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The digital frontier of warehouse financing in India

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Abstract

Warehouse Financing (WF) is a critical pillar for addressing India's post-harvest liquidity challenges. This paper reviews the transition from traditional Negotiable Warehouse Receipts (NWR) to the current Electronic Negotiable Warehouse Receipt (eNWR) ecosystem. With the introduction of the e-Kisan Upaj Nidhi gateway in 2024 and recent credit guarantee schemes, the sector is moving toward a "phygital" model. This study evaluates current progress, highlighting that while pledge finance has reached record highs of over ₹3,300 crore annually, smallholder participation remains a challenge requiring targeted policy interventions.

Keywords: Warehouse financing, Electronic negotiable warehouse receipt, eNWR

1. Introduction Beyond Storage

Traditional warehousing was viewed merely as a storage solution; today, it is a dynamic logistical and financial hub. Warehouses now stabilize market prices by managing supply, provide risk mitigation through insurance, and offer critical post-harvest financing that prevents "distress sales"—the forced selling of crops at harvest when prices are lowest.

2. The Regulatory Backbone: WDRA

The Warehousing Development and Regulatory Authority (WDRA), established under the Act of 2007, ensures the scientific management of storage and the legal negotiability of receipts.

- **Infrastructure Growth:** As of mid-2024, the WDRA-registered capacity reached approximately 15 lakh MT across roughly 6,500 warehouses, representing a significant push towards formalizing India's 240 million-tonne total capacity.
- **New Policy Milestones:** In late 2024, the Government launched a ₹1,000 Crore Credit Guarantee Fund specifically to secure financing against eNWRs, drastically reducing the risk profile for lending banks.

3. The eNWR Revolution and Digital Repositories

The shift from paper to digital was mandated in 2019 to eliminate risks like fraud, mutilation, and double-pledging.

- **National E-Repository Limited (NERL):** NERL has become a dominant player, adding over 3,000 new customers in the 2024-25 fiscal year alone. It now manages over 11 lakh MT in deposits, a 27% growth from the previous year.
- **E-Kisan Upaj Nidhi (2024):** This new digital gateway, developed by WDRA with NABARD, simplifies the

loan process for farmers by directly connecting eNWRs with onboarded banks.

4. Impact Analysis: Data & Real-World Benefits

The eNWR system is showing exponential growth in financial inclusion:

- **Pledge Financing Growth:** Loans against eNWRs reached ₹2,442 crore in 2022-23 and surged past ₹3,300 crore by March 2025.
- **Market Integration:** eNWRs are now a standard for settlement on major exchanges like NCDEX, MCX, and BSE.
- **Case Evidence:** Research from Tamil Nadu confirms that eNWRs have allowed rice and coconut farmers to achieve speculative gains by waiting for favorable price windows while maintaining liquidity for the next planting season.

5. Emerging Trends: The "Phygital" and Blockchain Future

- **Agri-FinTech Integration:** Startups like *Aggois* and *Ayekart* are now partnering with banks to provide "round-the-year" financing, using eNWR data to disburse loans directly to farmers' accounts.
- **IoT and AI:** Modern warehouses are adopting IoT-based real-time oversight of storage conditions (moisture, temperature) to ensure commodity quality remains high for better loan-to-value (LTV) ratios.
- **Blockchain:** Emerging platforms are exploring Smart Contracts to automate loan repayments the moment a crop is sold, further reducing default risks.

6. Critical Challenges: The Path Ahead

Despite progress, a "dismal" 0.5% of India's total warehousing capacity is currently utilized for eNWR

financing.

- **Smallholder Exclusion:** High transaction costs and minimum volume requirements (often needing tons of produce) mean that traders, not farmers, remain the primary beneficiaries.
- **Logistics Gap:** Many warehouses are located far from production centres, making the cost of transport higher than the potential price gain.
- **The "One-Stop Solution":** Recent studies suggest that Farmer Producer Organizations (FPOs) and cooperatives should act as "collateral managers" to pool smallholder produce and make it viable for the eNWR system.

7. Conclusion

Warehouse financing in India has matured from a physical storage concept to a high-tech financial instrument. While the digital infrastructure (eNWR, Repositories) is robust, the future of the sector depends on scaling the Credit Guarantee Scheme and empowering FPOs to bridge the gap for small-scale farmers. By 2026-27, India aims to expand agricultural warehousing to 223 million tonnes, potentially unlocking billions in rural credit.

References

1. WDRA. Annual registration status and transformation plan reports. 2025.
2. National E-Repository Limited (NERL). Annual report FY 2024-25: Emerging business and growth milestones. 2025.
3. Deshpande R, Pillai R. Warehouse receipt financing for farmers: Challenges and way ahead. *Journal of Rural Development*. 2021; updated 2025.
4. Government of India, Ministry of Consumer Affairs. Standing committee report on eNWR pledge financing. 2024.
5. Indumati, *et al.* Warehouse receipt financing system in Tamil Nadu. AIP Conference Proceedings. 2021.