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Alimentación y la
Agricultura

ASIA AND PACIFIC COMMISSION ON AGRICULTURAL STATISTICS

TWENTY-SEVENTH SESSION

Nadi, Fiji, 19 – 23 March 2018

Agenda Item 11

Establishment of Harmonized Market Information System and Estimation of Private Food Grains Stock

Contributed by: **Dr. Chandramani Sharma, Director**
Ministry of Agriculture and Farmers Welfare, New Delhi
India
E-mail : *chandramani.sharma@nic.in*



Sign Post

- ❖ **Overview of the AMIS Project in India**
- ❖ **Need *for* Harmonization of Agri-Markets in India**
- ❖ **Estimation of Private Food Grain Stocks (PFGS)**

Overview : AMIS in India

- ❖ To enhance institutional, methodological and human resource capacity for generating data and information on agriculture markets, prices and stocks of agri-commodities with better quality, standardization and timeliness, the Project ‘Strengthening Agriculture Market Information System in India, using Innovative Methods and Digital Technology’ (*Baby Project*) (**AMIS**) (**Project symbol: MTF/GLO/359/BMG**) was implemented by FAO in India in collaboration with the Directorate of Economics and Statistics (DES), Ministry of Agriculture and Farmers Welfare (MoAFW), Government of India
- ❖ The Project was implemented with resource partnership of the Bill & Melinda Gates Foundation (BMGF) in India from September 2015 to October 2017
- ❖ This Presentation draws heavily on two Reports ‘Methodology Development of Measurement of Private Food Grain Stocks in India’ and ‘Status of Agri-Market in India : Need for Harmonization’, brought out under the aforesaid Project

Why Harmonisation?

- ❖ Three Government agencies *viz.* DMI, DES and DoCA collect and disseminate data on agriculture commodity prices and /or market arrivals
- ❖ The existing system poses difficulty to end users to synthesize information emanating from different market information systems
- ❖ Imperative for meaningful cross domain comparison, consistency and credibility of agri-prices and market information
- ❖ Will help eliminate the elements of redundancies in the system

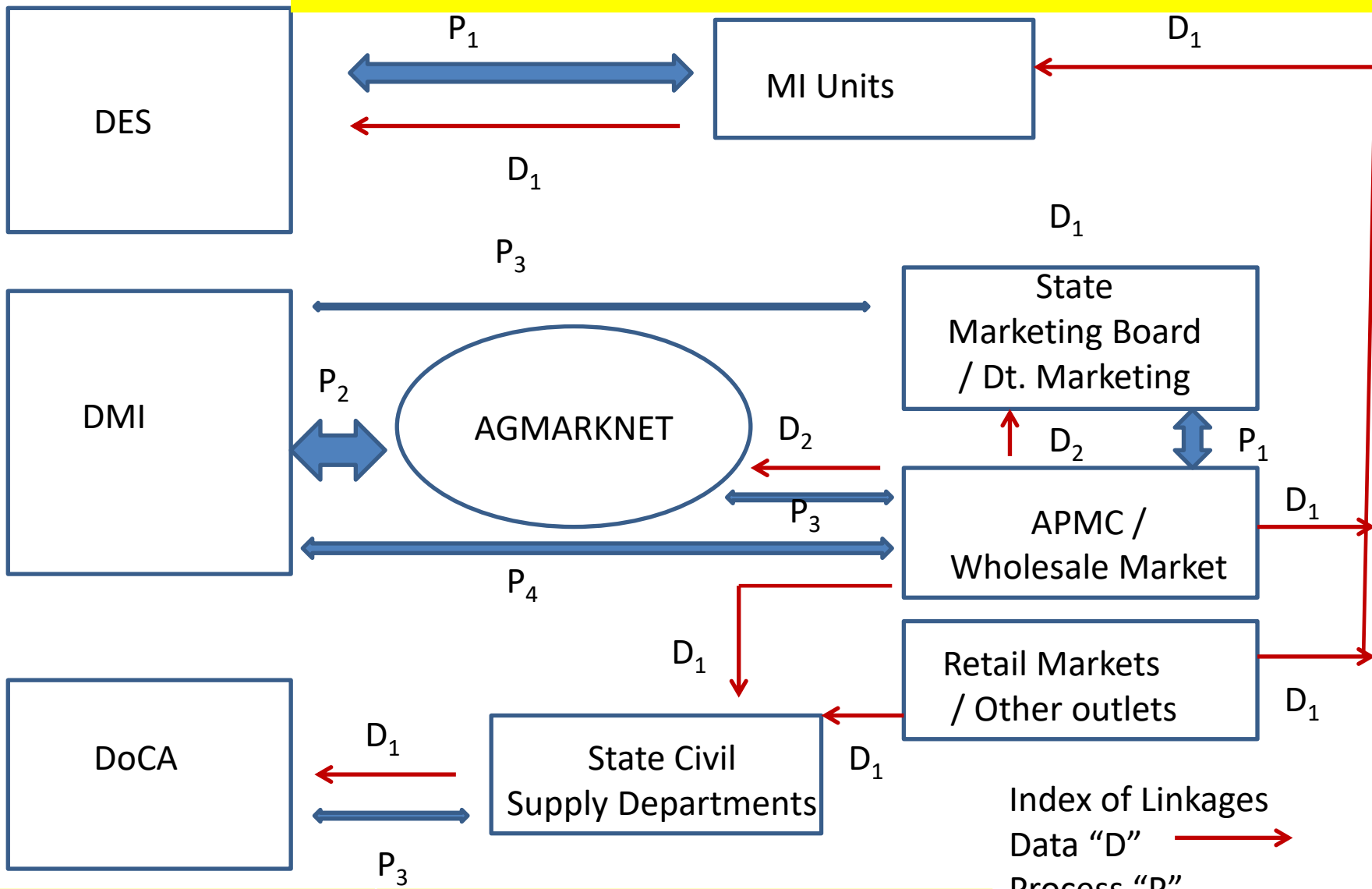
Development of Institutional and Human Resource Capabilities



- ❖ DMI has a rich repository of agri-prices and market arrivals data (AGMARKNET) but do not have professional experts to analyse the data whereas DES has a pool of qualified Statisticians and Economists but not the kind of data DMI is custodian of
- ❖ The ‘comparative advantage’ of two Directorates be synergized for enhancing institutional and human resource capability
- ❖ DMI in collaboration with DES may galvanize training and capacity development of market officials responsible for prices with data collection and dissemination
- ❖ Three agencies /departments need to form a functional alliance for a harmonized market information system (HMIS)

Developing HMIS

- ❖ To enhance consistency of agri-prices and market information, DMI, DES and DoCA need to form a functional alliance for a harmonized market information system (HMIS) to enhance meaningful cross domain comparisons
- ❖ A Standing Committee for Harmonized Market Information System needs to be set up for HMIS
- ❖ The harmonization of price reporting could be initiated for the markets that are common in prices reporting in AGMARKNET and DES
- ❖ The field staff needs to be provided with handheld devices to collect and transmit prices electronically to the central agency where price data is aggregated/maintained

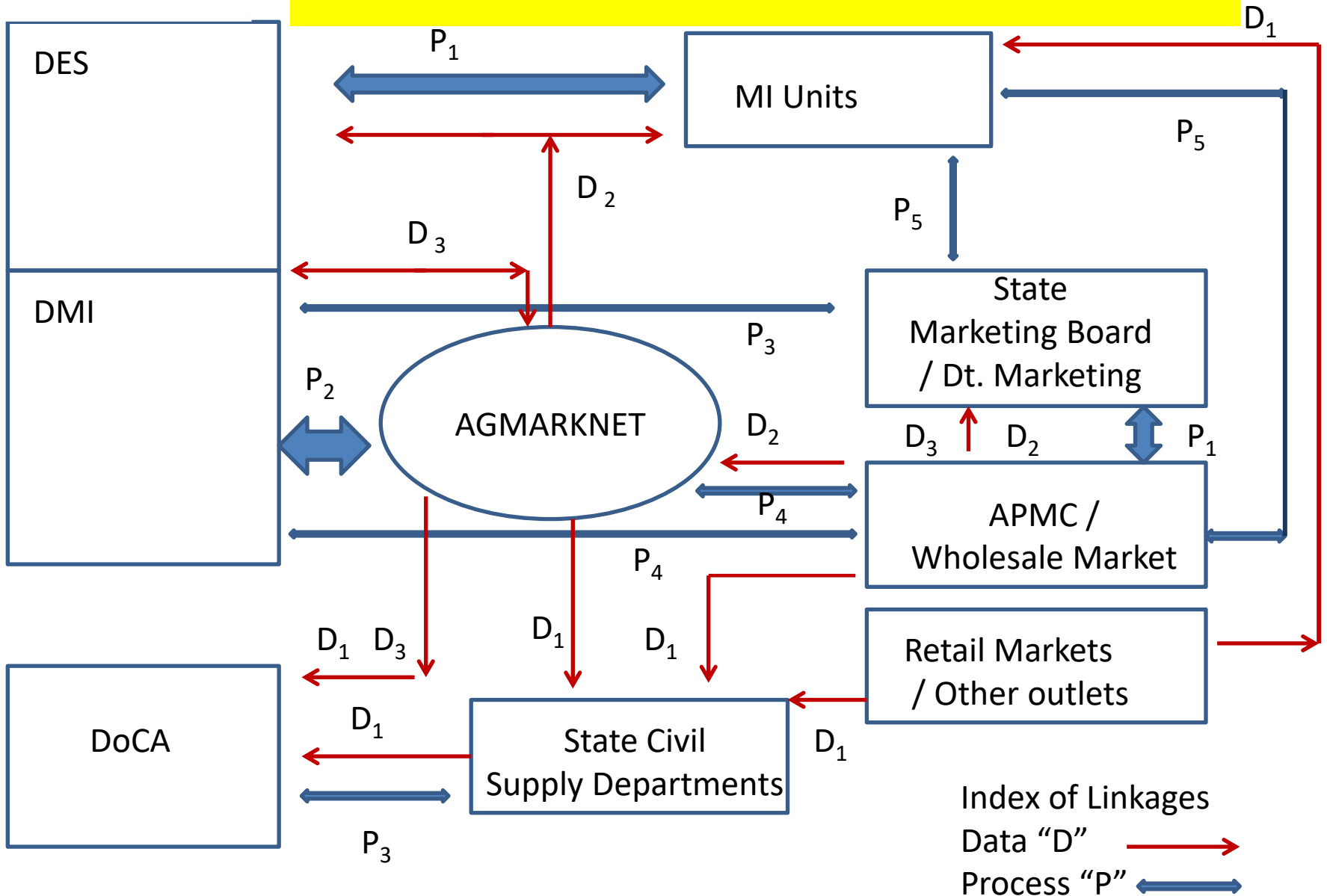
Existing System of Agri-MIS in India



Index of Linkages
 Data "D" 
 Process "P" 

- Legends**
- D1: Price data
 - D2: Price, Arrival and other market data
 - D3: Data Value addition, Visualisation, trend analysis
 - P3: Institutional Coordination
 - P4: Institutional Coordination with capacity development for AGMARKNET data interface
 - P5: Institutional Coordination with capacity development for concepts and standardization on data, data collection, quality and

Recommended HMIS in India



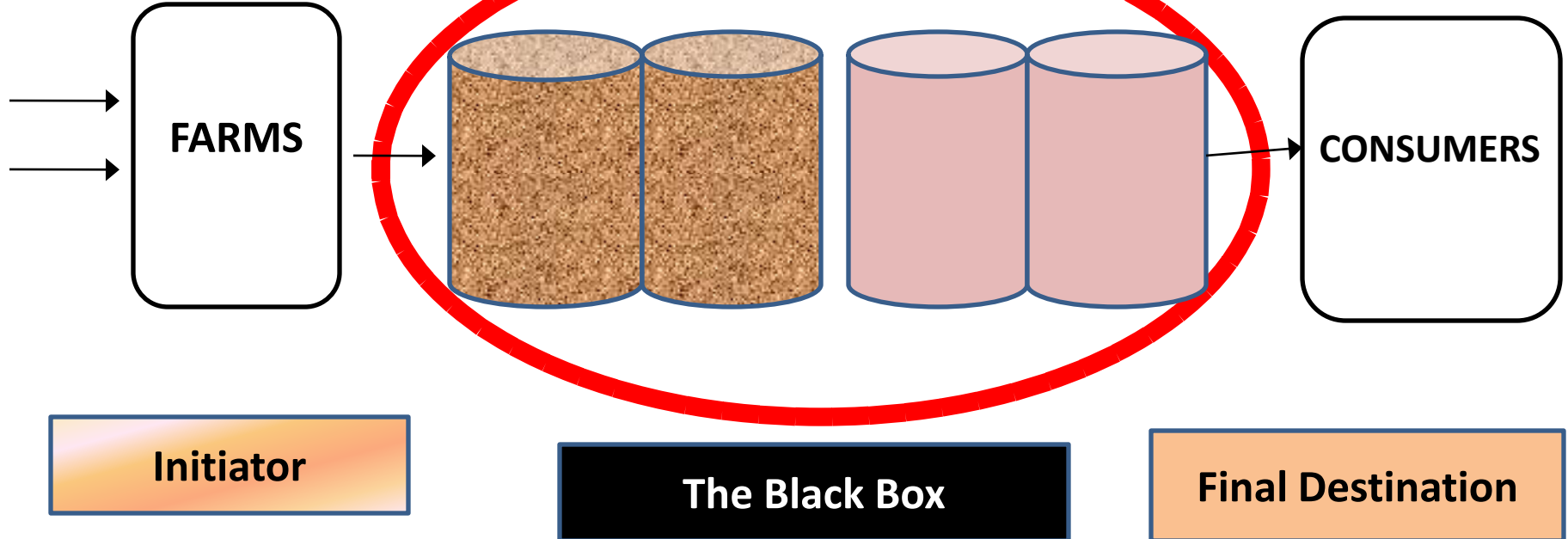
Measurement of PFGS

- ❖ Inadequacy of availability of private foodgrain stocks (PFGS) data in the statistical systems of many countries
- ❖ Rather limited or an absence of well-established methodology to measure PFGS
- ❖ Empirics do indicate that in the situation of price volatility in global agricultural markets, timely and reasoned decision-making is constrained due to non-availability of reliable estimates of PFGS
- ❖ The world food crisis of 2007-08 is a case in point. It caused a substantial rise in the prices of staple food, especially such as rice, wheat, and corn
- ❖ This rise in price had a devastating effect on hungry people in the developing world

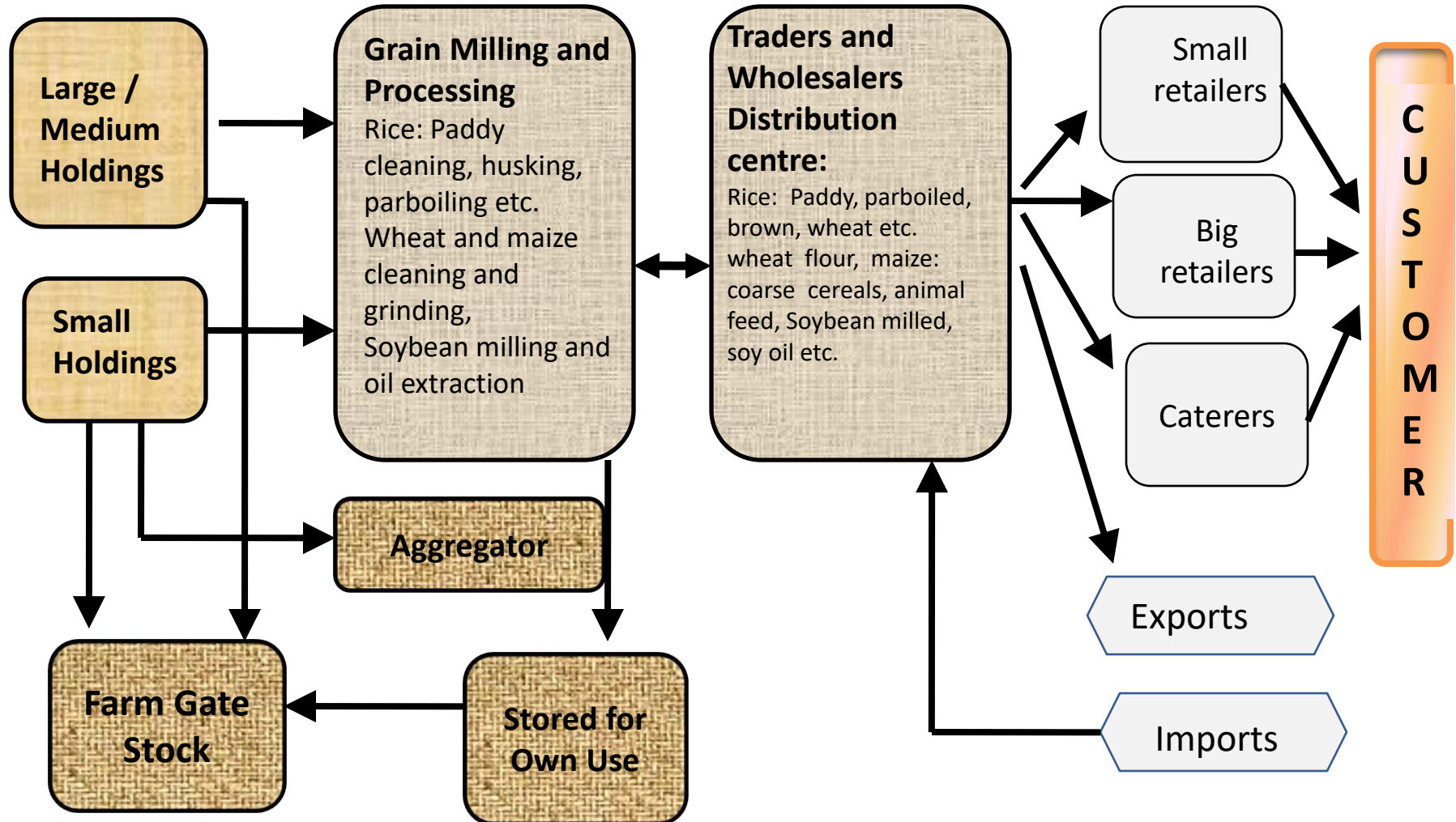
Domains of the Supply Chain

Processing and Distributing

Wholesaling and Retailing



Actors in Generic Food Supply Chain



Approach to Methodological Development

- ❖ To measure PFGS, more than one approach is needed to generate data on it in the diverse domains of the supply chain
- ❖ The approach focusses on the quantum of produce pushed by the farmers at the origin of the supply chain, its periodicity (seasonality), spatially and temporally dispersed termination of the supply chain at the consumption end
- ❖ The approach is segregated for on-farm and off-farm segments of the supply chain

On-farm Measurement of PFGS

- ❖ A feasible option to measure PFGS is at the origin of supply chain through the ongoing Comprehensive Scheme of Studying Cost of Cultivation of Principal Crops in India (CCS)
- ❖ This takes care of seasonal stock information, which is useful for assessing stocks at the farm gate
- ❖ The Input Survey under the Agriculture Census Programme of India has scope to evaluate on-farm methods, infrastructure and technology for storage, preservation, loss prevention and disposal of PFGS

(Continued)

Approach to Methodological Development

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Off-farm Measurement of PFGS

- ❖ Given the complexity, measurement of PFGS in off-farm domains can be captured by a multiple surveys; separate surveys for different domains
- ❖ The ASI and UES partially cover the complex domains of intermediate commodity flow and the HCES assesses the share and magnitude of consumption converging from home-grown production, public stocking and marketing
- ❖ The HCES has identified three sources of consumption of wheat and rice at the end of the supply chain: home-grown stocks, the public distribution system (PDS) and markets

Recommendations for On-Farm Measurement of PFGS

- ❖ For strengthening data on on-farm PFGS, data gaps on **on-farm** post-harvest produce management are suitably bridged in existing statistical operations of the CCS and the Input Survey of the Agriculture Census
- ❖ The CCS is a farm management survey with two components: pre-harvest farm management and post-harvest management of the farm gate produce
- ❖ The CCS is a significant source of periodic on-farm PFGS measurement
- ❖ Dynamic (monthly) information on stocks, receipts and subsequent disposal by farm holders is important. The farm-level PFGS data collected at monthly intervals to be processed on monthly periodicity
- ❖ Farm holdings are one of the most important nodes in the measurement of PFGS at the origin of the supply chain and initiation of foodgrain stocks pushed in the supply chain

Recommendations for On-Farm Measurement of PFGS

- ❖ The survey operations of the CCS (RT-30) to be improved for ensuring periodic availability of better quality, validated data by using more modern data collection methods
- ❖ The survey instrument of the pilot RT-30 and procedures for data capture, flow and processing has been tested first before full scale implementation
- ❖ The data profile in the Input Survey of the Agriculture Census mainly focuses on activities at pre-harvest and harvest stages
- ❖ The scope of the Input Survey be expanded to collect data on **on-farm** post-harvest stage, including data on structures and processes for on-farm foodgrain storage. This is a feasible and cost-effective approach to bridge the prevailing gaps in farm-level data.
- ❖ A pilot study on the Input Survey of the Agriculture Census has been undertaken, covering different on-farm post-harvest aspects such as methods, infrastructure and technology used by operations for storage, preservation, loss prevention and disposal of foodgrain, with direct relevance to farm income and farm economy

Recommendations for Off-Farm Measurement of PFGS

- ❖ To bridge vital data gaps in off-farm PFGS information, existing ASI and NSS enterprise surveys should create a database on off-farm foodgrain stocks by manufacturing and trading enterprises containing specified economic activities in a cost-effective manner
- ❖ In the existing ASI questionnaire, surveys should include additional data modules to collect information on input stocks of agricultural commodities belonging to sample enterprises of specified classification relevant to food grain stocking
- ❖ For more frequent information on food grain stocks, the government needs to consider extending the ASI survey to collection of information on stocks as part of the quarterly panel survey of enterprises
- ❖ This quarterly information is imperative for frequent assessment of PFGS in the manufacturing segment of the supply chain

Recommendations for Auxiliary Information

- ❖ Warehousing information may become an important source of stock data in the future. Information on warehouse infrastructure should indicate the scope and potential of stocks at different locations and needs to be organized to provide indirect leads to stocking potential
- ❖ The AGMARKNET portal for agricultural market information has the potential to provide commodity, daily market arrival and price information in real time
- ❖ Imperative to harness the potential for assessing current and emerging trends in commodity flows and likely changes in stocks from better quality and validated information on market arrivals and its aggregated trends



Conclusions : Measurement of PFGS

- ❖ Framework for measurement of PFGS involves generating related information in both on-farm and off-farm stages in the supply chain
- ❖ the significance of the CCS for strengthening information generation on **on-farm** post-harvest management with suitable modifications in the existing survey instruments and operation is recognised
- ❖ The monthly information on opening and closing stocks of foodgrain, disposal of harvested produce by the farmers in different sale directions and salient characteristics of on-farm foodgrain stocking are important indicators that can be easily generated with very marginal additional resource deployment in the ongoing CCS operations
- ❖ In addition, the Input Survey may be conducted as a follow up to the Agriculture Census to generate information on structural aspects of on-farm post-harvest management including aspects of PFGS
- ❖ For improving data availability of off-farm PFGS, using existing enterprise surveys covering manufacturing, services and trade with add-on schedules to capture data from relevant enterprises is to be a cost-effective option

Impact of AMIS Project

- ❖ The Government of India desires to set-up 'Market Price Monitoring and Intelligence System', as a direct outcome of this project
- ❖ An important aspect of AMIS-India and Bangladesh projects was twinning of countries in South-South-Cooperation Mode
- ❖ The methodology developed in India for measurement of PFGS was transferred to Bangladesh
- ❖ Bangladeshi participants attended Seminar on Private Food Grain Stock Measurement in New Delhi
- ❖ Pilot Study on 'On-Farm Private Foodgrain Stocks : with data collected through Comprehensive Scheme for Studying Cost of Cultivation of Principal Crops in India' was an 'in-house' endeavour of AMIS India Team, right from conception to designing of questionnaire to collection of data and writing of the Report
- ❖ 'Outlook' has been adopted by MoAFW



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Thank you