



**ESAF SMALL FINANCE BANK**

*Joy of Banking*



# **INTRODUCTION OF E-SIGN**

**A BRIEF STUDY TO UNDERSTAND PAPER REDUCTION  
AND RELATED ENVIRONMENTAL IMPACT**

**TEAM SUSTAINABLE BANKING**



## **A BRIEF STUDY TO UNDERSTAND PAPER REDUCTION AND RELATED ENVIRONMENTAL IMPACT**

### **1. Background & Context**

In the pursuit of environmental sustainability and operational efficiency, ESAF Small Finance Bank undertook a paper reduction initiative in its loan processing systems. Traditionally, loan processing involved extensive paperwork, leading to substantial paper consumption. With digital interventions and process streamlining, the Bank has successfully reduced the number of printed pages required per loan application, thereby contributing to tree conservation and reduced environmental footprint.

### **2. Stages of loan disbursement through E- signature**

1. Online review of the loan application comprising the terms and conditions of the loan.
2. Acknowledging the terms and condition through digital signature.
3. ESAF Bank has adopted Aadhaar E- signature to validate the biometric with the Aadhaar number followed by OTP validation through the registered mobile number.
4. Authentication of the digital sign based on Aadhar is being done.
5. Aadhar is linked to all the savings account.
6. This thereby prevent the disbursement of loan to any other account.
7. Fraudulent and forge signatories' practices are completely prevented

### 3. Paper Usage Reduction: Before and After

Metric	Before	After	Difference
Number of paper sheets used per loan	7	3	<b>4 sheets saved per loan</b>

### 4. Scope of Impact



One bundle consists of 500 sheets of A4, Considering TNPL papers being used of 85GMS, one bundle would weigh 2.49Kg, so 60,50 Bundles would weigh about 15,064 Kg or 15.1 Tons. **There by we have reduced more than 15 tons of paper.**

The water footprint of printing and writing paper is estimated to be between 300 and 2600 m<sup>3</sup> /ton (2-13 litres for an A4 sheet). Taking a median of 7.5 litres for this study even though some reports have highlighted the water requirement as 10ltrs per sheet of A4 as we consider the addition of recycled paper also.

So, for 30,25,320 papers it would have used **2,26,89,900 Litres** of water  
 So saving **2,26,89 KL** of precious water

### 5. Cost Savings

Cost Item	Value
Cost of 1 bundle (500 sheets)	Rs. 300
Total bundles saved (3,025,320 ÷ 500)	6,050 bundles
Total Cost Saved	<b>Rs. 18,15,192</b>

**Total Cost Saving : Rs 18,15,192**

## 6. Estimating Number of Trees Saved

To convert paper saved into trees saved, multiple international references were used. Based on a widely accepted benchmark from the **Conservatree** and **8 Billion Trees** :

• **1 tree yields approximately 8,333 sheets of paper**

Thus, for 756,330 we would save about 363 trees

## 7. Environmental Significance

According to the **New Indian Express** article titled “In a single cut, Supreme Court saves 4,560 trees yearly”, reducing bureaucratic paper processes can have a massive environmental impact. Even seemingly small actions -like optimizing forms can add up to significant ecological savings.

The reduction of  
**363 trees** equates to:

Saving approximately  
**7,986 kg of carbon  
dioxide absorption  
annually**  
(average mature tree  
absorbs ~22 kg  
CO<sub>2</sub>/year)

## 8. References

1. New Indian Express: Supreme Court saves 4560 trees yearly:  
<https://www.newindianexpress.com/thesundaystandard/2017/Apr/09/in-a-single-cut-supreme-court-saves-4560-trees-yearly-1591547.html>
2. Conservatree – Tree to Paper Conversion:  
<http://conservatree.org/learn/EnvirolIssues/TreeStats.shtml>
3. 8 Billion Trees NGO – Paper per Tree Estimate:  
<https://8billiontrees.com/trees/how-many-pieces-of-paper-in-a-tree/>
4. Paper and Wood Industry Data: <http://www.paperandwood.com/>

5. The green and blue water footprint of paper products: Methodological considerations and quantification, by P.R. van Oel A.Y. Hoekstra July 2010 under UNESCO – IHE, Institute of water Education
6. Equivalent Trees Saved: The equivalent number of mature trees saved as a result of CO<sub>2</sub> reduction was calculated using: The Power of One Tree – The Very Air We Breathe, a publication by the U.S. Department of Agriculture, dated March 17, 2015.

## 9. Conclusion & Recommendations

The transition from 7 to 3 pages per loan at ESAF Small Finance Bank is a strong example of how digital transformation contributes to environmental protection. This initiative has directly saved over 3 million pages of paper and 363 trees, enhancing ESAF's commitment to sustainability and responsible banking.



### Recommendations

- Continue digitizing processes across all verticals.
- Track and publish environmental savings as part of ESG reports.
- Educate customers and employees on the environmental impact of going paperless.