Municipal Asset Valuation Guidelines

Municipal Finance and Management Component
Bhutan Second Urban Development Project (BUDP-2)

Purpose of this Guidelines

This Manual is produced as a supplementary document for Municipal Finance Management Project under the Ministry of Works and Human Settlement. Furthermore. This document is intended to assist the Thromdes to prepare for Implementation of Thromde Accounting Manual 2017.

The Thromde Accounting Manual requires the Thromdes to record and report their asset and accordingly provide a valuation for all its assets.

This manual will serve as a guideline for valuation of all fixed assets, with more focus on infrastructure assets such as roads and bridges, water supply etc., as the Thromdes do not have asset management and valuation guidelines.

This manual shall be applied only to the assets that the Thromde has control and management over.

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1. General Guidelines

Assets shall be valued at cost less accumulated depreciation, if both the cost and date of purchase or construction is available or ascertainable.

Cost is the amount of cash or cash equivalent paid or fair value of other consideration in acquiring or constructing an asset. All normal expenditure for making an item of asset ready for its intended use is capitalized. It also includes ancillary and necessary charges to place the asset in its intended location and condition for use e.g. Freight and transportation charges, site preparation expenditure, professional fees and legal claim directly attributable to asset acquisition.

Repairs, renovation and replacements cost, should be capitalized only if such expenditure increases the capacity or operating efficiency, or extends the useful economic life of the asset. In case of buildings, improvements causing major changes in the existing structure will be capitalized.

If cost is not available/ascertainable but the date of construction/purchase is available:

a. In case of buildings, please refer the guidelines for building;
b. In case standard per sq. foot rate is not available, current replacement cost based on the recent per sq. foot rate as prescribed above shall be used. This will be deflated till the year of construction based on wholesale price index (index rates are provided as Annexure to this guidelines) and then depreciated;
c. For other assets, current replacement cost will be used. This will be deflated till the year of construction/purchase based on wholesale price index (Annexure to this guidelines) and then depreciated. Current rates from other manufacturers can be taken e.g. in case of vehicles; and
d. If the asset has outlived its estimated useful life, then it will be valued at Nu. 1. The Thromde engineers will do the estimation of useful life.

The Assets shall be valued at Nu.1 in either of the four cases listed below:

a. Assets having useful life of more than 20 years and the original cost cannot be ascertained;
b. Where neither the cost nor the date of purchase/construction is available;
c. If the asset has outlived its estimated useful life. The Thromde engineers will do the estimation of useful life; and
d. The assets have been gifted to the Thromde by some other person/authorities.

In case of land where the original documents are not available, valuation can be ascertained from relevant records of the Land Revenue Department or transaction value of a similar plot in the similar area around the estimated year of transaction.

2. Land

Leasehold lands acquired by the Thromde are taken as a part of assets at a total value of lease charges payable over the entire lease period and amortized equally over the lease period.

Land acquired through purchase will be recorded at the purchase price paid/payable and other incidental costs such as registration charges incurred to bring the asset to its present location and condition.

Lands acquired through compulsory acquisition will be recorded at the total compensation paid/payable for the acquisition of the land. If the amount of compensation was in dispute, then the amount that will be recorded would be based on documentary proof. The extra amount, if determinable that may be payable will be shown as contingent liabilities and will be added to the cost of land when it is finally paid to the previous owner.

Land acquired against non-payment of taxes shall be booked at the unpaid amount of taxes after it has been finalized.

Vested government lands: Where the ownership of the lands has not been transferred in favour of the Thromde, but the land is in the permissive possession of the Thromde, such lands should be included in the Register of Land with Nu. 1 as its value. However, there should be a clear mention in the Register that in case the Government takes back the land at any point of time in future, reversal of entry shall be made in the Register of Lands.

Land acquired through government grants: If the Thromde has purchased land from the government grants, then the cost of the land will be shown at gross value i.e. cost paid/payable or as determined according to the above guidelines. The grant received will be shown separately as a liability.

Land improvement: Original cost of any improvement to land such as land development and land filling, constructing fences, will be capitalized as part of the cost of the land under the "land improvement" head.

3. Parks and Playgrounds

Parks and Playgrounds shall be capitalized under two categories, viz:

a. Any cost incurred for the development of parks and playgrounds like fences, landscaping, parking lot shall be booked under 'Land improvement'
b. Other amenities of the Parks and Playgrounds should be capitalized under the sub-head "Infrastructure Assets;" and
c. Any building/structures/plant, etc. constructed/installed in the Parks and Playgrounds and used for other purposes should not be booked under the sub-head 'Parks and Playgrounds'. The same should be booked under the appropriate heads/sub-heads of assets.

4. Buildings

The term "Buildings" shall include office buildings, school buildings, public conveniences, and child welfare centres, shopping complex, town hall buildings, community centres, staff quarters, rest house, milk dairy, workshop buildings, fire stations, stores building, covered taxi stands, covered parking areas, bus stands amongst others. The following specific guidelines shall be followed in this:

a. Buildings purchased shall be valued at purchase price plus any incidental costs such as registration charges, and other costs incurred to bring the asset to its present location and condition.
b. Building constructed shall include the cost of construction, which will include the cost paid to the contractor and other cost like the cost of the architect. This can be obtained from Register of Works, if available.
c. If cost is not available/ascertainable but the date of construction/purchase is available and the building has not outlived its useful life, then valuation will be done based on per square feet rate or plinth area rate of the year of construction or the quick cost guide from the Bhutan Schedule of Rate will be adopted and the price will be deflated as per the Annexure 1. The Thromde Engineering Department or any competent Government Authority will issue an order specifying the per square feet rate to standardize the valuation. The Thromde engineers will conduct the exercise of estimation of value and provide it to the accounts department. The value so obtained would be depreciated to arrive at depreciated value as on the date of the opening Balance Sheet.
d. Grants received in respect of buildings: If any grant has been received by the Thromde for construction or purchase of the building, then the cost of the building will be taken as gross amount and the grant will be shown separately as a Deferred Revenue in the opening Balance Sheet. The cost of building and the amount of grant would be reduced proportionately each year by the amount of depreciation.
e. Statues and Heritage Assets, valuable works of art and antiquities will be valued at the original cost and no depreciation shall be charged thereon.
f. Heritage buildings declared through Gazette Notification should be booked under this head and should be valued at book value/cost of the material date. No depreciation should be charged on such buildings.

5. Plant and Machinery

The cost of plant and machinery will include, besides purchase price, costs such as site preparation costs and installation costs. “Plant and Machinery” will include plants, conservancy or watering carts, road rollers, earth moving vehicles, ladder, scale weights, mechanized water treatment plants, mechanized sewerage treatment plants, etc. Plant and machineries will be valued at cost less depreciation.

6. Vehicles

Vehicles include two wheelers and four wheelers, and conservancy vehicles, etc. Vehicles will be valued at cost less depreciation.

7. Office and Other Equipment

This will include all office and other equipment e.g. computers, photocopies, telephone, fax, fans, electrical equipment, air-conditioners, etc. office and other equipment will be valued at cost less depreciation.

8. Furniture and Fixtures

This will include tables, chairs, fittings, etc., and they will be valued at cost less depreciation.

9. Livestock

Livestock will be valued at cost.

10. Intangible Assets, e.g. Software License Fees

Intangible Assets in Thromdes will generally be in the nature of expenditure on software. The Thromde will assess the expenditure made in development or purchase of the intangible asset in the last 5 years and capitalize it as fixed asset. In case the intangible asset has been provided free of cost by another Government department, it will not be shown in the Balance Sheet.

11. Road and Pavement

Under Road Infrastructure, assets will include items that are directly related to the road and their related appurtenance. The items related to road infrastructure are under following heading:

a. Road (Paved and Unpaved)
b. Lined Drains
c. Footpaths

The approach used to categories road infrastructure has been to define different categories that are suitable for use across all the Thromdes.

11.1. Roads

Under these guidelines, roads are classified into two categories and three classes. The three categories of roads for the purpose of road asset valuation are:

a. Asphalt Paved Road and
b. Unpaved Road

Following the Urban Roads Standard 2002, the roads are classified into three classes of roads as tabulated below:

#	Road Class	Dimension in Millimetres				Carriage Width in Meters	Estimated Useful Life
		Sub-Base	Base	DBM	AC		
1	Primary Road	170	230	80	25	7.5 or more	15 years
2	Secondary Road	160	220	50	25	6.5	15 years
3	Access Road	150	195	50	-	3.5 - 4.5	15 years

11.1.1. Unit Cost of Road

The historical record cost of construction of road, wherever available, shall be used as book value and the depreciation of value of the asset shall be accordingly applied.

For the roads where the cost of construction is not ascertainable, the unit cost shall be applied to determine the present replacement cost and the value shall be deflated till the year of construction. The road construction cost includes grade preparation, grading and compaction

of granular layers, surface paving, and other related works necessary to build an operational road surface.

#	Road Category	Road Class	Estimated Useful Life	Unit Cost Nu. Per m^2			
				PT	GT	SJT	TT
1	Paved Road	Primary Road	15 years	2023	2009	2087	2290
2		Secondary Road	15 years	1669	1657	1724	1926
3		Access Road	15 years	1234	1224	1280	1289
4	Unpaved Road	Primary Road	10 years	644	638	686	695
5		Secondary Road	10 years	613	607	653	661
6		Access Road	10 years	555	550	591	599

11.2. Lined Drains

Roadside drain is important component of road structure. The presence of water in road pavement layer reduces the bearing capacity of the road thus reducing the overall life of the road. A main cause of road damage is excess water filling the pores of road materials in the road and in the subgrade soils.

V-shaped drain which forms an immediate extension of the paved road is a popular form of road drainage, The Lined V-shaped drain is also recommended by Department of Roads.

11.2.1. Unit Cost of Lined Drains

The unit cost of V-shaped includes all cost toward construction of the drain, such as plain concrete base, stone soling, random rubble masonry and plastering works. The unit cost of construction of lined in the four Thromdes are as below:

#	Road Category	Estimated Useful Life	Unit Cost Nu. Per running meter			
			PT	GT	SJT	TT
1	Lined V-Shaped Drain	15 years	710.56	747.18	752.86	851.79

11.3. Footpath

Footpaths, as a part of road infrastructure, plays an important role in providing a safe and comfortable passage for the pedestrians. A footpath may built-up footpath, which is adjacent to the carriage way of the road, or it may be off-road footpath which is independent of the road cross-section.

Typically, footpaths in Thromdes are made of either cement concrete or "*Dolep*" (flagstone) laid on semi wet concrete.

11.3.1. Unit Cost of Footpath

The unit cost of footpath includes all cost toward construction of the path, such as stone soling, plain concrete base, flaying of *Dolep* and precast concrete edging. The unit cost of construction of footpath in the four Thromdes are as below:

#	Road Category	Estimated Useful Life	Unit Cost Nu. Per running meter			
			PT	GT	SJT	TT
1	*Dolep*-based Footpath	20 years	1463	1493	1514	1626
2	Concrete Footpath	20 years	1449	1473	1492	1595

12. Bridges and Culverts

If the cost and the year of construction the bridge is known, the cost of the bridge shall be booked and depreciated accordingly.

Otherwise, the replacement cost of the bridge shall be calculated based on the estimation deployed by the Department of Roads shall be used as initial value for opening balance.

13. Street Lighting and Public Lighting

Streetlights are used on roads to provide roadway and pedestrian environment, a better illumination. The most common streetlight for Bhutanese roads is the Single Davit Street light. Some Double Davit lights can be found on wider roads with medians. Spacing of street lights is based on the illumination levels required for each area. The commonly used spacing of street lights in Bhutan is about 25 meters.

Except for the luminaries, the street light has an estimated useful life of 30 years. The book value of the street lights shall be the complete cost required for installation of the street light.

14. Water System

Water supply system is one of the most important infrastructure assets owned by the Thromdes. Drinking Water System is usually categorized as the figure below:

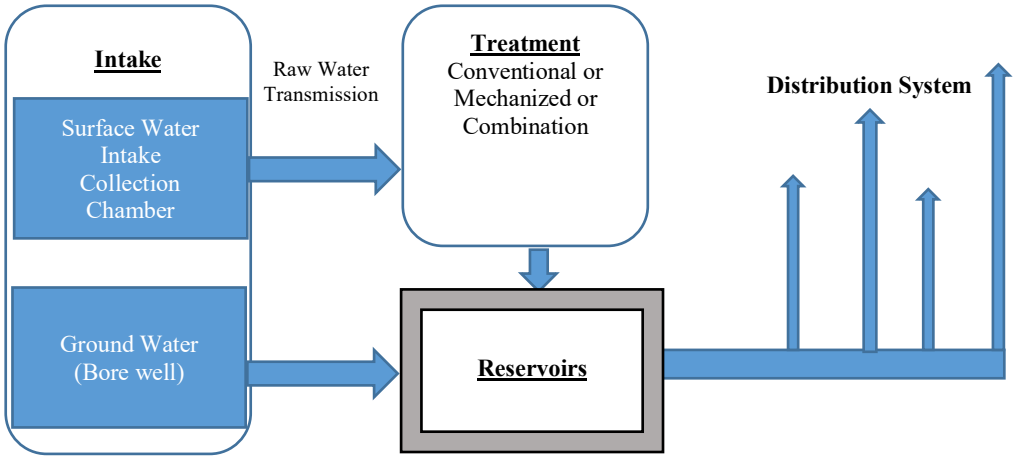

Figure 1 Layout of Drinking Water System

The cost of construction or purchase of different parts of the water infrastructure shall considered as the book value for the respective part. All normal expenditure for making an item of asset ready for its intended use is capitalized. The net present value of the infrastructures

shall be the depreciated value. If the cost of construction is not ascertainable, the deflated value of present replacement cost shall be used.

One of the most important aspects of managing the assets is determining how much longer you think they will last. The useful life of different parts of water infrastructure as below.

Component	Useful Life
Raw Water Intake Structure	35 years
Trunk Mains	60 – 90 years
Treatment Plant – Concrete	60 – 70 years
Treatment Plant – Mechanical and Electrical	15 – 25 years
Reservoirs	50 – 80 years
Pumping Stations – Electro-mechanical	25 years
Distribution Pipes	60 – 90 years

15. Wastewater System

Wastewater treatment system is very important for environmental sustainability for our settlements. The typical layout of wastewater system is as below:

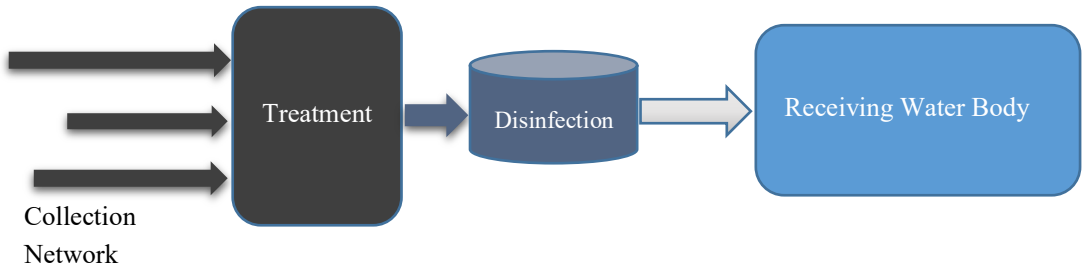

Figure 2 Layout of Wastewater System

Similar to water infrastructure, when the cost and year of construction or purchase of the Wastewater system is known, the total cost shall be capitalized. All normal expenditure for making an item of asset ready for its intended use shall be the total cost of the infrastructure. This capital cost shall be accordingly depreciated to arrive at the net present value of the infrastructure.

If the cost of construction is not ascertainable, the deflated value of present replacement cost shall be used.

For the purpose of valuation of the waste water systems and its components, the following useful life of the components are to be used.

Component	Useful Life
Collection Network	25 years
Treatment – Concrete	50 years
Treatment – Mechanical and Electrical	15 – 25 years

Pumping Stations – Mechanical and Electrical	15 years

Annex I: Index Rates for Deflation

For arriving at the Deflated Standard Cost, the following inflation index should be used:

Financial Year	Inflation Index
1981	100
1982	110
1983	128
1984	135
1985	137
1986	147
1987	153
1988	163
1989	172
1990	182
1991	194
1992	210
1993	222
1994	229
1995	238
1996	247
1997	253
1998	264
1999	271
2000	275
2001	278
2002	281
2003	282
2004	264
2005	270
2006	275
2007	280
2008	288
2009	292
2010	300
2011	308
2012	319
2013	326
2014	339
2015	352
2016	366