

# IWA Water and Development Congress & Exhibition 2025

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## Creditworthiness Assessment- an approach for Urban Local Bodies in India

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inspiring change



# ABOUT CWAS, CEPT UNIVERSITY

**CEPT University's core focus is human habitat.** Located in Ahmedabad, its education, research and advisory activities strive to improve the lives of people in India's villages, towns and cities.

**CEPT Research and Development Foundation (CRDF)** is established by the University to manage their research and capacity building activities. The Center for Water and Sanitation (CWAS) is among the first center to be established.

[CWAS](#) started its work in 2009 with focus on improving water and sanitation services in India. It carries out activities related to action research and capacity building – working closely with city and state governments in Maharashtra, enabling them to improve delivery of services. CWAS also has information on 800+ cities' WASH services delivery. Its recent focus is on making cities and villages water secure and climate resilient.





# FROM PERCEPTION TO REALITY

**Perception- “Indian cities and utilities are poor and financial unhealthy”- Is this true?**

- Data **NOT** available in public domain.
- India data systems are evolving and strengthening – from paper based disaggregated data to IT enabled information system.

**Financial and Service Level Data of 4000+** Indian cities is available in public domain on **City Finance Portal**.

- From perception to reality – testing the waters through publicly available data!
- Are Indian cities **creditworthy**?



**Performance Assessment System (PAS)** is one of the **largest open access time series database** for urban water and sanitation





# THERE IS AN INCREASING RECOGNITION OF THE NEED TO MOBILISE INFRASTRUCTURE INVESTMENTS THROUGH BORROWINGS



## Stronger “creditworthiness” improves a city’s ability to access different financing resources

- **Enabling cities to become creditworthy is an essential first step** in gaining access to more substantial, long-term, sustainable investments.
- The **creditworthiness of a city** is a vital component of its ability to finance urban infrastructure projects, particularly for attracting private investment and issuing bonds.
- Creditworthiness is a positive quality, and it takes work and commitment to maintain it.
- Initiatives and efforts by **Gol to undertake credit ratings for 500 cities under AMRUT** Mission.
- Supplementary guidelines by Gol on **“Special Assistance to States for Capital Investment 2023-24”** mention ULB reforms to make them creditworthy for municipal bonds and the issue of municipal bonds.
- Urban Infrastructure Fund- USD 1140 million (~INR 10,000 crore) to mobilise funds through municipal bonds, borrowings, PPP etc.



# OUR APPROACH TO DEVELOP A SIMPLE CREDITWORTHINESS ASSESSMENT FRAMEWORK

## Creditworthiness Assessment Framework for cities

Cities can use a **creditworthiness self-assessment tool** before approaching a Credit Rating Agency for a formal credit rating

Our Framework uses both **financial performance indicators and service level indicators**

It uses **publicly available datasets** which are annually updated an accessible on web-based portals

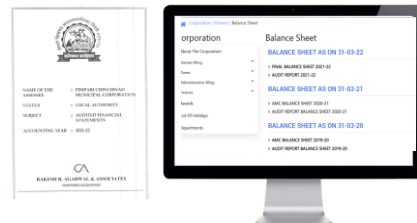


**Less time-consuming process**

It can be a **pre-cursor to an actual credit rating** of a bond issue or final credit appraisal for approving a specific loan.



WASH and administrative Data – Performance Assessment System ([www.pas.org](http://www.pas.org))

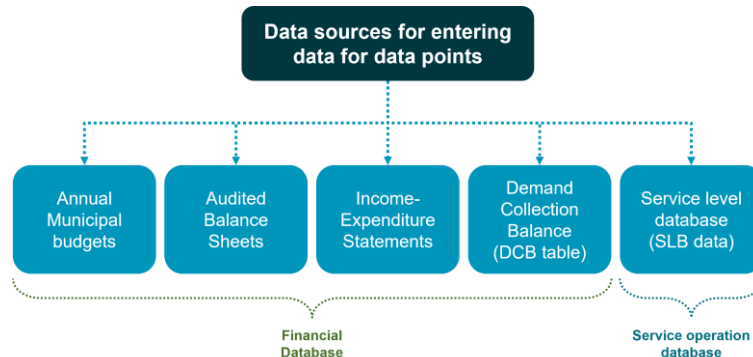


Balance sheets, Audited account statements and City Budgets can be obtained from [cityfinance.in](http://cityfinance.in) and [city own websites](#)



# CWAS APPROACH TO CREDITWORTHINESS ASSESSMENT

Parameters	PAS Creditworthiness Assessment Framework Approach
<b>Rationale</b>	<b>Annual assessment to measure and improve creditworthiness</b> of cities
<b>Overall Approach and Methodology</b>	Assessment of <b>Financial and Operational Indicators based on publicly available data</b> . Detailed assessment of operational indicators is done and reported in city reports
<b>Assessment Model</b>	<b>Simple, quick self-assessment and improvement</b> tool to measure creditworthiness of cities
<b>Results and application</b>	Individual detailed reports and consultation with cities. <b>Do It Yourself Toolkit</b> for creditworthiness assessment
<b>Scalability</b>	<b>Easily scalable approach</b>





# PARAMETERS USED FOR CREDITWORTHINESS ASSESSMENT



## FINANCIAL : 70% weightage

<b>Income Ratios</b>	Translate <b>economic base</b> into municipal revenues and capacity to levy, collect taxes and user charges.
<b>Expense Ratios</b>	City's ability to <b>manage fixed expenses</b> and understand overspending or underspending.
<b>Operating Ratios</b>	Adequacy of revenues to meet <b>operational expenses</b> <b>support additional debt servicing</b> .
<b>Debt Servicing Ratios</b>	<b>Adequacy of municipal cash flows</b> to meet debt servicing requirements in a timely manner.
<b>Leverage Ratio</b>	Current leveraging of ULB, net worth and revenue profile and <b>estimating borrowing capacity</b>
<b>Liquidity Ratio</b>	<b>Measure cash and other current assets</b> to meet short-term business and financial obligations.
<b>Size of revenues</b>	Size of income, expenditure and their growth rate over the years.

## SERVICE LEVEL : 30% weightage

<b>WASH Service Levels</b>	Assesses performance of city in <b>WASH service delivery-coverage, treatment, and financial sustainability</b> .
<b>Accounting Quality and Transparency</b>	Reflects the <b>timeliness</b> of providing audited information in public domain.
<b>Human Resources and Adequacy of Staff</b>	<b>Staffing levels</b> in relation to service delivery requirements
<b>Complaint redressal mechanisms</b>	City's ability to <b>redress complaints</b>

Two broad themes:  
**Financial (70%) and  
Service Level (30%)**

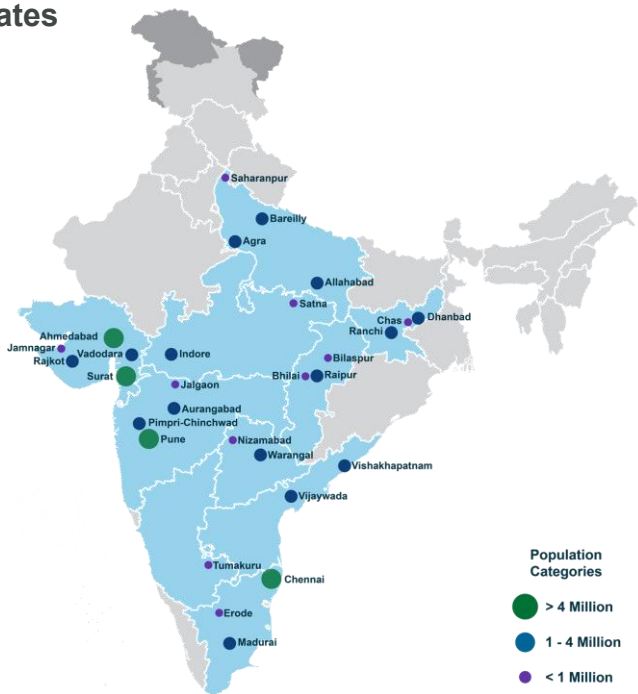
**53 Indicators**

Estimates borrowing capacity of cities



# A SAMPLE OF 30 CITIES ACROSS 10 STATES OF VARIED POPULATION SIZE

Piloted across **30 Indian cities** across ten states



Three sets of cities by population size

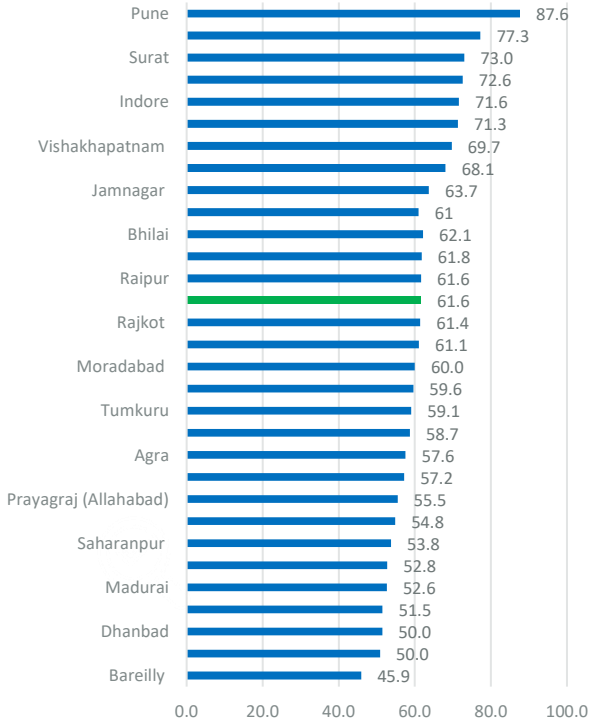
> 4 Million	1-4 Million	1 Million <
Ahmedabad	Agra	Bhilai
Lucknow	Aurangabad	Bilaspur
Pune	Bareilly	Chas
Surat	Dhanbad	Erode
	Indore	Jalgaon
	Madurai	Jamnagar
	Moradabad	Nizamabad
	Pimpri Chinchwad	Saharanpur
	Prayagraj (Allahabad)	Satna
	Raipur	Tumakuru
	Rajkot	
	Ranchi	
	Vadodara	
	Vijayawada	
	Vishakhapatnam	
	Warangal	

Selection of cities is based on availability of data points in the public domain



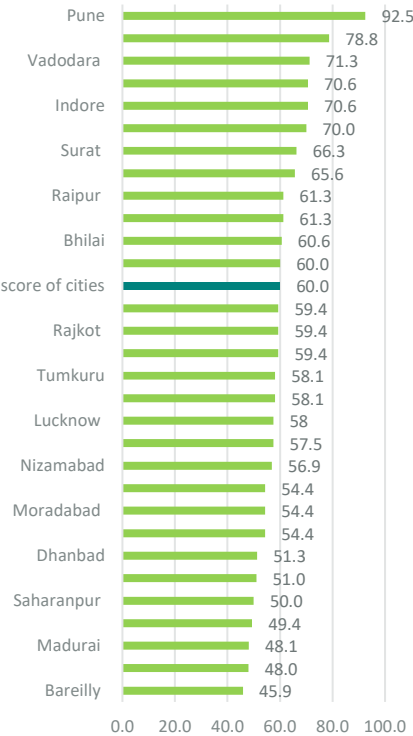
# KEY RESULTS OF CREDITWORTHINESS ASSESSMENT – (1/2)

## Overall Creditworthiness Score:



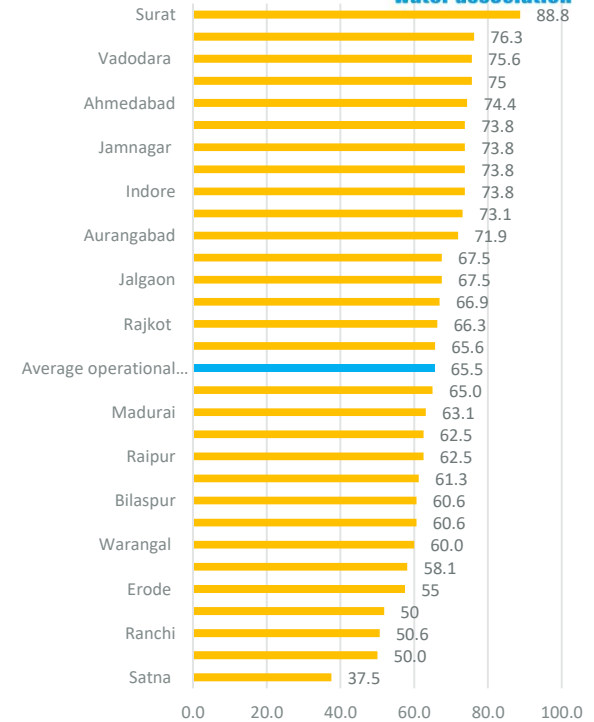
**Pune** tops the overall creditworthiness assessment performance

## Financial Score:



**Pune** again tops the financial assessment performance

## Operational Score:



**Surat** tops the service assessment performance



# KEY RESULTS OF CREDITWORTHINESS ASSESSMENT – (2/2)

**27 cities** are creditworthy out of a universe of 30 cities..

Only **8 cities**- Ahmedabad, Pune, PCMC, Surat, Indore, Lucknow, Vadodara and Vishakhapatnam have issued municipal bond till now..

**7 cities:** High quality of creditworthiness

**6 cities:** Adequate quality of creditworthiness

**14 cities:** Moderate quality of creditworthiness

**3 cities:** High level of credit risk

PAS Creditworthiness Score	Rating	Cities	Creditworthiness
<b>Above 90</b>	PAS AAA		Highest level of creditworthiness
<b>71-90</b>	PAS AA	Pune, PCMC, Surat, Vadodara, Indore Ahmedabad, Vishakhapatnam	High level of creditworthiness
<b>61-70</b>	PAS A	Vijayawada, Jamnagar, Jalgaon, Bhilai, Raipur, Lucknow, Rajkot	Adequate level of creditworthiness
<b>51-60</b>	PAS BBB	Chas, Aurangabad, Moradabad, Tumakuru, Warangal, Agra, Ranchi, Bilaspur, Saharanpur, Nizamabad, Madurai, Satna, Prayagraj	Moderate level of creditworthiness
<b>41-50</b>	PAS BB	Bareilly, Dhanbad, Erode	High level of Credit Risk
<b>31-40</b>	PAS B		Higher level of Credit Risk
<b>21-30</b>	PAS C		Highest level of Credit Risk
<b>Less than 20</b>	PAS D		Not creditworthy

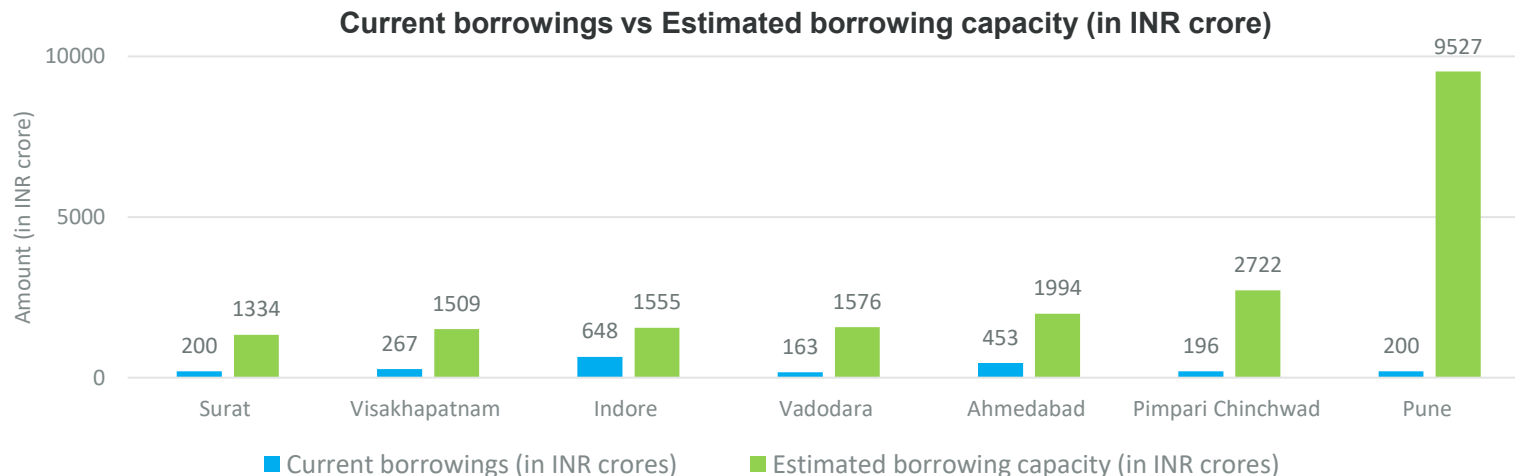
**Investment Grade**

**Non-Investment Grade**



# LARGER CITIES HAVE 'SIGNIFICANTLY' HIGHER POTENTIAL TO BORROW COMPARED TO THEIR ACTUAL BORROWINGS

- Larger cities with higher revenue size like Surat, Vishakhapatnam, Indore, Vadodara, Ahmedabad, PCMC and Pune have issued municipal bonds worth **INR 100-200 crore for infrastructure projects**. These cities have a much higher ability to borrow from the market ranging from **INR 1000-9500 crore** and other sources than what they have borrowed.



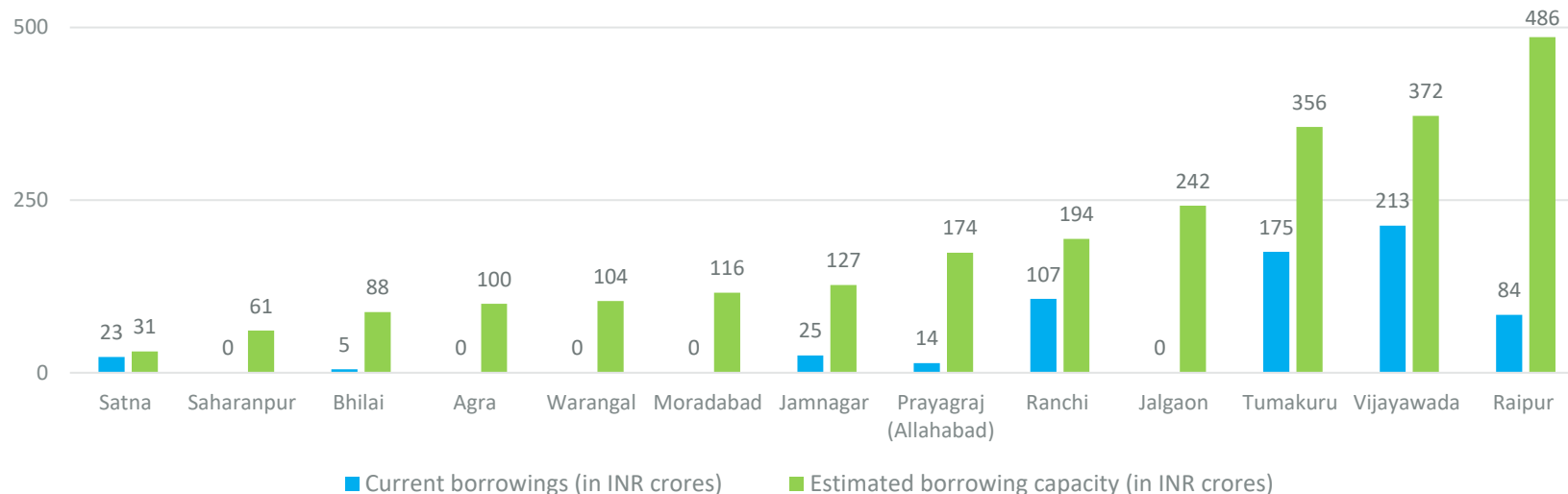
**Note:** The thumb rule for assessing the borrowing capacity of the municipal corporation is ideally considered as 2.5 times the operating surplus prior to depreciation and interest. If one assumes that a typical borrowing would be for a tenure of 10 years and for simplicity assume an interest of 10%, this covenant translates into borrowing limit of 2.5 times annual operating surplus.

Source: Audited balance sheets of Surat, Vishakhapatnam, Indore, Vadodara, Ahmedabad, PCMC, Pune FY 2018-22



# MANY SMALLER CITIES ALSO HAVE REASONABLE POTENTIAL TO BORROW, YET THEY HAVEN'T BORROWED

Current borrowings vs Estimated borrowing capacity (in INR crore)



**Note:** The thumb rule for assessing the borrowing capacity of the municipal corporation is ideally considered as 2.5 times the operating surplus prior to depreciation and interest. If one assumes that a typical borrowing would be for a tenure of 10 years and for simplicity assume an interest of 10%, this covenant translates into borrowing limit of 2.5 times annual operating surplus.

Source: Audited balance sheets of Satna, Saharanpur, Bhilai, Agra, Warangal, Moradabad, Jamnagar, Prayagraj, Ranchi, Jalgaon, Tumakuru, Vijayawada, Raipur FY 2018-22



# ROUND TABLE MEET ON CREDITWORTHINESS ASSESSMENT AT MOHUA, INDIA



- Roundtable meeting on 'Creditworthiness Assessment - An Approach for Indian Cities' was held at MoHUA, Delhi
- **Hybrid mode** (online and offline) on July 16, 2024, under the chairpersonship of **Ms. D Thara, Additional Secretary, Ministry of Housing and Urban Affairs (MoHUA)**.



## Stakeholders who attended the round-table meet:

- MoHUA Team,
- Municipal Commissioners,
- Chief Accounting Officer,
- Credit Rating Agencies (CRISIL, CARE, India Ratings, ICRA)
- Development Banks (NHB, World Bank, ADB)
- Sector Experts



*"The framework and tool developed by CWAS, CEPT can be considered as a ready reckoner for evaluating ULBs creditworthiness before undertaking the actual credit rating process and CWAS can build capacity of ULBs to use this tool. "*

*-Ms. D Thara (IAS), Additional Secretary, MoHUA, GoI*



# Creditworthiness Assessment Tool



# CREDITWORTHINESS ASSESSMENT TOOL- OVERVIEW

## PAS Creditworthiness Assessment

### An Approach for Indian Cities

CWAS

CRDF

CEPT UNIVERSITY

User Guide

Data Input

Financial Ratios

Financial Scores

Operating Ratios

Operating Scores

Final Score and Grade

Summary Report

#### About PAS Creditworthiness Assessment Framework

The PAS Creditworthiness assessment is a useful and almost a no-cost approach for a city to understand its own creditworthiness and to identify areas where it needs to take improvement actions before considering any borrowing and a formal credit rating.

## Creditworthiness Assessment

### An Approach for in Indian Cities

Creditworthiness Score

City : ABC Municipal Corporation  
State : XYZ

User Guide

Data Input

Financial Ratios

Financial Score

Operating Ratios

Operating Score

Summary Report

**A Simple Excel Based Tool to assess creditworthiness and borrowing capacity of a city**

**Data sheet enables entry of financial and service level data using data from sources**

Creditworthiness Assessment Tool Data Input Sheet						
Data source	Assessment Year	Unit	2020	2021	2022	2023
PAS	Water supply coverage	%	98	99	100	93
PAS	FSSM / Wastewater/ sewerage HH Coverage	%	100	100	100	100
PAS	SWM Coverage (Household)	%	100	95	92	95
PAS	Toilet Coverage	%	100	100	100	100
PAS	Cost Recovery of water tax	%	204	210	195	211
PAS	Cost Recovery of sanitation tax/ sewerage charges	%	67	58	58	55
PAS	Cost Recovery of SWM charges	%	149	143	147	147
PAS	Current Year Property Tax Billed Demand	Lakhs	91,299	92,958	1,07,804	1,03,549
PAS	Current Year Property Tax Collection	Lakhs	65,710	86,239	96,429	96,034
PAS	Collection Efficiency of water tax	%	82	81	85	80
PAS	Collection Efficiency of sanitation tax	%	86	91	91	86
PAS	Collection Efficiency of SWM tax	%	88	85	81	84
PAS	Non-Revenue Water	%	20	20	21	30
	Surplus/Deficit post depreciation	Lakhs	34,155	36,940	-21,931	-13,647
	Surplus/Deficit prior to depreciation	Lakhs	77,268	82,447	27,796	50,671
	Total Revenue Income	Lakhs	2,91,454	3,07,230	2,80,562	3,33,736

- Audited Balance Sheets
- Income and Expenditure Statements
- Demand Collection Balance Table
- City Budgets
- Service Level Data



# CREDITWORTHINESS ASSESSMENT TOOL – FINANCIAL AND OPERATIONAL SCORE

Financial and Operational Ratios and score will help city assess its financial performance through indicators

Financial Ratios					
Name of state: XYZ					
Name of city: ABC Municipal Corporation					
Assessment Year	Unit	2020	2021	2022	2023
<b>Income Ratios</b>					
Own Tax Revenue to Total Revenue Income Ratio (%)	Number	41.0%	41.0%	44.2%	40.2%
Non-tax Revenue to Total Revenue Income Ratio (%)	%	29.7%	24.5%	15.1%	27.3%
Assigned Revenue to Total Revenue Income Ratio (%)	%	24.8%	23.5%	25.8%	21.7%
Revenue Grants to Total Revenue Income Ratio (%)	%	3.9%	10.9%	11.9%	10.8%
Own Revenue Income/Total Revenue Income (%)	%	71.3%	65.6%	62.3%	67.5%
Property tax demand as a % of own tax	%	75.3%	73.9%	86.9%	77.2%
Property tax demand as a % of total revenue	%	22.5%	28.1%	34.4%	28.8%
Property tax collection as a % of own tax	%	54.2%	68.5%	77.8%	71.6%
Property tax collection as a % of total revenue	%	22.5%	28.1%	34.4%	28.8%

Financial Score					
Name of state: XYZ					
Name of city: ABC Municipal Corporation					
Assessment Year	Unit	2020	2021	2022	2023
<b>Income Ratios</b>					
Own Tax Revenue to Total Revenue Income Ratio	Number	4.0	4.0	4.0	4.0
Non-tax Revenue to Total Revenue Income Ratio	Number	3.0	3.0	2.0	3.0
Assigned Revenue to Total Revenue Income Ratio	Number	3.0	3.0	3.0	3.0
Revenue Grants to Total Revenue Income Ratio	Number	4.0	4.0	4.0	4.0
Own Revenue Income/Total Revenue Income	Number	4.0	3.0	3.0	3.0
Property tax demand as a % of total revenue	Number	3.0	4.0	4.0	4.0
Property tax collection as a % of total revenue	Number	4.0	4.0	4.0	4.0
<b>Expenses Ratios</b>					
Establishment Expenses to Total Revenue Income Ratio (%)	Number	2.0	2.0	2.0	3.0

Operational Ratios					
Name of state: XYZ					
Name of city: ABC Municipal Corporation					
Service level operating ratios	Unit	2020	2021	2022	2023
<b>Access and Coverage</b>					
Water supply coverage (No of water connections/ property)	%	98.1%	99.1%	99.9%	93.5%
FSSM / Wastewater/ sewerage Coverage	%	100.0%	100.0%	100.0%	100.0%
SWM Coverage	%	100.0%	95.2%	91.9%	95.2%
Toilet coverage	%	100.0%	100.0%	100.0%	100.0%
<b>Collection efficiency</b>					
Collection efficiency of water tax	%	82.2%	81.3%	85.5%	80.3%
Collection efficiency of sanitation tax/ sewerage charges	%	86.2%	90.8%	91.3%	85.7%
Collection efficiency of SWM charges	%	87.8%	85.2%	81.5%	83.7%
Collection efficiency of current property tax	%	72.0%	92.8%	89.4%	92.7%
Collection efficiency of annual property tax	%	-	28%	20%	31%
Collection efficiency of water, sanitation and SWM services	%	85.4%	85.8%	86.1%	83.2%

Operational Score					
Name of state: XYZ					
Name of city: ABC Municipal Corporation					
Service level operating ratios	Unit	2020	2021	2022	2023
<b>Access and Coverage</b>					
Water supply coverage (No of water connections/ property)	Number	4.0	4.0	4.0	4.0
FSSM / Wastewater/ sewerage Coverage	Number	4.0	4.0	4.0	4.0
SWM Coverage	Number	4.0	4.0	4.0	4.0
Toilet coverage	Number	4.0	4.0	4.0	4.0
<b>Collection Efficiency</b>					
Collection efficiency of water tax	Number	3.0	3.0	3.0	3.0
Collection efficiency of sanitation tax/ sewerage charges	Number	3.0	4.0	4.0	3.0
Collection efficiency of SWM charges	Number	3.0	1.5	1.5	1.5
Current Collection efficiency of property tax	Number	3.0	4.0	3.0	4.0
Annual Collection efficiency of property tax	Number	0.0	0.5	0.5	0.5

- Auto-calculated Financial and Operational Ratios and Scores which assess financial and operational performance
- City can self-assess its financial and operational performance over the years

Creditworthiness Score		
City : ABC Municipal Corporation		
State : XYZ		
Financial Year : 2023		
Benchmark		
Creditworthiness Score		
Total Score	100	72.2
Financial Score	100	71.0
Operational Score	100	75.0
Creditworthiness Assessment Grade		
PAS AA High level of creditworthiness		
Borrowing Capacity		
1394 INR crores		

Overall Creditworthiness Score of the City ABC which is 72 with PAS AA rating

City can borrow USD 158 million (~INR 1394 crores) from the market



## Scaling up creditworthiness assessment through capacity building



**Creditworthiness assessment framework can be scaled across Indian cities by capacity building of city government officials.**

## Collaboration with cities



- **Deep dive creditworthiness** assessment with a few cities.
- **Identify measures to improve creditworthiness of cities** and assess feasible borrowing options from the market.

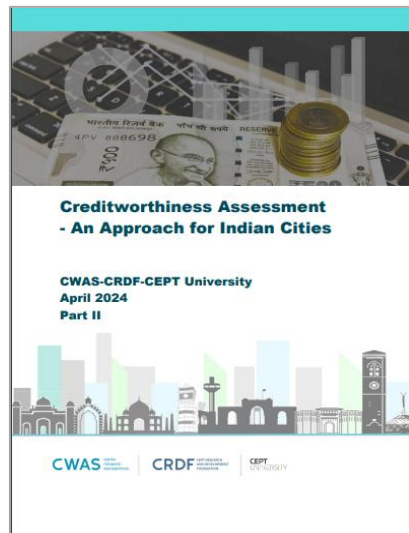
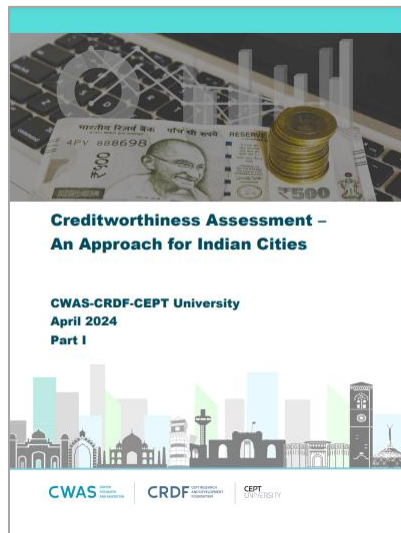
## Explore use of the Tool with potential lenders



**Explore with other potential lenders** such as commercial banks, NHB - Urban Infrastructure Development Fund (UIDF), NABFID, HUDCO etc.



# READ THE REPORT ON CWAS WEBSITE



[Link of the report: Creditworthiness Assessment for Urban Local Bodies](#)



Scan the QR to  
read the report



# Thank you

**CWAS** CENTER  
FOR WATER  
AND SANITATION

**CRDF** CEPT RESEARCH  
AND DEVELOPMENT  
FOUNDATION

**CEPT**  
UNIVERSITY

## About us

The Center for Water and Sanitation at CEPT University carries out various activities – action research, training, advocacy to enable state and local governments to improve delivery of services.



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[pas.org.in](http://pas.org.in)



[cwas@cept.ac.in](mailto:cwas@cept.ac.in)  
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