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WAYS TO ENHANCE WAREHOUSE-BASED SALES AND LENDING FOR AGRICULTURE COMMODITIES

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1. Introduction

Warehousing Development and Regulatory Authority (WDRA) introduced negotiable warehouse receipts (NWR) in 2010 with the objectives of improving scientific warehousing in the country, enhancing liquidity in rural areas by way of better credit availability and smoothening the exchange functions. According to the Warehousing (Development and Regulation) Act 2007, any person desirous of commencing or carrying on the business of warehousing issuing NWRs must have obtained a registration certificate for the concerned warehouse(s) granted by the Authority under this Act. Since 2017, WDRA has undertaken a transformation plan to streamline its activities enabled by an IT-based platform. Notifications were released to make it mandatory for registered warehouses to issue NWRs only in electronic (e-NWR) form with effect from August 2019. Despite the slew of institutional reforms, the warehousing ecosystem has failed to deliver on the intended outcomes. The current state of e-NWRs and warehouse-based sales of agricultural commodities is well short of the desired levels.

Warehousing is also a critical element of the logistics chain and as such has been recognized in the National Logistics Policy (NLP). With the overall objective of bringing down the logistics costs from ~14% to ~8%, the NLP identifies a few strategies to achieve the same - enabling adequate development of warehouses, facilitating private investments in warehouses; facilitating improvement in efficiency, productivity, and quality services in warehousing through the promotion of standards, rewarding excellence and promoting digitization; and streamline approval processes, facilitate investments and allow optimal utilization.

In this study, our main objectives are the following:

1. Examine the progress of WDRA registration of warehouses in India.
2. Examine the extent of e-NWR issued by the registered warehouses.
3. Examine the extent of warehouse-based sales in WDRA-accredited warehouses.
4. Understand the gaps in WDRA accreditation and warehouse-based sales using e-NWR and suggest policy measures to mitigate the gaps.

More specifically, we aim to answer the following questions:

1. To what extent is the current warehouse infrastructure facility WDRA compliant?
2. What improvements are needed for those that are not compliant?
3. Are the warehouses which have compliant infrastructure registered under WDRA? If not, why not?
4. What is the extent to which WDRA-compliant warehouses attract pledge loans from banks?
5. What enabling conditions are required to improve banks' willingness to lend?
6. In the WDRA-registered warehouses where e-NWR is issued, are warehouse-based sales taking place? If so, to what extent? If not, why not?
7. Are distant buyers transacting based on the e-NWR without physically verifying the goods? If not, why not?
8. What policy measures may be suggested that would result in improvements in infrastructure and regulation so that the constraints in warehouse-based sales are effectively addressed?

This study is based on data collected from various primary and secondary sources. We held discussions with a range of stakeholders including WDRA officials, Warehousemen, Traders, Banks, Collateral Managers, Inspection agencies, and subject matter experts. They were identified from various parts of the country – Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra, and Delhi. We also undertook field visits to warehouses located in two states – Karnataka and Andhra Pradesh. Secondary sources of data included WDRA, National Bank for Agriculture and Rural Development (NABARD), Karnataka State Warehousing Corporation (KSWC), and Arya Collateral Services. We synthesized the data collected from various sources to identify challenges with WDRA registration of warehouses, gaps related to warehouse-based sales, and the drivers of these gaps. It is acknowledged that it was not possible to answer all the questions above in detail given the constraints like time, availability of data, etc. These issues may be taken up in detail in subsequent work.

2. Status of WDRA Activities

The status of WDRA registration of warehouses is far from satisfactory. Data on the complete list of warehouses and their capacity is not available. According to the best estimate, the total capacity of warehouses in the country is about 188.02 million tons. However, NABARD and WDRA sources[2] account for only about 85 million tons of capacity (Table 1). Only 6.35% of these available agricultural warehouses and 32.02% of the available agricultural warehousing capacity are registered with WDRA (Table 1), indicating registration mostly by large-capacity warehouses. There is state-wide heterogeneity in the extent of registration of warehouses. The largest share of the registered capacity is in Madhya Pradesh (19.47%), followed by Uttar Pradesh (13.80%) and Rajasthan (11.60%). North-eastern states account for less than 0.5% of the registered capacity. In Tamil Nadu, many smaller warehouses, most of them owned by the cooperative sector, have been registered accounting for 35% of the total number of registered warehouses but its share of registered capacity is only 6%. Registered warehouse capacity as percentage share of available capacity is highest in Rajasthan followed by Andhra Pradesh and Chhattisgarh.

Table 1: State-wise distribution of WDRA-registered warehouses

State/UT	Availability of warehouses		Warehouses registered with WDRA		Registered warehouses as a percentage share of available warehouses within State/UT (%)	
	No. of available warehouses	Warehouse capacity available (tons)	No. of registered warehouses	Warehouse capacity registered (tons)	Number	Capacity
Andaman & Nicobar Islands	18	25151	0 (0.00)	0 (0.00)	0.00	0.00
Andhra Pradesh	1441	3046536	126 (3.51)	1840700 (6.76)	8.74	60.42
Arunachal Pradesh	12	22632	0 (0.00)	0 (0.00)	0.00	0.00
Assam	1176	1380437	5 (0.14)	50684 (0.19)	0.43	3.67
Bihar	6283	2353529	62 (1.73)	477107 (1.75)	0.99	20.27
Chandigarh	3	30984	1 (0.03)	10550 (0.04)	33.33	34.05
Chhattisgarh	2068	2767067	106 (2.95)	1627868 (5.97)	5.13	58.83
Dadra & Nagar Haveli	5	1750	0 (0.00)	0 (0.00)	0.00	0.00

2. The availability of agricultural warehouses may be understood with caution. The warehouse directory jointly provided by NABARD and WDRA has data of 56507 warehouses with a cumulative capacity of 85.08 million tons. Calculations presented in Table 1 are based on this data. According to the latest annual report of WDRA (2021-22), the total warehousing capacity available in the country is 188.02 million tons. If we take this as the base figure, the extent of WDRA registration will be even lower.

State/UT	Availability of warehouses		Warehouses registered with WDRA		Registered warehouses as a percentage share of available warehouses within State/UT (%)	
	No. of available warehouses	Warehouse capacity available (tons)	No. of registered warehouses	Warehouse capacity registered (tons)	Number	Capacity
Daman & Diu	3	2100	0 (0.00)	0 (0.00)	0.00	0.00
Goa	19	82104	0 (0.00)	0 (0.00)	0.00	0.00
Gujarat	10659	4566001	124 (3.46)	629814 (2.31)	1.16	13.79
Haryana	1470	9169918	118 (3.29)	1899926 (6.97)	8.03	20.72
Himachal Pradesh	273	141544	3 (0.08)	8850 (0.03)	1.10	6.25
Jammu & Kashmir	185	422251	1 (0.03)	15000 (0.06)	0.54	3.55
Jharkhand	621	714818	11 (0.31)	67426 (0.25)	1.77	9.43
Karnataka	3795	2797220	51 (1.42)	863800 (3.17)	1.34	30.88
Kerala	359	579914	11 (0.31)	147267 (0.54)	3.06	25.39
Lakshadweep	19	6673	0 (0.00)	0 (0.00)	0.00	0.00
Madhya Pradesh	4530	13481556	702 (19.56)	5305416 (19.47)	15.50	39.35
Maharashtra	5814	8959669	270 (7.52)	2294198 (8.42)	4.64	25.61
Manipur	20	41473	0 (0.00)	0 (0.00)	0.00	0.00
Meghalaya	211	111809	0 (0.00)	0 (0.00)	0.00	0.00
Mizoram	149	61408	0 (0.00)	0 (0.00)	0.00	0.00
Nagaland	58	64873	1 (0.03)	13000 (0.05)	1.72	20.04
NCT Of Delhi	24	139523	2 (0.06)	32458 (0.12)	8.33	23.26
Odisha	1830	2203011	62 (1.73)	710445 (2.61)	3.39	32.25

State/UT	Availability of warehouses		Warehouses registered with WDRA		Registered warehouses as a percentage share of available warehouses within State/UT (%)	
	No. of available warehouses	Warehouse capacity available (tons)	No. of registered warehouses	Warehouse capacity registered (tons)	Number	Capacity
Puducherry	1	7350	1 (0.03)	7350 (0.03)	100.00	100.00
Punjab	2584	8029039	26 (0.72)	768610 (2.82)	1.01	9.57
Rajasthan	1736	4382817	301 (8.39)	3159749 (11.60)	17.34	72.09
Sikkim	51	45494	0 (0.00)	0 (0.00)	0.00	0.00
Tamil Nadu	2931	3449733	1258 (35.05)	1636285 (6.01)	42.92	47.43
Telangana	1982	6160076	93 (2.59)	1362132 (5.00)	4.69	22.11
Tripura	134	88553	1 (0.03)	19250 (0.07)	0.75	21.74
Uttar Pradesh	3775	6733743	214 (5.96)	3761399 (13.80)	5.67	55.86
Uttarakhand	282	843930	11 (0.31)	106451 (0.39)	3.90	12.61
West Bengal	1986	2167366	28 (0.78)	430999 (1.58)	1.41	19.89
Total	56507	85082052	3589 (100.00)	27246734 (100.00)	6.35	32.02

Note: Figures in parentheses are the percentage share of the total registered.

Source: Details of warehouse availability from 'Web directory of warehouses,' which was jointly developed by NABARD and WDRA: http://warehousedirectory.gov.in/

Details of WDRA registration of warehouses from https://wdra.gov.in (data as of April 1, 2023)

The pattern of ownership and capacity of WDRA-registered warehouses is consistent with the overall patterns of agricultural warehouses in India. The largest share of WDRA-registered warehouses is owned by the private sector (Table 2). Around one-fourth of the registered warehouses are owned by cooperatives. However, their cumulative capacity is less than 0.5% of the total registered capacity. There is wide variation in the warehouse capacity by ownership. The average capacity of WDRA registered warehouses owned by Central Warehousing Corporation (CWC) is 20813.29 tons whereas of those owned by cooperatives is 127.97 tons. Average capacities under other ownership types fall within this range. Around 58% of the WDRA-registered warehouses have a capacity of 5000 tons or less (Figure 1).

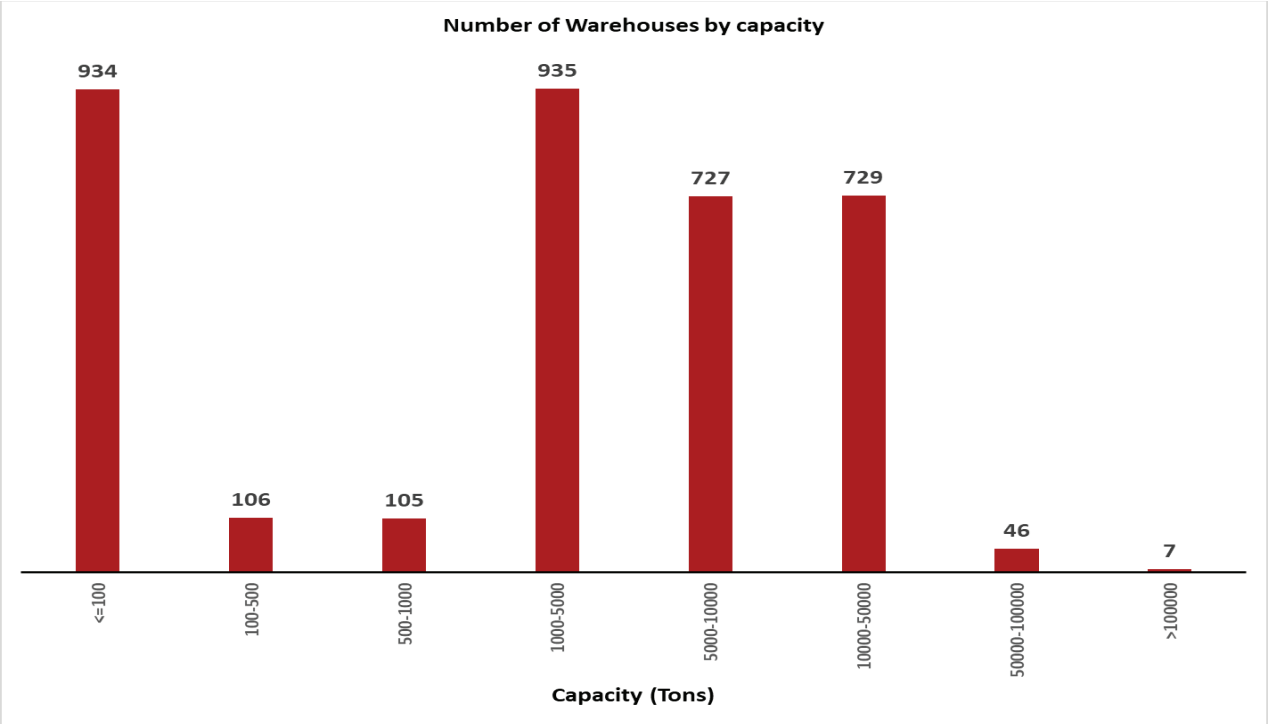
Table 2: Ownership-wise distribution of registered warehouses

Ownership type	Warehouses registered with WDRA		
	Number of warehouses	Capacity (million tons)	Average capacity per warehouse (tons)
Agriculture Produce Market Committee (APMC)	98 (2.73)	0.182 (0.67)	1860.36
Central Warehousing Corporation (CWC)	345 (9.61)	7.181 (26.36)	20813.29
State Warehousing Corporation (SWC)	767 (21.37)	9.451 (34.69)	12321.83
Cooperatives	921 (25.66)	0.118 (0.43)	127.97
Private	1458 (40.62)	10.315 (37.86)	7064.47
Total	3589 (100.00)	27.247 (100.00)	7578.71

Note: Figures in parentheses show the percentage share of the total

Source: https://wdra.gov.in/web/wdra/registered-warehouses

Figure 1: Capacity distribution of WDRA-registered warehouses



Source: https://wdra.gov.in/web/wdra/registered-warehouses

An enabler for carrying out warehouse-based sales at WDRA-registered warehouses is the issuance of NWRs (Negotiable Warehouse Receipts), either manually or electronically. The available data suggests that the progress of NWR/e-NWR has been poor. Total loan against NWR/e-NWR as a proportion of institutional credit for agriculture and allied activities is negligible (Table 3) and has not increased from 2011-12 to 2021-22.

Table 3: Progress of NWR/e-NWR

Year	No. of registered warehouses	No. of NWRs/ e-NWRs issued	Total Quantity of Stocks against NWRs/e-NWRs (Lakh Ton)	Total loan against NWRs/e-NWRs (Rs. Crores)	Institutional credit for agriculture and allied activities* (Rs. Crores)	NWR/e-NWR loans as (%) share of institutional credit
2011-12	240	8056	1.35	591.00	455290	0.130
2012-13	92	8242	1.39	105.65	659383	0.016
2013-14	68	6121	2.57	108.02	730123	0.015
2014-15	234	16993	5.12	388.42	845328	0.046
2015-16	588	15178	5.69	203.47	915510	0.022
2016-17	214	19350	3.58	148.40	1065755	0.014
2017-18	261	12313	3.48	118.51	1162617	0.010
2018-19	607	89114	7.22	135.60	1256830	0.011
2019-20[!]	1005	138637	9.50	438.00	1392729	0.031
2020-21	337	88480	7.80	731.80	1575398	0.046
2021-22	123	17975	1.69	176.82	1863363	0.009

Source: Data on NWR/e-NWR from Department of Food and Public Distribution https://dfpd.gov.in/wdraNew.htm

Data on institutional credit from Handbook of Statistics on Indian Economy, RBI

Notes:[!]With effect from August 1, 2019, all registered warehouses are mandated to issue e-NWRs.

*Cumulative of loans issued by Cooperatives, Scheduled Commercial Banks, and Regional Rural Banks.

There is a state-wide variation in the progress made on the issuance of e-NWR. While Rajasthan, Gujarat, and Maharashtra have made noteworthy progress, several other states are yet to issue any e-NWR (Table 4). Major commodities stored under e-NWR are Bengal gram, cotton seed cake, mustard, and soybean. We observe significant changes in the number of NWR/e-NWRS and quantity in most of the states during 2019-20 to 2020-21. Haryana, Gujarat, and Bihar experienced significant decreases whereas Maharashtra, Andhra Pradesh, Tamil Nadu, Uttar Pradesh, Karnataka and Puducherry experienced significant increases in both numbers and quantities. Our field study in Karnataka suggests that warehouse-based sales are almost non-existent in the state. According to the data shared by KSWC, warehouse-based sales do not take place in any of its WDRA-registered warehouses. None of its warehouses are linked to exchange platforms.

Table 4: Extent of e-NWRs issued in various states

	2019-20		2020-21		% change between two years	
State	No of e-NWRs	Qty (tons)	No of e-NWRs	Qty (tons)	No of e-NWRs	Qty
Rajasthan	37646	317200	37911	340618	0.70	7.38
Gujarat	69154	382540	17122	151633	-75.24	-60.36
Maharashtra	12217	87072	16157	101685	32.25	16.78
Madhya Pradesh	2872	27063	2391	43009	-16.75	58.92
Andhra Pradesh	483	7613	833	24472	72.46	221.45
Punjab	0	0	101	20402		
Tamil Nadu	502	10016	745	16320	48.41	62.94
Uttar Pradesh	163	3953	370	12146	126.99	207.26
Telangana	369	2456	322	5251	-12.74	113.80
Karnataka	153	2890	220	5122	43.79	77.23
Bihar	1310	13248	325	3240	-75.19	-75.54
Puducherry	24	459	82	1989	241.67	333.33
Haryana	12	486	3	111	-75.00	-77.16

Source: NERL

According to the data released by the Reserve Bank of India, the sectoral deployment of bank credit in agriculture in 2022 (provisional figure) is Rs. 15.16 lakh crores[3]. Relative to this, the extent of warehouse receipt financing is minuscule. It is estimated that the warehouse receipt financing business in India is to the tune of Rs. 35,000 crores whereas the potential is Rs. 1.66 lakh crores[4].

3. https://www.rbi.org.in/Scripts/PublicationsView.aspx?id=21581
4. https://www.nerlindia.com/wp-content/uploads/2017/09/Statistics.pdf

3. Major Constraints

In this section, we lay out the major constraints to the registration of warehouses with WDRA, issuance of e-NWR and bank financing, and warehouse-based sales. The inferences are drawn from our discussions with various stakeholders and observations during field visits.

3.1 Constraints to WDRA registration of warehouses

3.1.1 Physical infrastructure

One of the basic criteria for obtaining WDRA registration is the availability of infrastructure as prescribed by the Authority. In terms of physical infrastructure, WDRA insists that the warehouse must be constructed as per BIS/CWC/FCI standards, and have all the safety and security arrangements for the stock and availability of weighing, grading, and preservation facilities. Most existing warehouses of Central and State Warehousing Corporations are constructed following the prescribed specifications. However, our interactions with officials of KSWC revealed that many newly constructed warehouses do not have certain requirements such as compound walls and gates and therefore, they do not satisfy the specifications checklist for WDRA registration. Also, privately owned warehouses located closer to the farmgate do not meet the minimum land requirements, compound wall, security gates, and office building prescribed by these specifications (Appendix 1). Besides, major causes of concern, according to the inspection agencies, are the non-availability of fire extinguishers, office space and amenities.

3.1.2 Registration charges

WDRA had specified registration charges and net worth requirements for warehouses based on their ownership, size (capacity), and whether the warehouse stored agricultural or non-agricultural goods. Relaxations were provided if the applicant or warehouseman was a Farmer Producer Organization a Primary Agricultural Cooperative Credit Society or a Self-Help Group. In such cases, the application fee was fixed at Rs. 500 regardless of the capacity and the only condition regarding net worth was that they should not have a negative net worth. WDRA has taken several steps to encourage the registration of warehouses by amending the rules on application fees and net worth requirements. Applications may be directly submitted to WDRA without having to go through an accreditation agency, unlike what existed earlier. The most recent notification dated 14th October 2022, (Warehousing (Development and Regulation) Registration of Warehouses (Second Amendment) Rules, 2022) provided a waiver of the application fee for one year from 25 October 2022 for registration of warehouses that stored only agricultural goods. However, there are additional costs incurred for insurance of goods stored, security deposit, and storage and maintenance charges.

3.1.3 Insurance

WDRA registration requires a minimum of three insurance policies – stock insurance, burglary insurance, and fidelity guarantee insurance. Warehousemen must adequately insure the goods stored regardless of the insurance taken by the depositors. According to the SOP released by

WDRA, "A warehouseman must ensure that all deposited goods in registered warehouses must be fully insured against fire, flood, earthquake, burglary, frauds/misappropriation, riots, strikes and terrorism (if applicable), even if the depositor has insured the goods."

3.1.4 Security deposit

At the time of registration with WDRA, warehousemen are required to submit 3% of the value of the e-NWR as a security deposit which is held by the Authority during the period of registration. WDRA has defined slabs for security deposits based on registered warehouse capacity (Table 5). There are relaxations for Farmer Producer Organizations (FPO) and Primary Agricultural Credit Societies (PACS). The total security deposit in the cases where FPOs/PACSs are the warehousemen is Rs. 50,000 (total) per warehouse covering both the dynamic and fixed components. Security deposits are to be given as either fixed deposits at banks or Bank guarantees in favour of WDRA. Warehousemen, including the state warehousing corporations, perceive the security deposit as a huge burden with high opportunity costs. They do not see any added benefit from incurring this cost. Our estimates suggest that costs involved in WDRA-registered warehouses are higher by about Rs. 4.60 per ton per month than in non-registered warehouses (Table 6). This amounts to about 9.75% additional costs to the warehousemen.

Table 5: Security deposit requirements

Total registered Warehouse Capacity (in tons) for warehouse operators	Fixed Security Deposit	Dynamic Security Deposit	Total Security Deposit Limited to the amount
Up to 100 tons	Rs. 50,000/- per warehouse	NIL	Total Limited to Rs. 50,000/-
101 – 500 tons	Rs. 50,000/- per warehouse	3% of T	Total Limited to Rs. 2.50 Lakh
501 – 1000 tons	Rs. 50,000/- per warehouse	3% of T	Total Limited to Rs. 5.00 Lakh
1001 – 1500 tons	Rs. 50,000/- per warehouse	3% of T	Total Limited to Rs. 7.50 Lakh
1501– 2000 tons	Rs. 50,000/- per warehouse	3% of T	Total Limited to Rs. 10.00 Lakh

Note: T refers to the maximum value of negotiable and non-negotiable warehouse receipts (whether in electronic or physical form put together) outstanding consolidative in all the registered warehouses of the warehouseman on any day during the preceding month

Source:https://wdra.gov.in/documents/32110/38476/196610.pdf/70b0f3e6-b974-bc4d-1207-3a5ab97ce5df

Table 6: Costs involved in Non-WDRA vs. WDRA registered warehouse

Heads	Non-WDRA	WDRA
Warehouse capacity (ton)	5000	5000
Occupancy (%)	70%	70%
Utilized capacity (ton)	3500	3500
Costs		
Capital expenditure (Rs)	15000000	15000000
Project life (years)	25	25

Heads	Non-WDRA	WDRA
Yearly depreciation – SLM	600000	600000
Operational Expenditure		
Human resources	756000	756000
Grain maintenance	280000	280000
Insurance	140000	140000
Electricity	50000	50000
Godown maintenance	45000	45000
Stationery	50000	50000
Miscellaneous	60000	60000
WDRA registration	-	5000
Interest forgone (Rs) – owing to security deposit	-	189000
Total		
Total annual costs (Rs)	1981000	2175000
Cost per ton (Rs)	566	621.4
Months used	12	12
Monthly cost per ton (Rs)	47.2	51.8

Note: Collateral Management fee is not included for non-WDRA warehouses, as the banks insist on having collateral managers even for WDRA-registered warehouses.

Source: Naik et al (2022) Agricultural Warehousing in India: Trends, Constraints, and Policies, https://ncdex.com/downloads/Research/casestudies-conceptpaper/Agricultural%20Warehousing%20in%20India,%202022-%20A%20report%20by%20IIMB.pdf

3.1.5 Capacity utilization

WDRA registration per se does not seem to have improved the capacity utilization of warehouses. We found that the capacity utilization of several KSWC warehouses is low despite their being registered with WDRA (Table 7). In major commercial centres (for instance, Tumkur in Karnataka) warehouse capacity utilization is high even without WDRA registration. Therefore, warehouse owners feel that there is an additional cost to registering with WDRA with no noticeable benefits.

Table 7: Capacity utilization of KSWC warehouses (As of 31st March 2023)

Sl No	Center	Whether registered with WDRA	Total Capacity (Metric Tons)	Capacity currently under storage (Metric Tons)	Capacity used for MSP procurement/ PDS (Metric Tons)	Capacity utilization (%)
1	Davanagere	Yes	14500	14576	554.53	100.52
2	Mysore Unit-3	Yes	15000	23182	0	154.55
3	Harihar	Yes	12500	9183	241.655	73.46
4	Kalburgi Unit-2	Yes	39000	9787	0	25.09
5	Mandya Unit-1	Yes	18500	18650	775.226	100.81
6	Tumkur Unit-2	Yes	10800	13636	378.2	126.26
7	Machenahalli	Yes	21000	11588	463.26	55.18
8	Bidar KIADB	Yes	42000	33232	0	79.12

9	Maddur	Yes	6195	5930	100	95.72
10	Mangalore	Yes	2879	8351	0	290.07
11	Manvi	Yes	10800	37.96	1103.74	0.35
12	Bellary Unit-1	Yes	10900	2500	309.072	22.94
13	Raichur Unit-2	Yes	43075	7010	0	16.27
14	Yadgiri	Yes	8680	4437	0	51.12
15	Chandapur	Yes	22240	2601	0	11.70
16	Tumkur Unit-1	No	6169	6648	5434	107.76

Source: Data collected from KSWC

3.1.6 Security of storage

A concern commonly raised by our interviewed respondents (traders & banks) was about the security of stock in the warehouses. WDRA registration does not guarantee the security of commodities under storage. The warehouses are typically managed by local resources. There have been several reported instances in the past where stock was taken out of the warehouse without the knowledge of banks/financial institutions who had lien over them. According to our respondents (banks & collateral managers), such issues mostly occurred when the borrowers had direct or indirect control over the warehouse. Warehousemen do not assume custodianship of the goods stored. Therefore, banks prefer to have the involvement of collateral managers to ensure the security of stock. Collateral managers reported that they prefer to do business in places where they have their own warehouses or have control over the warehouse by possessing lock and key. Our interactions with traders suggest that the security of stock is one of the major criteria for choosing a warehouse for storage. Warehouse owners should be able to guarantee the quantity and quality of the goods stored as per the receipt issued.

3.1.7 Warehousing technology

The adoption of modern warehousing technologies is still poor. The goods are stored in jute bags, preferred for their compatibility with fumigation methods. Considering the non-effectiveness of fumigation tablets, other types of bags that can potentially reduce handling loss are not preferred. The most widely followed stacking method is double-layered block stacking. According to the WDRA SOP (pg. 24), “Only Block system of stacking shall be resorted to in the warehouse”. Stacking is done manually, by *hamalis*. Therefore, the availability of labour is an important determinant of the timely storage and unloading of goods from the warehouse.

Fumigation and spraying are the widely followed methods to maintain the quality of commodities. The stored commodities are kept under fumigation for 8 days and spraying is done 2 days later. This cycle is repeated every 45 days. Typically spraying is done twice a month. We observed a few challenges regarding this process. Many times the standard operating procedures are not followed for fumigation and spraying. A few respondents (warehousemen and collateral managers) reported they sometimes resorted to overdose following the requests of depositors. The spraying technique, especially with an overdose of toxic chemicals, may well pose a threat to the food safety of consumers. The use of hermetic bags and storage which can eliminate chemical spray requirements is still at a nascent stage of adoption. Mechanical handling can reduce uncertainties with respect to timely handling.

3.1.8 Lack of awareness among warehousemen

Awareness among warehousemen about the requirements for registering their warehouses with WDRA and the potential benefits is found to be poor. Our interactions with inspection agencies suggest that a lack of awareness among warehousemen about specifications and conditions for registration is a major reason for compliance-related issues.

3.2 Constraints to issuance of e-NWR and warehouse-based sales

3.2.1 Regulatory capacity of WDRA

WDRA is a Statutory Authority under the Department of Food and Public Distribution, Government of India. It consists of a chairperson and two members. The main objectives of WDRA are "to regulate and ensure implementation of the provisions of the Warehousing (Development and Regulation) Act, 2007 for the development and regulation of warehouses, Regulations of Negotiability of Warehouse Receipts and promote orderly growth of the warehousing business"[5].

Given the organizational structure and limited resource availability, the regulatory capacity of WDRA is a concern. According to rough estimates, there are more than 1.20 lakh warehouses in the country. These warehouses are geographically spread out. WDRA aims to directly regulate all these warehouses. Also, the perceived value addition from WDRA registration is very little. According to our respondents, the level of assurance that needs to be provided by any regulatory agency is missing in the case of WDRA.

3.2.2 Data availability

A major constraint in the effective regulation of warehouses in the country is the lack of data availability. There have been some joint efforts in the past by NABARD and WDRA to create a 'Web directory of warehouses,' but it is incomplete and does not have the updated verified data. Having a repository of warehouses with details of capacity, location, and necessary specifications would be useful for making proper and targeted policy initiatives.

3.2.3 Inspection

Periodic inspections are key to effective monitoring and regulation. WDRA has empanelled 9 inspection agencies to conduct periodic inspections of registered warehouses. Inspection agencies are typically given a deadline of 10 days to submit their reports. The Authority conducts pre-registration and post-registration inspections. Surprise inspections are also carried out. The inspections conducted by the Authority are primarily from the perspective of registration of warehouses – whether the applicant meets all the requirements specified for registration. Mostly, parameters about physical infrastructure are examined. Periodic inspections to ascertain the quantity and quality of stock in registered warehouses are not at desirable levels. Stock inspections are prioritized based on the value of e-NWRs, otherwise based on complaints received. This is not adequate for lending agencies and traders.

5. https://wdra.gov.in/web/wdra/home

3.2.4 Quality of stock

The standard operating procedures (SOP[6]) released by WDRA specify the following regarding the quality inspection of incoming goods:

1. The warehouseman shall have processes to ascertain the quality of the goods before accepting for deposit.
2. The warehouseman shall assay the quality of the representative sample of goods proposed to be deposited.
3. Assaying of the quality of deposited agricultural goods shall be conducted strictly conforming to the quality/ grade designations as notified under the Central Government under the Agricultural Produce (Grading and Marking) Act, 1937 (AGMARK Grade)/Government of India's uniform specifications of food grains applicable for the respective marketing season or any other law for the time being in force.
4. The AGMARK quality/grade Specifications of commodities stored shall be available and displayed at an appropriate place in the warehouse.
5. The warehouseman may either have its own employee assayer duly licensed as per the local laws in force or have arrangements with an external assayer who is licensed or NABL accredited for carrying out assaying/ laboratory testing as the case may be.

Our field study suggests adequate grading/assaying facilities are not available at warehouses not registered with WDRA. The quality inspection of incoming stock is usually done manually. Moisture content is examined using a moisture meter. Other quality parameters are examined manually, through visual examination and physical inspection of samples randomly drawn from the bags for storage. If the quality is found to be acceptable, it is recorded as "average" following the FAQ standards. This creates two issues. First, there is no incentive for the depositor to grade the commodity according to quality and bag them separately. The depositors tend to mix commodities of different qualities in the same bag. Second, the buyers tend to quote lower rates even for better quality stock, resulting in lower prices for the owners. Registration of warehouses with WDRA and the issue of e-NWR is supposed to guarantee the quality and the quantity of the stocked commodities.

3.2.5 Confidence of banks & lending agencies

Issuance of e-NWR is not found to enhance the confidence of banks to lend. There is recognition among bankers that e-NWR has the potential to become a powerful instrument against which commercial lending can take place. However, the e-NWR per se does not address the practical issues of security and quality of stock. Therefore, banks prefer to have the services of collateral managers regardless of the registration status of warehouses.

3.2.6 Integration with exchange platform/e-NAM

Warehousing capacity linked to exchange platforms is limited. As of March 31, 2023, there are 28 warehouses approved by National Commodity Clearing Limited (NCCL) for accepting goods in various commodities[7]. About 2 million tons of warehousing capacity is connected to the National

6. Source: Standard Operating Procedures (Minimum requirement for warehouses registered with WDRA), pg. 8 https://wdra.gov.in/documents/32110/249553906/Standard+Operating+Procedures+FINAL.pdf/7c27a0ad-3cc4-9114-ac9c-472e22529063

7. https://www.nccl.co.in/public/api/getData/assets/warehousing/warehouse-data/list-of-own-warehouse-of-wsp-as-on-march-31,-2023.pdf

Commodity & Derivatives Exchange Ltd. (NCDEX). The most recent initiative has been to connect warehouses with the e-NAM platform. However, the platform itself is battling various teething problems.

3.2.7 Workforce

WDRA has specified normative workforce requirements for warehouses, based on operational considerations, as part of its standard operating procedures (Table 8).

Table 8: Manpower specifications for WDRA-registered warehouses

Storage Capacity of Warehouse (tons)	Up to 5000	5001- 10,000	10001- 25000	Above 25000
Warehouse Manager	1	1	1	1
QC Inspector (Technical Asst.)/ Jr. QC Inspector (Jr. Technical Asst.)/Assayer	1	1	2	2
Godown Assistant	1	2	3	4
Security Guards	4	4	6	8

Source: Standard Operating Procedures (Minimum requirement for warehouses registered with WDRA), pg. 46 https://wdra.gov.in/documents/32110/249553906/Standard+Operating+Procedures+FINAL.pdf/7c27a0ad-3cc4-9114-ac9c-472e22529063

Workforce availability at warehouses is a constraint. There is a shortage of skilled workforce who can handle the business operations of warehouses. For instance, warehouses of KSWC are faced with workforce shortages at higher levels (Table 9). Warehouse managers typically hold charge of 2-3 warehouse centers. In most warehouses, quality inspectors/assayers are not present. Semi-skilled and unskilled labour manage the warehouses.

Table 9: Workforce availability with KSWC

Sl No	Designation	No. of staff required	No. of staff available	No. of staff working through third party (outsourced)	No. of staff holding additional charge of warehouse management
1	Group -A	33	15	0	1
2	Group -B	88	21	0	7
3	Group -C	567	182	456	37
4	Group -D	252	252	59	0
	Total	940	470	515	45

Source: Data collected from KSWC

3.2.8 Software issues

We observed a peculiar issue at KSWC warehouses that constrained the issuance of e-NWRs even after having them registered with WDRA. KSWC has 15 WDRA-registered warehouses with a cumulative capacity of about 0.28 million tons[8]. Yet e-NWRs have not been issued. The main

6. It may be noted that the total warehousing capacity of KSWC is 2.23 million tons. KSWC got some of its existing warehouses, constructed between 1991 and 2012, registered with WDRA. According to KSWC officials, the newly constructed warehouses do not meet WDRA specifications as they do not have compound wall and adequate manpower.

constraint is the incompatibility between the software used by KSWC and the repositories. KSWC uses a custom software called Integrated Inventory Management System (IIMS) wherein NWR is raised at the end of the business day. For issuance of e-NWR through the repository, it must be generated and issued in real-time at the end of the transaction. Due to the lack of integration between these two software packages, KSWC has not yet issued any e-NWRs despite having some of its warehouses compliant and registered with WDRA. According to the WDRA notification dated 29th June 2017, only electronic negotiable warehouse receipts shall be issued, by enrolling themselves with one or more repositories registered with the Authority.

3.2.9 Role of state governments

There is a significant role played by the state governments in the conduct of warehousing business. Warehouses are required to take licenses from agencies of state governments. WDRA rules and regulations do not specify how the regulatory role of state governments is incorporated. For the States, agriculture warehousing does not seem to be a priority area and does not allocate sufficient resources to manage the facilities efficiently.

4. Innovative models

There are several innovative models initiated separately by both the public and private sectors to make warehousing a viable business proposition for the various stakeholders involved. The distinguishing feature in such models is that warehousing is packaged as a set of integrated services. The model developed by Arya Collateral (now Arya.ag), a private sector entity, is an interesting example.

Arya has developed a technology-enabled commodity trading platform that integrates a set of services – storage, quality inspection, warehouse receipt financing either through its own sources or through a bank, a platform for connecting buyers and sellers for goods stored in the warehouse, and advisory services to depositors on commodity prices in various regulated markets. Arya has been able to conduct the business of integrated warehousing services even without having the warehouses registered with WDRA. According to the data provided by Arya, they have operations in 2726 warehouses across the country covering a cumulative capacity of 7.03 million tons (Table 10). Over the years, there has been growth in the number of warehouses, area covered, and capacity. Less than 1% of these warehouses are WDRA registered.

Table 10: Operational details of Arya Collateral

FY	Warehouses operated by Arya			Value of warehouse-based sales (Rs. Crores)	Warehouse receipt finance facilitated (Rs. Crores)
	No. of warehouses	Area (sq. ft.)	Capacity (MT)		
2019-20	1053	1,31,48,192	26,29,638		2229.03
2020-21	1892	2,95,42,762	58,74,965		5711.15
2021-22	2025	2,93,54,029	58,69,618	760.00	7473.14
2022-23	2726	3,51,90,278	70,28,732	2706.06	10571.57

Source: Data collected from Arya Collateral (now Arya.ag)

Arya does not own any warehouse. They enter into an agreement with the warehouse owners, take control of the warehouse by possessing the lock and key, and assume responsibility for the goods stored in the Arya-certified warehouses. Warehouses managed by Arya Collateral have 2 supervisors and 1 security for every warehouse of capacity 5000 tons. Employees are given frequent training to enhance their capacities. AI-enabled cameras are installed to monitor the security of the warehouses. Many Arya-certified warehouses are at the farm gate. In the past two years, Arya has organized warehouse-based sales. Warehouse receipt financing to the tune of 70% of the value of goods stored is provided to the depositors with a transaction time of a few hours. There are 20 banks in addition to Aryadhan Financial Solutions Pvt Ltd (NBFC managed by Arya) that extend credit to depositors in Arya-certified warehouses. Despite the interest rates being high (14% for finance from Aryadhan), depositors find it useful to access since they quickly get the loan sanctioned and the security of stock is ensured by Arya. There has been significant growth in both warehouse-based sales and warehouse receipt finance (Table 10), suggesting that the services provided add value to depositors, traders, and lenders.

9. Arya certified warehouses are those that are verified, leased, and managed by Arya.

5. Recommendations

A multi-pronged approach is required to improve the registration of warehouses with WDRA, enhance e-NWR-based lending, and boost warehouse-based sales. Towards this, we make the following recommendations based on the analysis of primary and secondary data collected for this study.

5.1 Recommendations to improve the registration of warehouses with WDRA

5.1.1 Mandatory registration of warehouses

Registration of all warehouses with WDRA must be made mandatory. It must be a non-negotiable condition for warehouses to operate. Non-registration should not be treated as a criminal offence; the penalty should be in terms of hefty fines. A few steps have already been taken in this direction. There are already provisions to apply online. The registration facility could also be made available through a mobile application. In either case, registration of warehouses should be made an easy process involving the submission of a bare minimum set of documents providing details of warehouse capacity, location, structural specifications, associated facilities, identity and other necessary details of warehousemen. Going forward, WDRA should be the sole agency issuing licenses to warehouses.

5.1.2 Delink security deposit from registration

The registration of the warehouses with WDRA and the requirement for a security deposit must be delinked and viewed separately. For registration, a security deposit should not be a mandatory requirement. The registration process must be easy and at charges determined by slabs based on warehouse capacity. The relaxations given to FPOs, PACS, and SHGs may be continued to encourage registration.

5.1.3 Rating of warehouses

The registered warehouses must be rated based on a few parameters identified regarding their current infrastructure and facilities. For this purpose, thorough inspections may be conducted mainly focusing on the parameters related to the physical infrastructure of registered warehouses following the checklist issued by WDRA and validating the details submitted as part of registration. We propose that a distinction be made based on the warehouse size (capacity). WDRA requirements also should be modified for smaller sizes of warehouses to enable them to be compliant but should be able to keep quality and quantity intact. Within each size category, the warehouses may be rated based on their ability to deliver warehousing services (Table 11). Within each of the categories listed, there may be sub-categories based on their level of compliance and availability of facilities. (For instance, there could be L1^{++}, L1^{+}, and L1). The last category of warehouses would be “registered but not inspected”.

Table 11: Categorization of warehouses

Category	Need for infrastructure improvements	Size
L1	WDRA complaint	>5000 tons
L2	The storage infrastructure is good. Minor improvements such as the construction of a compound wall and gate needed	>5000 tons
L3	Major investments are required in refurbishing infrastructure	>5000 tons
M1	WDRA compliant (modified)	>500 & <=5000 tons
M2	The storage infrastructure is good. Minor improvements such as the construction of a compound wall and gate needed	>500 & <=5000 tons
M3	Major investments are required in refurbishing infrastructure	>500 & <=5000 tons
S1	WDRA compliant (modified)	<= 500 tons
S2	The storage infrastructure is good. Minor improvements such as the construction of a compound wall and gate needed	<= 500 tons
S3	Major investments are required in refurbishing infrastructure	<= 500 tons
D	Registered but not verified	All sizes

L=Large; M=Medium; S=Small

Appropriate parameters for rating warehouses may be identified through a rigorous exercise involving consultation of stakeholders. A few indicative parameters are listed here: compliance with physical infrastructure as per WDRA guidelines, availability and adequacy of trained personnel to manage the warehouse, how secure the warehouse is, facilities to ensure the quality of commodities stored, office amenities, and access/proximity to infrastructure for assaying and testing. Our field observations suggest that the operational quality of warehouses is better when they are supported by the services of collateral managers. Often the banks insist on the involvement of collateral managers regardless of the registration status of warehouses. Therefore, the involvement of collateral managers may be an added input for rating the warehouses.

An incentive mechanism needs to be worked out to encourage warehouses to improve themselves into higher categories (for instance from L3 to L1). The Agriculture Infrastructure Fund (AIF) may be utilized to provide financial assistance to warehouses for their upgradation.

5.1.4 Decentralized registration process and monitoring

WDRA has already taken a few steps to ease the registration of warehouses. However, we observe that the continuous monitoring of warehouses will be difficult given their dispersed and remote geographic locations. There needs to be a more decentralized process in place. We propose two alternatives. 1) The registration be done centrally but the monitoring be decentralized by involving empanelled private-sector players. 2) Reorganize WDRA to a structure like the model followed by the Food Safety and Standards Authority of India (FSSAI), involving the state governments.

5.1.5 Creation of a portal of registered warehouses

Currently, WDRA publishes the list of registered warehouses on its website. This needs to be improved to incentivize registered warehouses. WDRA must create a portal of registered warehouses with details of location, warehouse specification, total capacity, capacity available for storage, facilities and amenities, warehouse security, commodities that can be stored,

contact details of warehousemen, and the current rating. This must be available for public access. The information made available on the portal should help the depositors to identify suitable warehouses for storing their commodities. It must reduce their search costs and help them decide on the type and quantity of commodity to be stored. The portal should act as a platform to connect the depositors and warehousemen thereby creating an opportunity for the warehousemen to enhance their capacity utilization. It must be ensured that the information available on the portal is periodically updated and is current. A software application for warehousemen should be developed for them to update details of capacity available for storage as and when inward and outward transactions take place. The registered warehouses may also have access to policy-based benefits including government schemes and subsidies for upgrading their infrastructure and services based on their rating discussed below.

5.1.6 Investment to improve warehouse infrastructure

There is a need to make significant investments to improve the physical infrastructure of warehouses to meet the specifications prescribed by WDRA. Such investments are required in warehouses in public, private, and cooperative sectors. Various ministries and departments need to be coordinated to mobilize resources for investment in the public sector. The recent cabinet decision to approve Rs 1 lakh crore for creating storage facilities in the cooperative sector is a step in the right direction. However, such financial resources should also be made available for the improvement of the existing infrastructure to be WDRA compliant. Private sector investments should also be encouraged to create new warehousing infrastructure and to modernize the existing ones.

5.1.7 Technology adoption

Warehousemen should be encouraged to adopt modern technologies, through appropriate policy support. Technology such as hermetic bags and handling equipment must be explored to reduce storage loss, prevent quality deterioration and timely handling of the produce. Hermetic storage comes with several advantages – amenable to smaller storage quantity, useful for storing commodities like coffee beans, cocoa, and spices that need to retain aroma for a long time, and safer from a food safety perspective as it does not involve any spraying of chemicals to maintain the quality of commodities stored, can be easily transported, and reduces wastage as the fungal damage is lower compared to conventional storage. However, the initial costs and operational costs are higher for hermetic storage compared to traditional methods. Therefore, the Government may consider providing policy support to promote the development of technology such as hermetic bags and storage. Efforts should also be made to mechanize the loading and unloading of commodities to reduce dependence on labour and to increase efficiency. Policy support including financial assistance may be provided to warehousemen to encourage mechanization of warehouses and for their adoption of modern storage technologies.

5.1.8 Skilled Workforce

The availability of skilled workforce at warehouses is a constraint. There is a shortage of skilled workforce who can handle the business operations of warehouses. Given the huge requirement for such a skilled workforce, it is recommended that a cadre of people be created who will be the registered chartered assurance auditors who will assess the quality of the warehouses. This will be linked to the process of rating the warehouses and bringing credibility to the overall warehousing quality assurance. This will therefore make it easier for the lenders to lend.

5.1.9 Warehousing as a service

The perception of warehousing must shift from providing mere physical storage space to providing custodianship along with a set of integrated services. Storage will be one of the several services provided as part of the warehousing business. WDRA must make efforts to create an ecosystem around the warehousing business. Innovative models from both public and private sectors must be identified and encouraged to enhance rural outreach benefiting farmers.

5.1.10 Awareness creation

WDRA should undertake proactive steps to create awareness among all stakeholders about the potential benefits of having the warehouses registered with it. This is particularly relevant for the warehousemen. Awareness-building programs should also cover the requirements for getting warehouses registered and the necessary steps involved. Helplines should also be established to assist warehousemen in the registration process and the related documentation.

5.2 Recommendations to boost e-NWR based lending and warehouse-based sales

5.2.1 Criteria for issuing e-NWRs

Rating of the registered warehouses should be the basis for permitting them to issue e-NWRs. Only L1/M1/S1 categories of warehouses should be permitted to issue e-NWRs. Others may be encouraged to upgrade themselves. Registered warehouses desirous of issuing e-NWRs must submit a Security deposit/Bank guarantee as decided by the Authority. Once the warehouse starts issuing e-NWRs, the transaction history of e-NWRs and warehouse-based sales may become inputs to its rating. Better-rated warehouses should be allowed to operate with relaxed terms for security deposit/bank guarantee.

5.2.2 Guarantee by the Authority

WDRA must be obliged to provide a guarantee to the depositors in the cases where it takes a Security deposit/Bank guarantee from the warehousemen. The authority's guarantee must cover both the quantity and quality of commodities under storage. The Security deposit/Bank guarantee may be used to make good any losses suffered by the depositor owing to the quantity and/or quality of the stored commodity. This is likely to attract depositors in terms of both their number and quantity stored and therefore, greater business for the warehousemen.

5.2.3 Additional opportunities for revenue generation

Issuing e-NWRs must become an opportunity for warehousemen to generate additional revenue. The warehousemen of warehouses issuing e-NWRs must take custodianship of the stock. Ensuring security, quality and quantity of stock must be their responsibility. Failure to do so must attract hefty fines and lower ratings for the warehouses. These details must be updated on the portal created for registered warehouses.

5.2.4 Building Confidence of lending agencies

The rating of warehouses must be such that it builds the confidence of banks and lending agencies. Banks should be able to enter into an agreement with warehousemen similar to that of their relationship with collateral managers.

5.2.5 Creating incentives for stakeholders

Appropriate incentives should be created for all stakeholders involved – depositors (farmers/traders/others), warehousemen, banks/lenders, and commodity traders. Security of stock, handling, quality maintenance, financing, and trading should be made easier for the stakeholders. Delinking bank guarantees from warehouse registration, creating a portal that can help improve capacity utilization, and policy support for technology adoption and infrastructure improvement are likely to incentivize warehousemen. The current provisions of the Act treat the irregularities as criminal offences. There needs to be moderation in the punishment for offences. Banks should be incentivized to lend against e-NWRs relative to their lending against manual warehouse receipts. Commodity trading using e-NWRs should be encouraged by connecting warehouses with commodity exchanges, establishing quality standards, and ensuring information symmetry on prices and quality.

5.2.6 Insurance

The commodity under storage in the registered warehouse must be adequately insured as per the directions laid out by WDRA. Insurance taken by either the depositor or the warehousemen should suffice.

5.2.7 Inspections

The frequency and quality of inspections of registered warehouses issuing e-NWRs need to be enhanced. There needs to be more emphasis on stock inspection assessing quantity and quality. There should be periodic as well as surprise inspections. The stock inspections should be supported by testing and assaying facilities with quick and reliable test results.

5.2.8 Greater public investments

A great deal of public sector investment is required to improve the current systems for quality inspection/assaying facilities, standardization of quality, and establishing linkages between warehouses and commodity markets. To leverage scale economies, providing quality inspection/assaying facilities at the cluster level needs to be explored. For M & S category warehouses (Table 10), workforce requirements may also be considered at the cluster level. A cluster may have a minimum capacity of 5,000 tons. Detailed studies may be undertaken to examine the economics of providing such facilities and the minimum warehouse business to make them feasible.

5.2.9 Strengthening the Authority

WDRA as an institution needs to be strengthened on multiple counts. First, it should be able to encourage and enforce the registration of warehouses. It needs capacity building and access to resources. Second, accreditation of warehouses must assure a certain level of comfort to depositors, warehousemen, and lenders for conducting business in them. WDRA registration must also guarantee the security of stock and quality of goods deposited in accredited warehouses. Third, WDRA should make efforts to collect comprehensive data on warehouses. A mandatory and easier registration process is likely to improve the status of registration. Fourth, there needs to be a harmonization of standards specified for each commodity. The most widely followed quality standard in commodity transactions is FAQ (Fair Average Quality). Public procurement agencies also follow this. WDRA has specified AGMARKNET quality requirements. The conflict in quality standards of commodities needs to be resolved by scientific data and inputs from ultimate users.

5.2.10 Dispute Resolution Mechanism

There must be an online dispute resolution mechanism in place for addressing the disputes promptly. There needs to be an investment in systematic research on dispute-causing issues such as losses – weight loss, moisture content, handling losses – for various commodities and standards need to be established. This can also help in addressing disputes.

5.2.11 Greater responsibility for state governments

Regulation of warehouses is a state subject. Therefore, the state governments must be involved in the entire process with greater responsibility. They must be responsible for ensuring registration of all warehouses with WDRA, continuous monitoring of the performance of warehouses, issuance of e-NWRs, and promoting warehouse-based sales.

5.2.12 Consultative process for formulating guidelines

We observed that several guidelines issued by WDRA are not in tune with the ground realities. Wider stakeholder consultation is needed to understand the intricacies involved. Following that appropriate guidelines may be released.

We summarise the envisaged roles of individual stakeholders in Table 12.

Table 12: Envisaged roles of various stakeholders

Sl No	Entity	Envisaged role (s)
1	Warehousing Development and Regulatory Authority (WDRA)	• Registration of warehouses; An application and portal need to be developed so that all warehouses storing agri commodities should self-register with the help of the application. The application should be used by the warehouseman to update whenever a transaction happens. • After self-registration inspection needs to be carried out to certify that the warehouse has at least minimum requirements to ensure the quality of commodities intact. De-register those who do not qualify. Based on the quality of the facilities available the rating of the warehouses can be determined and mentioned in the certificate. Rating should be on set criteria of facilities decided by an expert committee and automatically determined once facilities and their qualities are entered in the inspection application. User rating facilities also need to be created and made available. May take help of State Government in inspecting the warehouses. • Create a portal for registered warehouses and indicate those that are certified, rating, availability of space, charges, locality, etc and made available to the users. • Coordinate funds from other agencies such as NABARD, Ministry of Agriculture and Farmers' Welfare, and Ministry of Food and Public Distribution to channelize it for warehouse development. • Indicate the regions where warehouse capacity and quality improvement are needed to direct financial support. • Accept and manage security deposits from highly rated warehouses desirous of issuing e-NWRs • Provide guarantee to depositors on quantity and quality of commodities under storage, in the cases where a security deposit is taken. • Undertake periodic and surprise inspections of warehouses, particularly the highly rated ones • Put in place a dispute resolution mechanism. • Create awareness among warehousemen. • Organize training for inspection agencies and warehouse personnel. • Anchor consultative process for periodically revising the policies. • Support the creation of professionals and capacity building through NSDC courses and improvement of quality of education for improving the professional management of warehouses.
2	National Bank for Agriculture and Rural Development (NABARD)	• Warehouse Infrastructure Fund (WIF) to construct new warehouses and modernize existing warehouses, complying with WDRA requirements. • Provide interest subvention schemes to borrowers for constructing/ modernizing warehouses
3	Reserve Bank of India (RBI)	• Separately track and monitor transactions based on e-NWR. • Publish a report in this regard on its website

Sl No	Entity	Envisaged role (s)
4	Ministry of Agriculture and Farmers' Welfare	• Support facilities for testing the quality of agricultural commodities • Ensure uniformity among quality standards acceptable to stakeholders. • Connect warehouses with exchange platforms. • Encourage the issue of e-NWRs and Promote warehouse-based sales. • Allocate budget for investment in warehousing infrastructure
5	Ministry of Food and Public Distribution	• Allocate budget for investment in warehousing infrastructure
6	State governments	• Encourage registration of warehouses with WDRA • Create new warehouse infrastructure following WDRA guidelines. • Modernize existing warehouses to comply with WDRA requirements. • Promote issue of e-NWRs and warehouse-based sales • Create awareness among stakeholders about the benefits of WDRA registration. • Providing training to officials and warehouse personnel
7	Warehousemen	• Invest in warehousing infrastructure. • Modernize/upgrade existing infrastructure to move into L1/M1/S1 categories. • Register warehouses with WDRA. • Adopt modern technologies for storage and warehouse management. • Take custodianship of the commodities stored in their respective warehouses and guarantee the safety and security of stored goods in terms of both quality and quantity. • Facilitate warehouse receipt finance to depositors. • Provide services in such a manner that they take over the role played by collateral managers. • Facilitate warehouse-based sales
8	Banks/Lending agencies	• Lend only against e-NWRs or guaranteed by collateral management agencies. • Lower interest rates for lending against e-NWRs
9	Inspection agencies	• Conduct periodic and surprise inspections as per the instructions of WDRA.
10	Farmers and Traders	• Use the application of WDRA and provide feedback on the experience with a particular warehouse. • Engage in warehouse-based sales

APPENDIX – 1: SELECTED SPECIFICATIONS FOR GODOWNS PRESCRIBED BY CWC

Parameter	CWC specification	Availability on the ground for warehouses located at Farmgate
Land requirements	a) First 5000 MT capacity = 1.75 Acres (approx.) b) 10000 MT capacity = 3.35 Acres. c) 15,000 MT capacity = 4.95 Acres. d) 20,000 MT capacity = 6.55 Acres for road-fed godowns under ideal conditions of dimensions of plot.	Availability is far less than these specifications
Compound wall	1.83 m high boundary wall in brick/RR masonry above Ground level with 0.6m high, 6 rows of barbed wire/ concertina coils with angle iron posts 1.02m C/C on top of wall is to be provided. 15mm thick plastering with cement mortar 1:6 on the rough side of the wall and 12mm thick plastering with cement mortar 1:6 on the plain side of the wall are to be provided.	The compound wall is not constructed
Boundary wall gate and wicket gate	4.90 m wide main steel gate and 0.91m wide wicket gate	Gates are not provided
Office building	As per the requirement of the staff/external customers along with all allied facilities of toilets, drinking water	Office buildings are not available for all warehouses. Even if the buildings are constructed, amenities are not provided.

Source: Details of CWC specifications https://cewacor.nic.in/Docs/CWC_Engineering_Specifications_211011.pdf
Details of availability on the ground – field observations.