)</li> <li>3. Feed back from contractor must be communicated with Dept./unit</li> <li>4. Present Award Check List &amp; Contract Terms Checklist to PS for Signing</li> </ol>	<ul style="list-style-type: none"> <li>• Contract Draft Check List</li> </ul>
10	Contract Management	Dept./Unit/Procurement	<ol style="list-style-type: none"> <li>1. Assign a staff to manage contract (National Procurement Regulation clause 11)</li> <li>2. Immediate reporting to Procurement (delays, failure to meet deliverables, issues)</li> <li>3. Set Reminders on Google Calendar (Deadlines, Deliverables, reminders prior to deadlines)</li> <li>4. Send reminder to parties via procurement (When work not started? When the contract is approaching its deadline? When works are not carried out accordingly?)</li> <li>5. Communicating Performance, reminders and Issues with the Contractor via Email or Letter</li> </ol>	

11	Performance Evaluation & Closure	Dept./Unit/procurement	<ol style="list-style-type: none"> <li>1. Report to Procurement (delays, not meeting deliverables)</li> <li>2. Upon Completion, fill 'Performance Evaluation Report' (Template) and send to Procurement</li> <li>3. Closure upon delivery and reporting to procurement</li> </ol>	<ul style="list-style-type: none"> <li>• Performance Evaluation and Reporting Template</li> </ul>
12	Receive of Assets	Procurement	<ol style="list-style-type: none"> <li>1. Receive asset (goods received from vendor and from SAP) and invoice.</li> <li>2. Check for the requested and received asset specification.</li> <li>3. Send invoice for payment with the relevant documents.</li> </ol>	
13	Asset register Tagging and Allocation	Procurement	<ol style="list-style-type: none"> <li>1. Register the asset in inventory registry (include amount, detail information of asset, received date, location, etc.)</li> <li>2. Create inventory number/tag.</li> <li>3. Tag inventory number</li> <li>4. Locate the asset</li> </ol>	<ul style="list-style-type: none"> <li>• Refer Inventory Register</li> <li>• Create inventory number</li> </ul>
14	Segregation of Duties	Procurement	<ol style="list-style-type: none"> <li>1. Fixed assets custodians</li> <li>2. Approving authorities for fixed assets movement</li> <li>3. Maintenance of fixed assets account</li> <li>4. Fixed assets verification</li> </ol>	
15	Physical Check of Inventory (Assets)	Procurement	<ol style="list-style-type: none"> <li>1. Send list of the all tag items to the custodian of the assets.</li> <li>2. Verify tag, location and serial number.</li> <li>3. If any assets go missing or lost; <ul style="list-style-type: none"> <li>• Find out the asset within 10 days</li> <li>• File reason for asset missing</li> </ul> </li> <li>4. Update system as needed.</li> </ol>	

16	Replacement of Asset	Dept./Unit	<ol style="list-style-type: none"> <li>1. Replaced when it fails: Based on user request.</li> <li>2. Replaced before it fails: <ul style="list-style-type: none"> <li>• Time based replacement</li> <li>• Condition based replacement</li> <li>• Age based replacement</li> </ul> </li> </ol>	<ul style="list-style-type: none"> <li>• Asset relocation form</li> </ul>
17	Disposal	Procurement	<ol style="list-style-type: none"> <li>1. Check the condition of asset.</li> <li>2. Record the reason in inventory register and update</li> <li>3. Send the assets for disposal</li> </ol>	<ul style="list-style-type: none"> <li>• Asset disposal form (MTCC)</li> </ul>
		Dept./Unit	<ol style="list-style-type: none"> <li>1. Request of failure</li> <li>2. Prepare the list of item</li> </ol>	

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## APPENDIX E

### Asset Relocation Form

Ministry of Environment & Energy  
Male', Maldives



#### Request Form for Asset Relocation

To be Completed by Submitting Unit/Department/Project				
Name of Unit/Department/Project: _____			Date of Request: _____	
Signature: _____			Phone Number: _____	
Name/Title: _____				
1. Description (Item name/ model)	Inventory Number (generated by PRCU)	Transfer From Location	Transfer To Location	New Custodian
<b>Reason for Relocation:</b>				
To be Completed by Admin/IT				
Action Taken By: _____			Date: _____	
Signature: _____				
To be Completed by Asset Focal Point				
Asset Location has been reflected in inventory register.				
Action Taken By: _____			Date: _____	
Signature: _____				

Request Form for Asset Relocation

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