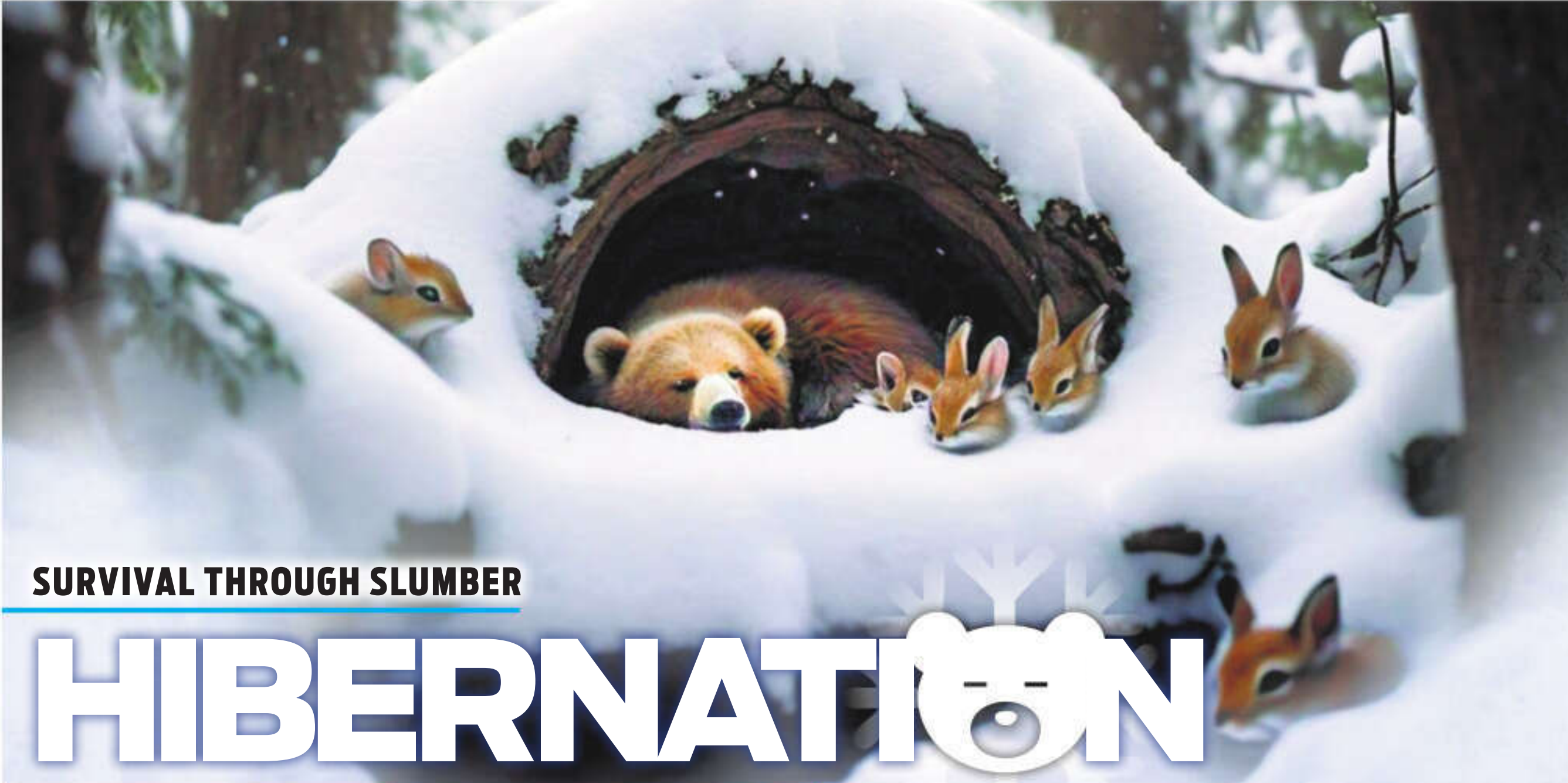


“We cannot solve problems with the same thinking we used to create them” — Albert Einstein



SURVIVAL THROUGH SLUMBER

# HIBERNATION

## HOW ANIMALS SLEEP AWAY THROUGH WINTER

POOJA K

As humans, would we ever think of giving up eating, drinking, or even staying awake for months on end to survive a harsh cold winter? We may not even adopt this lifestyle, but some species in the animal kingdom have perfected the art and science of slumber, called ‘hibernation’. To define it in simple terms, hibernation is a state of minimal activity and metabolic depression. It is a seasonal heterothermy characterised by low body temperature, slow breathing and heart rate, and low metabolic rate. Some species adapt to this state dur-

ing extreme winters. Hibernation is considered an evolutionary adaptation that allows species like bears, bats, hedgehogs, and even some amphibians and reptiles, to survive the inhospitably cold climate without active foraging. It is a fascinating survival strategy that allows animals to survive harsh climatic conditions, or when food is scarce. Hibernation is a state of psychological and physical adaptation that helps the animals conserve energy and survive for long periods without food. It is an elongated process that has various stages.

STEPS IN HIBERNATION

**1 Preparation:** Before hibernation begins, animals go

through many physical and psychological changes. **2 Storing fat:** Animals consume large amounts of food for weeks, and sometimes even months, to store fat to survive the harsh winter. Besides, the fat also provides them with energy to sustain themselves during dormancy. **3 Building shelters:** Before hibernating, animals seek or create a safe space such as dens, burrows or caves that will keep them warm during the freezing temperature. **4 Entering a state of torpor:** Hibernation involves a state called ‘torpor’. A phase where animals significantly re-

duce their metabolic activities to conserve energy. It is a behavioural adaptation that helps animals survive cold weather and food scarcity. During this phase, they go through many behavioural changes --

- 5 Drop in body temperature:** Hibernating animals experience a lowered body temperature, sometimes to as low as 0 degrees Celsius.
- 6 Drop in heart rate:** During hibernation, the animal’s heart rate decreases from 110-150 beats per minute, to 5-70 beats per minute.
- 7 Breathing and movement:** During this phase, the animals’ breathing becomes shallow, they move very little, and are barely conscious.

HOW LONG DOES IT LAST?

The duration of hibernation varies depending on the species, climatic conditions and

environmental factors. For instance, bears are long-term hibernators, and one of the species that can hibernate for up to 7 months without eating, drinking, or excreting. Some of the studies conducted on black bears and grizzly bears also show that during hibernation, they reduce their metabolic rate by 75%, their heart rate is reduced to 8-10 beats per minute, and they solely rely on fat reserves for their energy. But, despite being immobile for months, these creatures do not suffer from muscle atrophy or bone loss, and this provides insights into preserving human health for a prolonged period; For eg: Astronauts in space. A different study conducted on wood frogs in North America revealed that these creatures can freeze themselves during solid winters, where 70% of their body turns into ice. During this phenomenon, their body is protected by the antifreeze chemicals like glucose and urea that are present within. Today, scientists are trying to study the mechanisms behind this process, and its potential application in human cryopreservation and medical emergencies like preserving organs for transplantation.

Then there is another concept, called ‘periodic torpor’. Some animals like bats and ground squirrels wake up periodically during their hibernating phase to drink water and change their positions. Bats like the ‘little brown bats’, experience torpor - a state of reduced psychological activity. These cycles are necessary to maintain immune functions and survive harsh winters. Some of the key findings from experiments also revealed that energy expenditure during arousal is a critical factor, as environmental disruptions can break this cycle, which in turn increases their mortality rates. Similarly, among squirrels, the arctic ground squirrels can supercool their bodies during hibernation, with their core body temperature dropping to as low as -3 degrees Celsius. This extreme hibernation helps them survive harsh winters with limited food. One of the key findings also revealed that their ability to suppress brain activity and protect cells from freezing, offers potential for medical cryopreservation and organ transplants. Meanwhile, yellow-bellied marmots may have an increased chance of survival, reproduction.

## SURVIVING THE TOUGH ICE AGE

The Ice Age, also known as the Pleistocene Epoch (starting around 115,000 years ago and lasting for over 100,000 years), was a period when the Earth’s surface and atmosphere were much colder. It is said that the global temperature was about 6 degrees Celsius, and the animals found during this period were icons like the woolly mammoth, steppe bison, and scimitar cat, musk oxen and grizzly bears. But, which of these animals survived the Ice Age?



**Mammoths and Mastodons** - Their thick fur, a hump of fat for insulation, and long tusks helped them navigate icy landscapes



**Saber-toothed Cats or Smilodons** - Though now extinct, these large predators were well-adapted to hunt Ice Age megafauna



**Bison** - The bison survived the Ice Age and remains one of the iconic megafauna today. The American bison is a descendant of Ice Age bison



**Reindeer and Caribou** - These animals adapted to Arctic conditions, and have survived since the Ice Age. Their migratory behaviour helped them thrive



**Wolves** - Grey wolves hunted their adapted and diet, allowing them to survive. The wolves that we find today are descendants of Ice Age populations



**Bears** - The brown bear and polar bear survived the Ice Age. Adaptations such as hibernation and dietary flexibility allowed them to persist

**SYMBOLIC POSSESSION NOTICE**

**ICICI Bank** Branch Office: ICICI Bank Ltd. 4/10, Mythree Tower, Bommanhalli Hosur Main Road Bangalore - 560006

The Authorised ICICI Bank Officer under the Securitisation, Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 and in exercise of the powers conferred under section 13(12) read with Rule 3 of the Security Interest (Enforcement) Rules 2002, issued Demand Notices to the borrower(s) mentioned below, to repay the amount mentioned in the Notice within 60 days from the date of receipt of the said Notice.

Sr. No.	Name of the Borrower(s)/ Loan Account Number	Description of Property/ Date of Symbolic Possession	Date of Demand Notice/ Amount in Demand Notice (Rs)	Name of Branch
1.	Naveenkumar R & Kiruthika Krishnan / Plot No. 12, Malgova Nagar Veerapandi Union Limit Op, Byroji Agraharam Village Andpanchayoth, 170 10 170, Solem-636308/ LBSAL00006565091/ TBSAL00006473427	SCHEDULE "A" OF PROPERTY All that piece and parcel of Plot No.12 measuring an extent of 1588 Sq.ft., and other easement rights, etc. in a housing layout named as JBI CITY DEVELOPER'S MALGOVA NAGAR comprised Old Survey No.167/10 as per sub-division new Survey No. 167/10A1A1A, Patta No.556 situated at Byroji Agraharam Village, Solem South Taluk, Solem district being BOUNDDED ON THE North by Property belongs to Church South by 23 feet East-West Road East by Plot No.13 West by Survey No.167/9 ADMEASURING North to South on the Eastern Side : 55.00 feet North to South on the Western Side : 55.00 feet East to West on the Northern Side : 28.75 feet East to West on the Southern Side : 29.00 feet and lying within the Registration District of Solem East and Sub-Registration District of Veerapandi, Solem District. Date of Symbolic Possession 05th December 2024	28/08/2024 Rs. 28,81,486.03/-	Solem

The above-mentioned borrower(s)/guarantor(s) is/are hereby issued a 30 day Notice to repay the amount, else the mortgaged properties will be sold after 30 days from the date of publishing this Notice, as per the provisions under Rules 8 and 9 of Security Interest (Enforcement) Rules 2002.

Date: December 11, 2024 Place: Solem Sincerely Authorised Signatory For ICICI Bank Ltd.

**TAMIL NADU WATER SUPPLY AND DRAINAGE BOARD**

INVITATION OF BIDS- TWO COVER-ITEM WAR TENDER SYSTEM (E-Submission)

IFB No.	19/ F. UTM/79 Coastal habs. /SDO II/ CW /2024/Dt. 04.12.2024
Funding Pattern	Capital Grant Fund
Eligibility	Registered Class I Contractors (Civil)
Tender Invitee	The Chief Engineer, TWAD Board, Madurai - 625 007
Downloading Period	12.12.2024 to 11.01.2025 upto 15.00 hours
EMD Payable	Online Mode through E-Tendering website "https://tntenders.gov.in"
Pre Bid meeting	30.12.2024 at 11.00 hours at the office of the Tender Invitee
Bid Submission	11.01.2025 before 15.00 hours duly Digitally signed encrypted Tenders through E-Tendering website "https://tntenders.gov.in"
Bid opening	13.01.2025 at 15.30 hours through E-Tender Portal

Name of work	Appx. value (including 18% GST)	Bid Security
Replacement of existing 600 mm and 500 mm PSC and MS pipe to 600 mm and 500 mm DI K7 pipes for Combined Water Supply Scheme to 79 Coastal habitations with bulk provision to 17 Rural Town Panchayats and 19 wayside habitations in Kanniyakumari District (Construction Period : 9 months and Trial run 3 Months)	Rs. 16.85 Crore	Rs. 12.64 Lakh

DIPR/ 5398 /TENDER/2024 SAVE WATER, CONSERVE WATER. EVERY DROP COUNTS Chief Engineer, TWAD Board, Madurai.

**EQUITAS SMALL FINANCE BANK LIMITED** (FORMERLY KNOWN AS EQUITAS FINANCE LTD)

Registered Office: No.789, Spencer Plaza, 4th Floor, Phase-II, Anna Salai, Chennai, TN - 600 002. Ph: 044-42995000, 044-42995050

**DEMAND NOTICE - NOTICE UNDER SECTION 13 (2) OF THE SARFAESI ACT, 2002**

NOTICE is hereby given that the following borrower/s have availed loan from Equitas Housing Finance Limited (EHL) / Equitas Finance Limited (EFL) / Equitas Small Finance Bank Ltd (ESFB). The said borrower/s had failed to pay installments and their loan account has been classified as Non-Performing Asset as per the guidelines issued by RBI. The details of the secured immovable property/ies, loan and the amounts outstanding as on date payable by the borrower/s are mentioned below. The borrower(s) and the public in general are informed that the undersigned being the Authorized Officer, the secured creditor has initiated action against the following borrower(s) under the provisions of the SARFAESI Act, 2002, and not to deal with the said property, on failure to repay the outstanding dues indicated against their names within 60 (Sixty) days of this notice, the undersigned will exercise any one or more of the powers under sub-section (4) of Section 13 of the SARFAESI Act, including power to take possession of the property/ies and sell the same.

S. No.	Name of the Borrower(s) / Guarantor(s) (NAME OF THE BRANCH)	Description of Secured Asset (Immovable Property)
1.	BRANCH: EDAPADY LOAN No: 700007571205 BORROWER NAME: 1. Mr. Madhesh, S/o. Arumugam, 2. Mrs. Ponnarasi, W/o. Madhesh.	All that Piece and parcel of the land comprised in S.No.242/1N, measuring an extent of 0.05 1/2 cent and all passage and easement rights of the property, and its situated at Katchipalli village, Edapady taluk, Sub registration district of Magudamchavadi, Registration district of Salem west, District, and bounded on the: Four Boundaries: North by: common pathway, South by: Sadaiyan property, East by: S.No. 242/1, or Anathayee property, West by: S.No. 242/1K, sadaiyan property. Linear Measurement: With an extent of 0.05, 1/2 cent Situated at within the Sub-Registration District of Magudamchavadi and Registration District of Salem west Total Extent 0.05. 1/2 cent

Demand Notice Date : 25.11.2024 Outstanding Amount : ₹ 4,30,434/-

Date : 11-12-2024, Place : Salem Authorized Officer, Equitas Small Finance Bank Ltd

QuoteExpress NOTHING IS IMPOSSIBLE, THE WORD ITSELF SAYS 'I'M POSSIBLE!' AUDREY HEPBURN

**Indian Bank** ZONAL OFFICE

11/rd Floor, Divya Towers, 15/1, Fort Main Road, Opp Govt Super Speciality Hospital, Salem. Ph: 0427- 2218168

**SALE NOTICE FOR SALE OF IMMOVABLE PROPERTIES**

APPENDIX- IV-A" [See proviso to rule 8 (6)]

E-Auction Sale Notice for Sale of Immovable Assets under the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 read with proviso to Rule 8 (6) of the Security Interest (Enforcement) Rules, 2002

Notice is hereby given to the public in general and in particular to the Borrower (s) and Guarantor (s) that the below described immovable property mortgaged/charged to the Secured Creditor, the Symbolic possession of which has been taken by the Authorised Officer of **Indian Bank, below branch**, Secured Creditor, will be sold on "As is where is", "As is what is", and "Whatever there is" on 27-12-2024 for recovery of below amount due to the **Indian Bank, below branch**, Secured Creditor, from below borrower.

The specific details of the property intended to be brought to sale through e-auction mode are enumerated below :

Name of the Borrowers / Guarantors / Mortgagors / Total liabilities
PANNAPATTI BRANCH, 7/188, Thinnapatti Main Road, Pannapatti, Salem - 636305. Ph : 94427-00042
1. Mr. M.Sivaperuman (Borrower), S/o.Mathaiyan, No.7-162, Pannapatti kattavalavu, Pannapatti, Salem - 636305. 2. Mr. P. Ganesan (Guarantor), S/o.Periathambi, No.4/337, Karuvanur, Dasasamuthiram, Poosaripatti, Salem - 636305

Total liabilities as on 09-12-2024 : Rs.26,51,588/- (Rupees Twenty six lakhs fifty one thousand six hundred eighty eight only) with further interest and cost.

**DETAILED DESCRIPTION OF THE PROPERTY :** Land situated at Salem West Registration District, Omalur SRD at Pannapatti village, S.No 205/5A Dry Hect 0.060.0 = Acre 0.15. S.No 205/7 Dry Hect 0.10.5 = Acre 0.26, in this 0.23 acre within the boundaries : South of the cart-way in the same survey number, East, North and West of the lands of Mr. Sivaperumal. The said lands and Easement right of cart way appertaining the same.

**Encumbrances on property : NIL, Reserve Price : Rs.35,00,000/-, EMD Amount : Rs.3,50,000/-, Bid incremental amount : Rs.10,000/- Date and time of e-auction : 27-12-2024 between 10.00 am and 05.00 pm, Property ID No. IDIB6457924214**

Bidders are advised to visit the website (https://baanknet.com) of our e auction service provider PSB Alliance Pvt. Ltd. to participate in online bid. For Technical Assistance Please call 8291220220. For Registration status and for EMD status please email to support.ebk@psballiance.com.

For property details and photograph of the property and auction terms and conditions please visit: https://baanknet.com and for clarifications related to this portal, please contact PSB Alliance Pvt. Ltd, Contact No. 8291220220.

Bidders are advised to use Property ID Number mentioned above while searching for the property in the website with https://baanknet.com

Date : 09-12-2024 Place : Pannapatti Authorized Officer Indian Bank

**ADITYA BIRLA FINANCE LIMITED**

Registered Office : Indian Rayon Compound, Veraval, Gujarat - 362208  
Branch Office : 1/278/2, Ground Floor, Kandaswami Mega Mall, Block B, Saradha College Road, Fairlands, Salem-636016

**"APPENDIX- IV-A"**  
[See proviso to rule 8 (6)]  
**Sale notice for sale of immovable property**

E-Auction Sale Notice for Sale of Immovable Asset under the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 read with proviso to Rule 8 (6) and Rule 9 (1) of the Security Interest (Enforcement) Rules, 2002.

Notice is hereby given to the public in general and in particular to the Borrower (s) and Guarantor (s) that the below described immovable property mortgaged to the Secured Creditor, the Physical Possession of which has been taken by the Authorized Officer of Aditya Birla Finance Limited the Secured Creditor on 08.08.2024 will be sold on "As is where is", "As is what is", and "Whatever there is" basis on 31st December, 2024 for recovery of Rs. 1,35,68,462/- (Rupees One Crore Thirty-Five Lakh Sixty-Eight Thousand Four Hundred Sixty-Two Only) as on 08.11.2024 and further interest and other expenses thereon till the date of realization due to the Secured Creditor from Borrowers/Co-Borrowers/Guarantors namely M/s Sai Dhali Mill, Mr. Ganesh and Mrs. Aruna.

The Reserve Price and the Earnest Money Deposit will be as follows:

Description of the immovable property	Reserve Price	Earnest Money Deposit (10%)
Item No. I: "All that part and parcel of the property situated at Salem District, Salem West Reg. Dist., Suramangalam Sub Reg. Dist., Salem West Taluk, Aagapuram Village, S.No. 17/2, Purjai Hec.1.78.5 Asst. Rs.4.40. As per the sub-division S.No. 17/2A1A4. the above survey land and other survey lands are converted into house plots and out of those plots one such plot No.8 with an extent of 2137 sq. feet of land is related to this description. The boundaries and measurement for the same are: - East of land belonged to Mariappan and others; West of 25 feet North-South Road, North of Plot No.7 belonged to Balakrishnan, South of Plot No. 15. Within the above boundaries are measuring: - East-West Northern side 61 feet, Southern side 60 feet, North-South Eastern side 30 feet, Western side 41'3 feet. Totalling 2137 sq. feet of land in full and with all pathway rights and easement rights annexed thereto. As per the Town Survey Ward-D, Block-4, T.S.No.7/10 within the limit of Salem Corporation. This property situated in 'JAY NAGAR' Layout.	Rs. 59,85,211/-	Rs. 5,98,521.10/-
Item No. II: "Schedule" Salem District, Salem West Reg. Dist., Suramangalam sub-Reg. Dist., Salem Taluk, Reddyur Village, S.No.35/2, Purjai Acre 5.67, Asst Rs.8.55. As per the New Sub division S.No.35/2A, Purjai Hec.1.34.0, Asst. Rs.5.16, as per the sub-division S.No.35/2A1, Purjai Hec.1.30.5, Asst. Rs.5.00 out of this purjai Acre 0.72 cents or 31378 sq. feet of land, as per the Sub-Division, Ward-C, Block-4, T.S.No. 11/2. As per the Sub-division T.S.No. 11/14, 11/15 is related to Golden Valley Block-A, Block-B, totally with an extent of 31378 sq. feet of land out of this an extent of 584 1/2 sq. feet of Undivided share is related to this "A"-Schedule property. The boundaries and measurements for the same are: - North of the land belonged to S.No.35/2B1; South of the land belonged to K.Chinappan; East of Carriee in S.No.35/1, 6A; West of the North-South 30 feet Road. Within the above boundaries are measuring: - East-West Northern side 242 1/2 feet; Southern side 217 1/2 feet; North-South Eastern side 135 feet, Western side 136 1/2 feet. Totalling 31378 Sq. feet of land out of this an undivided Share of 492 1/2 sq. feet of land is related to this Schedule-A Property.	Rs. 53,86,488/-	Rs. 5,38,648.80/-
"B" SCHEDULE - Out of the above "A"-Schedule property an Undivided Share of 492 1/2 sq. feet of land is related to this Schedule-B Property.		
"C" SCHEDULE - Out of the above "A"-Schedule property 31378 sq. feet of land an approved constructed Apartment "Golden Valley" out of this said apartment, the Flat No. B-104, with an extent of 1004 sq. feet super build up area in the Ground floor, and with all the fittings if the above building and its Door No. B-104, as per Tax asst. New Door No. 101/28 is related to "B"-Schedule property. "D" SCHEDULE - In the above "Golden Valley" apartment, the Place allotted for Car, Bik, Stairs, Lift, out of this an extent of 156 share, along with all rights, in bore well, Water Supply Unit, Diesel Generator, Car parking, Lift, Stairs, Compound wall, Compound wall light, Gate, Motors, Water tanks, Sepsic Tank, Drainage, Play Ground, Shuttle Cock Court, Ladies Gym, Gents Gym out of this 156 common Share and with all pathway rights and easement rights annexed thereto. The above-described property situated within the limits of Salem Corporation.		
<b>Total</b>	<b>Rs.1,13,71,699/-</b>	<b>Rs. 11,37,169.90/-</b>

For detailed terms and conditions of the sale, please refer to the link provided in Secured Creditor website i.e. https://mortgagefinance.adityabirlacapital.com/Pages/Individual/Properties-for-Auction-under-SARFAESI-Act.aspx also on the website of https://sarfaesi.auctiontiger.net

Date: 11.12.2024 Place: Salem LAN: ABSLMLAP00000643029

for Aditya Birla Finance Limited Authorized Officer (9092596999/ 9677317779)