



Up-gradation of Existing Storage Capacity of FCI into Modern Silos through DBFOT Model

SILO CONFERENCE

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30TH March 2015**



Presentation Format



Background

Steel Silos: An Introduction

Steel Silos: Key Attributes and Project Components

Rationale for Paradigm Shift to Steel Silos

FCI's Strategy for Development of Steel Silos through PPP

Features of PPP Model and Type

Background



- Staple food prices have become more volatile world over
- All Nations have their 'Strategic Grain Reserve Program'
- With the objective to regulate the domestic food prices
- The reserves are most critical in case of emergencies
- Large grain reserves : strategic planning & demand assessment
- Storage Costs are high & hence we need to minimize wastage
- FCI plans to upgrade its storage facilities to modern bulk storage systems through Silos.
- Leverage existing land assets of FCI with Private sector expertise to minimize costs through PPP models
- PPP Models with fair and efficient risk allocation

FCI Operations



■ **28.02** Million MT of Wheat procured in 2014-15

■ **31.37** Million MT of Rice procured in 2013-14

■ **69.9** Million MT of Stocks as on 1st June 2014

■ **71.1** Million MT of Storage Capacity

■ **61.42** Million MT of grains is NFSA requirement

■ **44.8** Million MT of Grains moved in 2013-14

Steel Silos



- ❑ Silos – A sheet metal structure used to store food grains in bulk
- ❑ Silos are used for bulk storage of grains, coal, cement, woodchips, food products and sawdust
- ❑ Safe and efficient storage management process being used worldwide



Steel Silos: Key Attributes



Insight into the benefits of Storage of food grains in Steel Silos

Effective utilisation of land

Better safety and quality of stored item

Better monitoring and creation of storage facility

Overall reduction of grain wastage

Need 1/3rd of land as compare to Conventional Structures

Enhance shelf life of grain

High degree of mechanization, reduces manpower and labour

If equipped with bulk handling facility, transit loss is very negligible

If Silos are declared mandi yards, then bulk purchase is possible (Cost effective and great convenience to farmers)

Capital Cost Comparison

- Silo – Rs.5900/ton
- Conventional Storage: Rs. 6750/ton

Cost Comparison: Silos vs Traditional Godowns



S.No	COMPONENTS OF COSTS	SILO	GODOWN
1	Land (in acre)	7.00	17.50
2	Land Cost (INR crore per acre)	0.50	0.50
3	Total land cost (INR crore)	3.50	8.75
4	Construction cost (including civil work, roads, ancillary units, weigh bridge, electrical, plant & machinery for silos (INR crore)	26.00	25.00
5	Total construction cost (Rs. in crore)	29.50	33.75
6	Construction cost per tonne (INR)	5900	6750
7	Operational Cost per tonne (INR)	4442	4530

SOURCE: HLC REPORT

Integrated Bulk Supply Chain Management



BASE AND FIELD SILOS

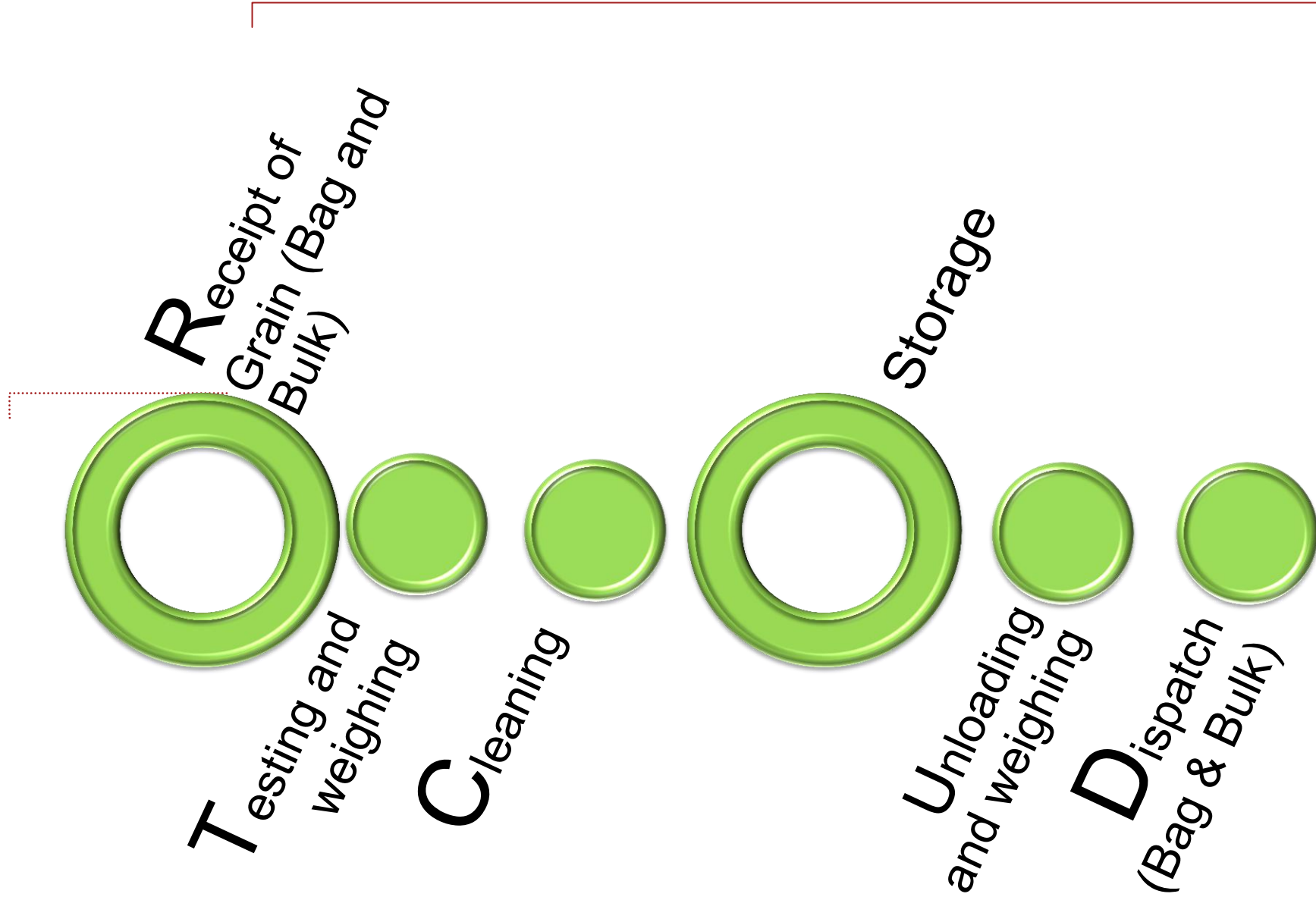
Circuit	Capacity (LMT)
Circuit 1 (Base): Moga	2.00
Field Depot: Coimbatore, Chennai and Bangalore	0.75
Circuit 2 (Base): Kaithal	2.00
Field Depot: Mumbai & Hoogly	0.75

Bulk Supply Chain Management

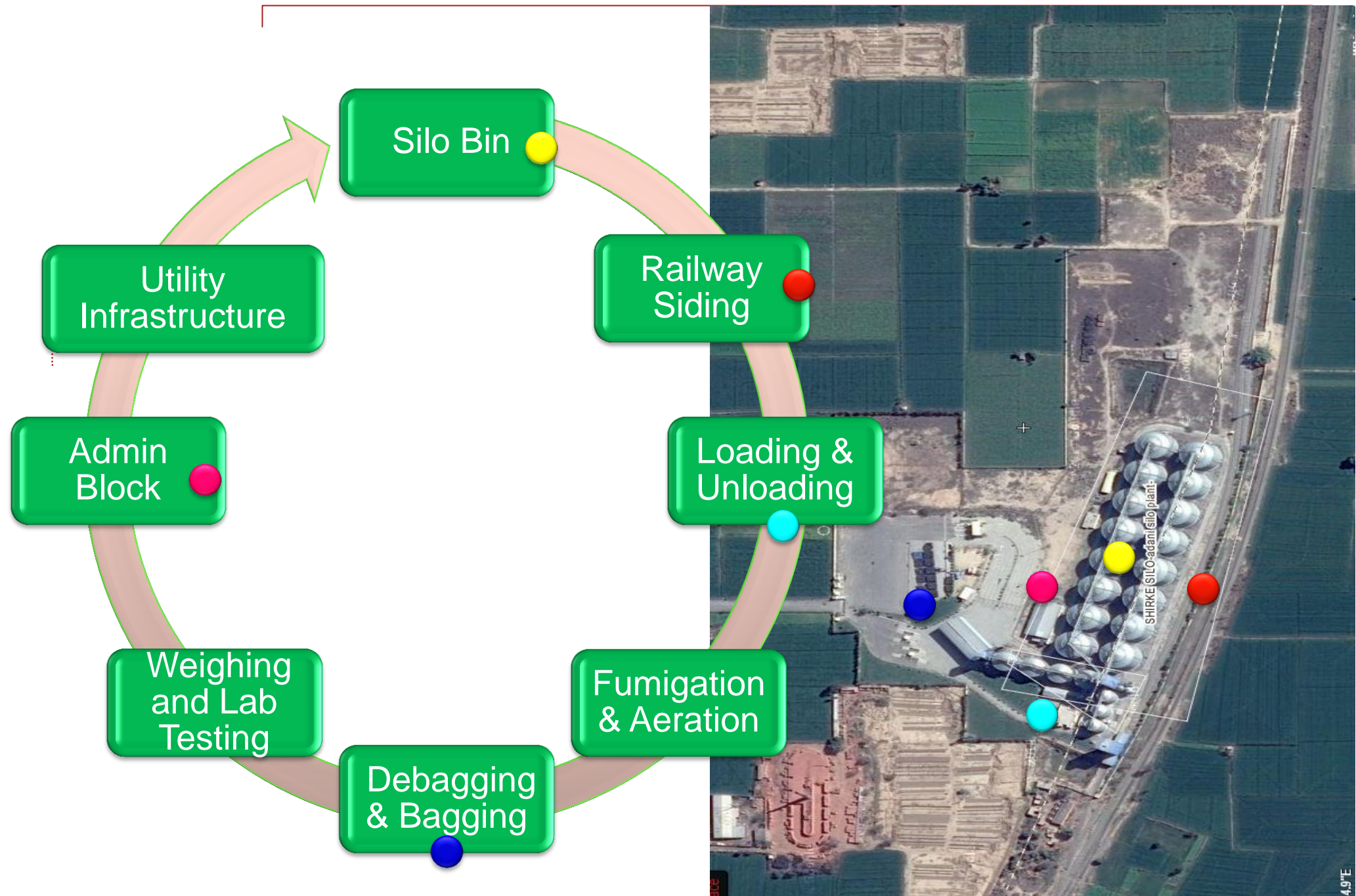


- Base Depots are declared as notified 'market yards'
- Farmers deliver in bulk
- Facilitate a process 'Storage of Food grains in Steel Silos'
- High Tech. Preservation Techniques
- Real Time monitoring of grains for Grain Temp & Infestation
- Transportation to Field Depots by specialised Rail Wagons in Bulk form
- Delivery of Food grains in bulk/bagged form to field depots without loss, damage & degradation of quality beyond specified limits
- Collectively this forms an integrated supply chain & logistic model ...
- Procures from the farmers & supplies to PDS

Silo Complex: Supply Chain



Silos Complex: Infrastructure



Paradigm Shift To Steel Silos



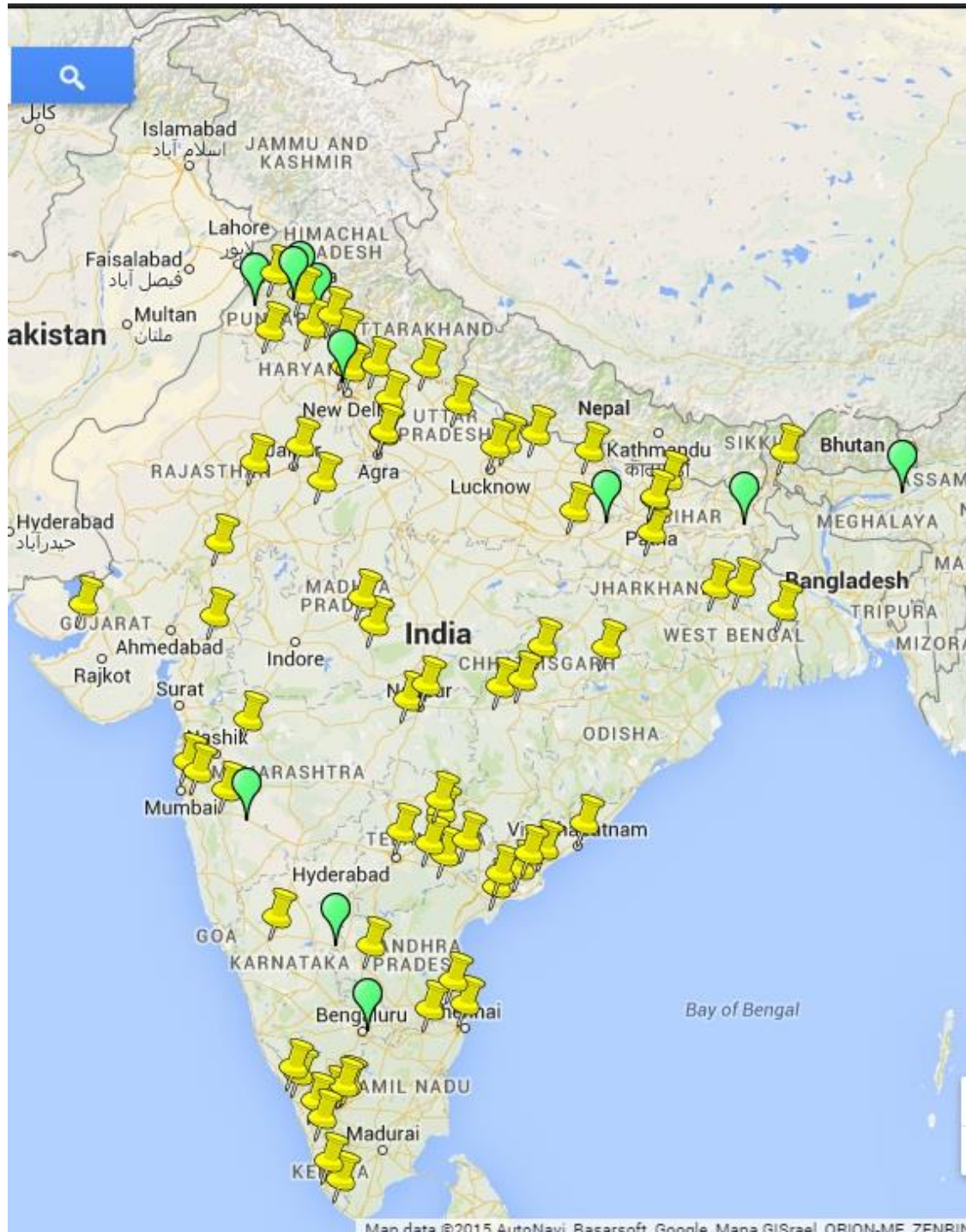
- ❑ FCI and State Agencies capacity for central pool stock: 71 MMT (15.71 MMT in CAP)
- ❑ Need for upgradation
 - conventional storages to silos factoring the advantages of silos mainly in terms of capital cost and land requirement
- ❑ Identification of vacant land available with FCI
- ❑ Gradually phasing out of Cover and Plinth (CAP) – initial phases
- ❑ Utilization of the existing storages space
- ❑ Identification of available land for development of silos pan India
- ❑ A rapid assessment of Potential for SILOS at FCI depots with railway sidings for bulk receipt and dispatch has indicated
 - a) 87 locations with capacity exceeding 25000 MT
 - b) 56 locations with capacity exceeding 50000 MT
- ❑ Next phase will be Non VGF PPP Model in which land will be provided by Private Party
- ❑ Both Wheat and Rice Silos planned

Key Stakeholders



- Department of Food and Public Distribution
- Ministry of Finance & Niti Aayog
- State Government Agencies
- Indian Railways
- Central Warehousing Corporation
- Other Statutory Bodies
- Private Investors

POTENTIAL FOR SILOS IN INDIA



- ❑ All locations are well connected with road and rail
- ❑ The locations will be prioritized as per the demand and supply of food grains (both rice and wheat)
- ❑ Classified into producing zones and consuming areas
- ❑ With availability of land the locations will then be taken up for feasibility assessments and commercial evaluation
- ❑ Implementation through DBFOT model
- ❑ The projects will be taken up for bidding process
- ❑ Detail Studies are in progress

Strategy for Silos



**Create 20 MMT
Silo capacity
under VGF
Model and Non
VGF models**

**Vacant land at
FCI depots and
State Agencies**

Phasing out CAP

**Dilapidated
structures
identification and
dismantling**

**Non VGF models
at locations
where no land
available**

**Identification of
feasible locations**

**Techno Commercial
Feasibility**

**Development of
Silos under PPP**

**Large cap
Silos at
center
locations**

**Standalone
Small Silos in
Mandi Yards**

**Medium Sized
Silos in
consuming
areas**

VGF Model



- ❑ EGoM has decided;
- ❑ If land is made available by FCI, CWC, SWC, State Government or Central Government /State Government Agency, the VGF route may be adopted
- ❑ Niti Ayog has outlined and appended the RFQ, RFP and Model Concession Agreement for VGF model structure
- ❑ Feasibility Studies for Wheat Silos completed for 11 Locations
- ❑ Tenders for feasible locations expected in April 2015
- ❑ Feasibility Study for 82 more locations taken up

Salient features of DBFOT Model under PPP Mode



Private developer shall be responsible for development of the project and FCI will provide land

Benefits: timely delivery, optimum capital cost and efficient operations of Project with minimal risk and involvement of implementing agency

Private Partner will recover capital investment and O&M cost primarily from storage user charges fixed by FCI

Salient Features of DBFOT Model



- 20% Grant (VGF) support from Government of India
- Land will be given to Developer within the FCI / State Government premises for installation, housing and operation of silo equipment's
- The infrastructure will include a railway siding for bulk loading / unloading facilities
- Private developer shall be responsible for development of the project and **FCI will provide land**
- Private Partner will recover capital investment and O&M cost primarily from storage user charges
- The capacity of Silos to be developed will 25,000 MT onwards

Non-VGF Model (DBFOO)



- ❑ For locations where FCI does not have land, alternative PPP models of DBFOO will be applicable
- ❑ The concessionaire would provide land, build Silos and provide storage, preservation and handling services in the silo complex
- ❑ The project is fully financed by the private party
- ❑ Payments to private party are made on the basis of 'making available the required capacity' through fixed charges, variable charges and loading / unloading charges
- ❑ The bid variable is the lowest level of fixed charges
- ❑ The bidder procures the land for housing silo complex and connectivity for bulk movement by rail siding
- ❑ Minimum land needed could be 11 acres for 50,000 MT storage
- ❑ Rail siding should be feasible with Indian Railways network

Silos with Private Freight Terminals



- FCI is also contemplating development of silos in proximity to private freight terminals
- If land is available with investors in the vicinity, FCI is considering to allow construction of silos for grain storage
- FCI will give the guaranteed capacity and also pay rent to the investors
- However, this policy is under consideration and will be announced formally

Road Ahead



- E Tenders for initial set of feasible locations to be floated in April 2015
- Draft RFQ / RFP / MCA documents on FCI Website
- Feasibility Study for remaining locations to be completed by May 2015
- Bids for next set of feasible locations in June 2015
- Non VGF locations to be bid out in June 2015
- Overall 20 LMT of upgradation to Silos planned



Thanks
