



SUPREME AUDIT INSTITUTION OF INDIA
लोकहितार्थं सत्यनिष्ठा
Dedicated to Truth in Public Interest

**Report of the
Comptroller and Auditor General of India
on Management and Distribution of Fertilizer
in Madhya Pradesh for the year ended
31 March 2022**



**Government of Madhya Pradesh
Report No. 1 of 2025
(Performance Audit-Civil)**

**Report of the
Comptroller and Auditor General of India
on Management and Distribution of
Fertilizer in Madhya Pradesh
for the year ended 31 March 2022**

**Government of Madhya Pradesh
Report No. 1 of 2025
(Performance Audit-Civil)**

TABLE OF CONTENTS		
	Paragraph Number	Page Number
Preface		v
Executive Summary		vii
Chapter-1 Overview		
Introduction	1.1	1
Organizational Structure	1.2	2
Audit Objectives	1.3	3
Audit criteria	1.4	3
Scope and Methodology of Audit	1.5	4
Chapter-2 Assessment of requirement of fertilizer		
GoI directives for assessment of requirement of fertilizer	2.1	7
Non-assessment of requirement of fertilizer as per GoI direction	2.2	7
Chapter-3 Procurement of fertilizer in Co-operative Sector		
Procurement of fertilizers in Co-operative Sector	3.1	11
Chapter-4 Financial management		
Financial arrangement for procurement of fertilizers	4.1	17
Outstanding Recovery	4.2	18
Non-recoupment of loss from suppliers	4.3	19
Fertilizer Development Fund	4.4	19

Chapter-5		
Supply and distribution of fertilizer		
Supply of fertilizer	5.1	23
Storage	5.2	29
Distribution of fertilizer	5.3	34
Sale of fertilizer to factories/corporations	5.4	41
Use of bio/organic fertilizer	5.5	42
Shortfall in purchase of Micronutrient fertilizer	5.6	44
Chapter-6		
Quality Control Mechanism for fertilizers		
Quality Control Testing Infrastructure	6.1	47
Inadequate Testing Capacities of Approved Laboratories	6.2	48
Deficiencies in training and Manpower	6.3	50
Target and Achievement of sample analysis	6.4	50
Non-compliance to analysis mechanism	6.5	52
Sale of non-standard fertilizers	6.6	56
Testing facility for city compost, bio/organic fertilizer analysis	6.7	59
Soil testing Lab facilities	6.8	60
Chapter-7		
Monitoring and Supervision		
Monitoring through portal	7.1	63
Issue of Certificates of manufacture/authorization letter for fertilizer business	7.2	63
Shortage of enforcement authorities	7.3	64
Inspection and search/seizure	7.4	65
Monitoring of supply and distribution of fertilizer	7.5	67
Outcome of consumption of fertilizer	7.6	67
Chapter-8		
Conclusions		75

LIST OF APPENDICES		
Appendix Number	Details	Page Number
1.1	Process of Assessment of requirement to distribution of Fertilizer	77
1.2	State/District level Agencies	78
3.1	Details of targeted quantity, assessment and procurement of complex fertilizers	79
5.1	Status of fertilizer-wise shortfall in distribution against target in different months during 2017-22	80
5.2	Statement showing DAP, NPK sold to farmers at higher rate	82
5.3	Statement showing variation in sale rate	85
5.4	Details of stock manipulated by Manager, PACS	86
5.5	Details of PACS who manipulated the stock	88
5.6	Status of requirement, offered quantity, Delivery Indents issued and quantity purchased/sold against required quantity during 2017-22	94
6.1	Status of FQCTL-wise samples received and analysed during 2017-22	95
7.1	Details of applications received within/after 30 days and non-collection of additional fees	96
7.2 (A)	Recommended dose of fertilizer excess applied	97
7.2 (B)	Recommended dose of fertilizer less/not applied	99
Glossary of Abbreviations		101

PREFACE

This Report for the year ended March 2022 has been prepared for submission to the Governor of Madhya Pradesh under Article 151 of the Constitution of India for being laid before the Legislature of the State.

The Report contains the results of Performance Audit on "Management and Distribution of Fertilizer in Madhya Pradesh" pertaining to the Farmer Welfare and Agriculture Development Department, Government of Madhya Pradesh, covering the period from April 2017 to March 2022. The Audit has been conducted under the Comptroller and Auditor General's (Duties, Powers and Conditions of Service) Act, 1971.

The instances mentioned in the Report are those which came to notice in the course of test audit.

The audit has been conducted in conformity with the Auditing Standards issued by the Comptroller and Auditor General of India.



Executive Summary

Executive Summary

Fertilizer is the most critical and costly input for sustaining agricultural production in addition to other factors like use of mechanised farming and improved seeds etc. The use of fertilizer is mainly dependent upon the soil health status. Excess use of chemical fertilizers might affect the soil nutrients. The bio/organics fertilizer in place of chemical fertilizers is required to be promoted for ensuring balanced and integrated use of fertilizer.

The Fertilizer (Movement Control) Order, 1973 and The Fertilizer (Inorganic, Organic or Mixed) (Control) Order (FCO), 1985, regulate the trade, price, quality and distribution of fertilizers in the country. The State Government is mandated to establish the enforcement mechanism namely the Fertilizer Inspectors, the Registering authority/Notified authority and the Appellate authority for implementation of FCO.

In the above background, we conducted the performance audit of Management and Distribution of Fertilizer in MP. The main objectives of conducting PA were to assess that the requirement of different fertilizers projected was according to need of the State and procurement and distribution of fertilizers to farmers were done efficiently and effectively. The period of coverage of performance audit was from 2017-18 to 2021-22.

In MP, Farmer Welfare and Agriculture Development Department (FW&ADD) acts as the Nodal Department (Department) for overall management of fertilizer. In addition, Co-Operation Department regulates procurement, storage and distribution of fertilizer. Madhya Pradesh Agro Industries Development Corporation (MP Agro) is also involved in procurement and distribution of fertilizer as per government policy.

Co-operative sector and private sector distribute different fertilizers in MP in the ratio as decided by the Government from time to time. MP State Co-operative Marketing Federation Limited (Markfed) under Co-operation Department is the nodal agency for storage and distribution of fertilizer in co-operative sector. In this sector, fertilizer is distributed by the Primary Agricultural Credit Co-operative Societies (PACs), Markfed godowns, Marketing Societies and MP Agro. In case of the private sector, the private wholesalers and retailers distribute fertilizers.

Audit noticed that the assessment of requirement of fertilizers for distribution in the State during the period 2017-22 was made without considering the deficiency of nutrients in the soil. Districts used fertilizer which was made available to them, as a result districts used more/less fertilizers against their requirement as per soil status. District-wise monthly supply plan as per demand of districts was not prepared. As a result, short/excess supply happened which led to short/excess distribution against the target. Markfed could not procure fertilizers for Co-operative sector as per requirement fixed for them. Supplier companies did not fulfil the requirement as per monthly allocation fixed by Government of India (GoI) for the suppliers and could not supply the requirement during peak month of the season. The sampling mechanism as prescribed in FCO, to ensure quality of fertilizers was not scrupulously followed. Further, Quality testing laboratories were inadequate in the State in comparison to consumption of fertilizers. Quality of fertilizers used could not be completely ensured due to lack of labs and shortage of Fertilizer Inspectors and Lab Analysts. The

enforcement mechanism did not function efficiently due to shortage of staff in different cadres. Instances were observed of farmers not being fully aware about the use of balanced fertilizers. As a result, there was no significant improvement in NPK ratio in the State over the five years as fertilizers were not used as per requirement of soil.

The important audit findings are given below:-

1. Assessment of requirement of fertilizers

- Department did not assess fertilizer requirement for each crop season as per GoI directives and assessed the requirement without getting inputs from districts. Assessment was made at State level on the basis of previous years' consumption. Districts officials (DDAs) did not assess the requirement of fertilizer as per GoI directives despite having the required information. Block-wise assessment was not done and the *panchayats/samities* and farmers were not involved in assessment as required. Assessment of fertilizer requirement was not based on the soil status of the districts.

The GoMP should ensure block-wise assessment of requirement of fertilizer on the basis of soil deficiency, irrigation status and fertilizer need of crop, while considering the previous year's consumption. While assessing the requirement, the feedback from farmers and co-operative societies and involvement of panchayats and block samitis must be ensured.

- Fertilizers were used in production of vegetables and horticultural crops. But the area covered under vegetables and horticultural crops was not considered for assessment of requirement of fertilizers during 2017-22.

The GoMP should include the fertilizer requirement for cultivation of vegetables and horticultural crops while submitting the fertilizer requirement to GoI.

2. Procurement of fertilizer in Co-operative Sector

- Markfed did not procure the targeted complex fertilizers for co-operative sector due to short assessment and non-receipt of offer against target. Markfed could procure only 4,116.65 MT complex fertilizers against the target of 1,19,350 MT during *Kharif* 2019, *Kharif* 2021 and *Rabi* 2019-22 season.
- Markfed did not provide the benefit of rebate provided by suppliers (on DAP and MOP) to farmers leading to extra burden of ₹10.50 crore on the farmers.
- Markfed lost ₹ 4.38 crore for selling fertilizers (DAP and NPK 12:32:16) at lower rate to farmers which was purchased at higher rate during *Rabi* 2020-21.

3. Financial Management

- There was provision of Government guarantee each year to draw loan for making payment to suppliers. MD Markfed drew loan of ₹ 3,372.79 crore availing cash credit limit during 2018-20 from the Apex bank and District Co-operative Central Banks (DCCB) for procuring fertilizer without obtaining Government guarantee from the Finance Department as required under the MP State Government Guarantee Rules, 2009.
- MD, Markfed did not recover loss of ₹ 5.06 crore out of ₹ 83.96 crore due to change in sales rate during 2019-22 from the suppliers. In selected districts cost of fertilizer amounting to ₹ 37.37 crore was outstanding against the DCCBs in 15 districts as on 08 December 2023.

GoMP should make efforts to recover the outstanding amounts for repayment of its loan to reduce the interest burden.

- The Registrar, Co-operative Societies spent Fertilizer Development Fund amounting to ₹ 4.79 crore (90 per cent) out of ₹ 5.31 crore mainly on use of vehicles at State and districts level instead of using the fund on welfare of farmers (providing rebate and training and agriculture implements), development of PACS etc.

4. Supply and distribution of fertilizers

- Director, FW&ADD and MD, Markfed did not prepare the district-wise monthly supply plan of fertilizers as per demand of districts to ensure timely supply of required quantities of fertilizers in the districts. As a result, DAP and MOP were short supplied by 1.35 LMT and 0.27 LMT respectively in selected 10 districts. Further, Urea was short supplied by 0.97 LMT in six selected districts and excess supplied by 0.26 LMT in four selected districts.

GoMP should prepare month-wise/district-wise movement supply plan on the basis of requirement of districts and send it to Director, FW&ADD for effective rake movement and issue Delivery Indents to the suppliers as per monthly supply plan of districts to maintain equity in supply in different districts.

The Collectors and district level officers did not effectively carry out the responsibilities assigned to them for assessment of fertilizers for advance storage and weekly review of advance storage. As a result, the target of advance storage was not achieved.

- Director assessed month-wise distribution target for the State without getting requirement from districts and did not prepare month-wise/district-wise bifurcation of such targets. As a result, 13 to 31 districts distributed excess quantity of both Urea and DAP during 2017-21.
- Audit found that Government suffered loss of ₹14.45 lakh due to manipulation of stock of fertilizer in PACS Amravat kalan, Bhopal.

GoMP should take timely action against the persons/officials involved in manipulation of fertilizer store.

- There was no separate target fixed for distribution of organic/bio-fertilizer and micronutrient based fertilizer in the State during 2017-22. Besides, the State was yet to put in place an effective plan for use of organic/bio-fertilizer to reduce use of chemical fertilizers. Markfed did not ensure supply of MNFs as per deficiency, while deficiency in MNFs increased during 2017-22.

GoMP should review the quantum of organic/bio-fertilizers and micronutrient fertilizers used by farmers through different sources and availability of these fertilizers should be ensured according to their requirement as per soil status of the districts.

5. Quality control mechanism for fertilizers

- The State has only six fertilizer testing laboratories against the requirement of 18 labs as per fertilizer consumption, as assessed by Audit. Despite inadequacy of the laboratories, the Department did not operate four quality control laboratories out of six labs sanctioned in 2012-13.
- There were instances where Fertilizer samples were not sent to labs for timely testing, besides the analysis in labs not being completed within the prescribed time limit. The result of (non-standard) testing of samples were not communicated timely to the dealers.

GoMP should strengthen testing infrastructure facilities to cover more samples in testing keeping in view the distribution of fertilizer. Department should strengthen the sampling mechanism at district and State level.

- In the absence of batch/lot number of fertilizer, only the non-standard quantity in the lot selected in the godown for sampling was prohibited for sale and the same fertilizer of the same supplier distributed in other areas of the district/State were not prohibited.
- MD, Markfed did not carry out adequate publicity regarding refund of cost of non-standard fertilizers used by the farmers, as a result, the farmers could not claim refund of the cost of non-standard fertilizers during 2017-22.

GoMP should ensure adequate publicity to enable farmers to claim the refund of cost of non-standard fertilizers.

6. Monitoring and supervision

- Forty to 76 *per cent* of sanctioned posts of enforcement authorities were vacant in the State which affected enforcement of provisions of FCO/ EC Act.
- Online mechanism was not developed by Department to monitor the renewal of certificates of manufacture/authorization letters for fertilizer business issued at

State/district level. DDAs renewed authorization letters violating the provisions of FCO and departmental order.

GoMP should consider online monitoring of certificates of manufacture and authorization letters issued to manufacturers, wholesalers and retailers for carrying out fertilizer business in the State.

- The DDAs/DMOs did not fix targets for inspections to ensure monitoring of the activities of wholesalers/retailers.
- In case of surveyed farmers, 65 *per cent* farmers who had soil health cards, had knowledge about the deficiencies in their soil and remaining farmers had no knowledge about soil deficiencies. 48 *per cent* farmers (those who have cards) applied the recommended dose of fertilizer and remaining farmers did not apply the recommended dose.

GoMP may explore the possibility of imparting training on balanced use of Fertilizers through podcasts and videos, which may be easily shared on social media. The distribution mechanism of soil health cards to farmers by DDA and soil testing units should be improved for effective communication of result of soil testing.



Chapter-1

Overview

Chapter – 1 Overview

1.1. Introduction

Madhya Pradesh has 52¹ districts, with total geographical area of 307.56 lakh hectares, out of which about 151.91 lakh hectares (49.39 *per cent*) area are arable. The State is divided into 11 Agro Climatic Regions and five Crop Zones. The major crops are paddy, wheat, soya bean, maize, black gram, gram and cotton.

Fertilizer² is the most critical and costly input for sustaining agricultural production and ensuring food security in the country. The Fertilizer (Movement Control) Order, 1973 and The Fertilizer (Inorganic, Organic or Mixed) (Control) Order (FCO), 1985, regulate the trade, price, quality and distribution of fertilizers in the country. The State Government enforces implementation of the FCO and is empowered to take action against those who indulge in production and sale of non-standard/spurious fertilizers. The State Government is mandated to establish the enforcement mechanism namely the Fertilizer Inspectors, the Registering authority/Notified authority and the Appellate authority. Farmer Welfare and Agriculture Development Department (FW&ADD) acts as the Nodal Department (Department) for overall management of fertilizer.

In MP, co-operative sector and private sector distribute different fertilizers in the ratio as decided by the Government from time to time. The following departments/organization were involved in distribution of fertilizer in the co-operative sector:

1. Farmer Welfare and Agriculture Development Department – Overall monitoring.
2. Co-operation Department – Regulates Procurement, storage and distribution of fertilizer.
3. Madhya Pradesh Agro Industries Development Corporation (MP Agro)– Procurement and distribution of fertilizer.

In case of the private sector, the private wholesalers and retailers distribute fertilizers.

There are 46 rail rake points in the State for distribution of fertilizer. There were 4,511 Primary Agricultural Credit Co-operative Societies (PACSS), 378 godowns in co-operative sector involved in storage, distribution and 13,978 retail sale points for distribution of fertilizers.

The major fertilizers used in MP are Urea, Diammonium Phosphate (DAP), Complex, Single Super Phosphate (SSP) and Muriate of Potash (MOP). During 2017-22, 281 Lakh Metric

¹ Now 53 districts (GoMP formed district Mauganj on 13 August 2023).

² “Fertilizer” means any essential substance, either in straight or mixed form and derived from either inorganic, organic or mixed sources, that is used or intended to be used to provide essential plant nutrients or beneficial elements or both for the soil or for the crop or makes essential plant nutrients available to the plants either directly or by biological process or by both in the soil or plant as notified from time to time by Central Government and specified in the schedules appended to FCO or as may be notified by the State Governments, and includes a bio-stimulant and nano-fertilizer. The essential nutrients include primary nutrients, secondary nutrient and micro-nutrients.

Ton (LMT) of fertilizer were distributed in the State. The process of assessment of requirement for distribution of fertilizers is given in **Appendix 1.1**.

1.2 Organizational Structure

Additional Chief Secretary (ACS) of the Department is responsible for monitoring the overall management of fertilizer at Government level. Director of the Department assesses the fertilizer requirement and ensures availability of fertilizer coordinating with the lead fertilizer supplier (National Fertilizer Limited), other supplier companies and Government of India (GoI). Agriculture Production Commissioner (APC) at State level decides the percentage of distribution of fertilizer between Co-operative and private sector, the target for advance storage for Co-operative sector and district-wise targets for distribution of fertilizer.

MP State Co-operative Marketing Federation Limited (Markfed) under Co-operation Department is the nodal agency for storage and distribution of fertilizer in co-operative sector. Managing Director (MD), Markfed finalizes the tender process for procurement of fertilizer in co-operative sector, makes funds arrangement for making payment to fertilizer supplier companies and fixes target of credit and cash sales. The Fertilizer Co-ordination Committee (FCC) constituted under the chairmanship of ACS and APC approves the offered rates and conditions of different fertilizers proposed by MD, Markfed.

Registrar, Co-operative Societies under Co-operation Department, regulates the distribution mechanism through PACS and decides distribution of margin for sale of fertilizer between Markfed and PACS and Fertilizer Development fund. The MP State Co-operative Bank Limited (Apex bank), at State level, functioning under Co-operation Department monitors the activities of District Co-operative Central Bank (DCCB) and their branch offices who provide loan to PACS and farmers for purchasing fertilizer respectively. The DCCB monitors recovery of loan from PACS and farmers also.

MD, MP Agro Industries Development Corporation Limited (MP Agro) at State level monitors the procurement and distribution of fertilizer through its godowns with the assistance of Regional Managers and District Managers at division/ district level.

Joint Director (JD), FW&ADD at division level ensures the availability and distribution of fertilizer with the assistance of Deputy Director, Agriculture (DDA) at district level. Similarly, the Zonal Manager (ZM), Markfed at division level monitors the rake movement plan with the assistance of District Marketing Officer (DMO) in co-operative sector at district level. The DMO ensures the supply and distribution of fertilizer by coordinating with the Chief Executive Officer (CEO), DCCB. The involvement of different Departments and agencies under them from State to district level is shown in flow Chart (**Appendix – 1.2**).

1.2.1 Enforcement Mechanism

Government of Madhya Pradesh (GoMP) appointed (July 2010) the Joint Director, (Manure & Fertilizer) of Directorate FW&ADD as Notified authority for the entire State to issue authorization letter for sale of different fertilizers³ by manufacturers, importers and manufacturers of fertilizer mixture. The Joint Director is also the Registering authority for issuing registration certificate to manufacturers of the above fertilizers.

Deputy Director, FW&ADD at the district level is appointed as Notified authority for issuing authorization letter for sale of micro-nutrient fertilizer, chemical/organic/bio-fertilizer by dealers within their respective jurisdiction. Further, the State Government specified (July 2010) the Joint Director, FW&ADD of the division to hear appeal against the order of Deputy Director. Director of the Department is the Appellate authority against the order of Joint Director, (Manure & Fertilizer) of Directorate.

GoMP appointed (July 2010) all Deputy Directors/Assistant Directors/Senior Agriculture Development Officers (SADO) posted in Directorate as Fertilizer Inspector and bio-fertilizer/organic Fertilizer Inspector. All Assistant Directors/SADOs posted in office of JD and all Assistant Directors, SADOs and Agriculture Development Officers (ADO) posted in the office of Deputy Director are appointed as Fertilizer Inspector in respective division/district. Sub-Divisional Officers (SDO), Agriculture posted in office of SDO, Agriculture and SADOs posted at block level and Agriculture Development Officer (Extension) posted at circle level are appointed as Fertilizer Inspector within their respective jurisdiction.

1.3 Audit Objectives

The audit objectives are to assess whether: -

- (a) Assessment of fertilizers was need based.
- (b) Procurement, transportation and distribution of fertilizer were as per norms laid down by the GoI and GoMP.
- (c) Internal controls were adequate and effective.

1.4 Audit criteria

Audit Criteria are sourced from-

- The FCO, 1985 (as amended), The Fertilizer (Movement Control) Order 1973, The Essential Commodities Act, 1955;
- Integrated Fertilizer Management System (iFMS), Government of India (GoI) and Integrated Fertilizer Storage Software (IFSS) Portal of State Government for monitoring of supply, procurement and distribution of fertilizer;
- MP State Government Guarantee Rules, 2009 (amended), Loan agreement;
- Zonal conference inputs and minutes for each crop season; and

³ Micro-nutrient/micro-nutrient mixture, granulated NPK mixtures, bio-fertilizers organic fertilizer mixture and special mixture to fertilizers.

- Tender/Offer documents relating to procurement of fertilizer, Notifications/ orders/ circular issued by GoI and State Government regulating purchase and distribution of fertilizer.

1.5 Scope and Methodology of Audit

The performance audit covered management and distribution of fertilizers during 2017-22. We selected 10⁴ out of 52 districts (20 *per cent*) in MP by adopting Simple Random Sampling Without Replacement (SRSWOR) method on the basis of districts covered under different crop zones.

We examined records and collected information in the office of ACS of the Department, Principal Secretary of the Co-operation Department, Director of the Department, MD Markfed, MP Agro, Apex Bank and Commissioner, Co-operation and Registrar Co-operative Societies at State level.

At division level, we covered offices of two Joint Director, FW&ADD, two Joint Commissioner Co-operation and Joint Registrar Co-operative Societies, one Zonal Manager, Markfed and one Regional Manager, MP Agro in two divisions Bhopal and Hoshangabad. In selected districts, we examined records of 60 district level offices and 88 out of 3,550 sub-district level offices/units. The details of district and sub-district level offices/units we covered are given in the **Table 1.1**.

Table 1.1: Details of district and sub-district level offices/units we covered				
District level		Sub district level		
Name of offices/units	Number of units covered	Name of offices/units	Total number of units	Number of units covered
Deputy Director, Farmer Welfare and Agriculture Development (DDA)	10	Primary Agricultural Credit Co-operative Societies (PACS)	727	31
Deputy Registrar/Assistant Registrar Co-operative Societies	10	Marketing Societies (MS)	37	10
District Marketing Officer (DMO), ⁵ Markfed	10	MP Agro godown ⁶	12	05
District Manager (DM), MP Agro ⁷	10	Markfed godown	50	11
Chief Executive Officer (CEO) ⁸ , DCCB	10	Private wholesalers	348	14
Soil Testing Laboratory ⁹	09	Private retailers	2,376	17
Fertilizer Quality Control Testing Laboratory (Bhopal)	01	0	0	0
Total	60		3,550	88

(Source: Departmental records)

⁴ Alirajpur, Balaghat, Bhopal, Chhindwara, Dhar, Hoshangabad (The name has been changed as Narmadapuram dated 07 February 2022), Sidhi, Seoni, Tikamgarh and Umaria.

⁵ The district Alirajpur was under the control of DMO Jhabua and Umaria was under the control of DMO Shahdol.

⁶ There were no godowns in five selected districts Alirajpur, Balaghat, Sidhi, Seoni and Tikamgarh.

⁷ The district Alirajpur was under the control of DM Jhabua.

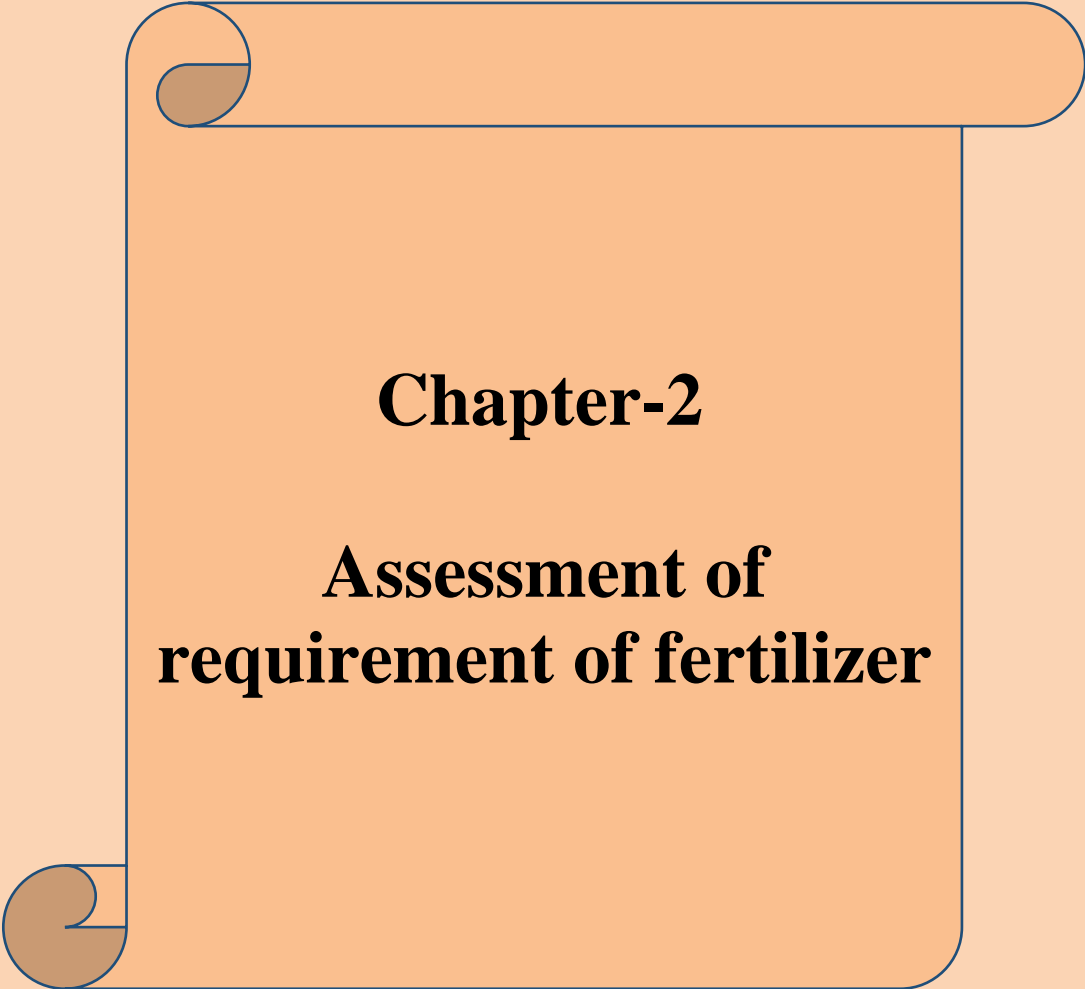
⁸ The district Alirajpur was under the control of CEO Jhabua and Umaria was under the control of CEO Shahdol.

⁹ Alirajpur had no soil testing laboratory.

In addition, we collected information from other offices like Deputy Director Horticulture, Deputy Director Veterinary Services, Municipal Corporation/Municipalities and Superintendent of Police in selected districts and National Fertilizer Limited (lead fertilizer supplier in the state).

Joint Physical verification and survey of selected Markfed (11)/MP Agro godowns (05)/PACS (31)/MS (10) including private wholesaler (14)/retailers (17) were carried out with Departmental officers. Survey of 250 farmers (25 farmers in each selected district) under the selected PACS was also conducted.

The entry conference was held with ACS, FW&ADD on 09 September 2022 wherein the audit objectives, audit criteria and scope and methodology of audit were discussed. The exit conference was held with ACS, FW&ADD on 22 December 2023. The replies of FW&ADD received (January and February 2024) have been suitably incorporated in the Report.



Chapter-2

Assessment of requirement of fertilizer

Chapter-2

Assessment of requirement of fertilizer

2.1 GoI directives for assessment of requirement of fertilizer

Before each cropping season, Department of Agriculture and Farmers Welfare (DoAFW), GoI issued¹ directions to the States to send the requirement of fertilizers along with certain other information on (i) area under crop coverage and area under irrigation (ii) consumption of fertilizers (iii) off take of different fertilizers (iv) fertilizer-wise opening stock, (v) status of sales points and district-wise consumption of fertilizers (vi) quality control and fertilizers sample and progress report of soil testing etc. The directions further provided for block-wise assessment of fertilizers on the basis of soil deficiency and obtaining feedback from farmers and co-operative societies with involvement of *panchayats* and block *samitis*.

DoAFW, GoI organised (before each cropping season) “Agricultural Inputs Zonal Conference” for finalization of fertilizer requirement of the State for each crop season namely *Kharif* and *Rabi*².

2.2 Non-assessment of requirement of fertilizer as per GoI directions

As per directions issued (before each cropping season) by the DoAFW, GoI, the GoMP was required to collect block-wise assessment of requirement of fertilizer from districts. The GoMP was also required to furnish the assessment along with the information i.e. soil health status, irrigated area, requirement being met from bio/organic fertilizer, status of micronutrient deficiencies etc. to the DoAFW, GoI. However, GoMP did not follow the directions of GoI as discussed below:

- (i) Scrutiny of records of Director, FW&ADD revealed that Director instructed³ the DDAs to furnish the assessment of requirement of fertilizer on the basis of soil health cards (SHC) and block-wise assessment. During audit of DDAs of selected 10 districts, we noticed that the DDAs had information on soil type, nutrient content, irrigated area and crop-wise recommended doses. However, DDAs did not assess the requirement of fertilizer as per GoI directives from this information and projected the fertilizer requirement based on previous year's consumptions. Documents made available indicated that block-wise assessment was not done and *panchayats/samitis* and farmers were not involved in assessment as required.
- (ii) Director did not collect the assessment of requirement of fertilizer from districts and instead assessed the requirement of fertilizer in each cropping season based on past

¹ *Kharif* 2017 (January 2017), *Rabi* 2017-18 (July 2017), *Kharif* 2018 (January 2018), *Rabi* 2018-19 (August 2018), *Kharif* 2019 (January 2019), *Kharif* 2020 (January 2020), *Rabi* 2020-21 (August 2020), *Kharif* 2021 (January 2021) and *Rabi* 2021-22 (July 2021).

² *Kharif* season (1 April to 30 September) and *Rabi* season (1 October to 31 March).

³ *Kharif* - January 2018, December 2018, January 2020 and January 2021 and *Rabi* – August 2018 and August 2019.

consumption and increased⁴ fertilizer requirement between 20 and 24 *per cent* (*Kharif*) and between 11 and 35 *per cent* (*Rabi*).

(iii) Director did not record the norms/criteria adopted to calculate the requirement of different fertilizers in the assessment document. Against the audit query on method adopted to calculate the projected quantity of fertilizer, the Director did not give appropriate reply and stated that the requirement was projected on the basis of sale of last years *Kharif* and *Rabi* season and climatic conditions. Thus, the Department despite having the required information for assessment of requirement of fertilizer as per GoI norms, assessed the requirement in an adhoc manner.

Director, FW&ADD stated (December 2023) that the assessment of requirement of fertilizer as per GoI guidelines would be sent to GoI from next crop season obtaining demand from Deputy Director Agriculture (District level) and other bodies.

Department stated (January and February 2024) that zonal conference inputs were prepared on the basis of district-wise information available at State level and during discussion on requirement of fertilizer in zonal conference, information about last years' consumption of fertilizer, cropped area and rain status was provided for justifying State's fertilizer requirement which was considered by GoI for allotment of fertilizer.

It was also stated that soil samples were taken on the basis of grid as per GoI directions; and statistics in soil health card and recommendations given therein are not reliable as the holdings of most of the small and marginal farmers are covered in the same grid land. Further, detailed directions were issued (December 2023) to all DDAs to provide information as per GoI directives.

The reply is not acceptable as soil health card is the basis for rational determination of the requirement of fertilizer of the State; and requirement of fertilizers was assessed at State level without considering the district-wise demand of NPK for major crops, irrigation status and deficiency of micronutrients. Thus, assessment of requirement of fertilizer was not made as per GoI directives due to which GoI had to consider factors such as last years consumption and cropped area.

(iv) The Department did not provide to GoI the required information i.e. area covered under irrigation, requirement being met from bio/organic fertilizer and status of micronutrient deficiencies etc. through different formats in zonal conference for assessment of requirement of fertilizer of State as detailed below:

(a) Non-consideration of land type (irrigated/unirrigated) for assessment

The irrigated land requires more fertilizer compared to the unirrigated land. From documents made available, we found that the Department did not furnish the status of irrigated area to GoI. During 2017-22, 45 to 56 *per cent* of cropped area was irrigated in the State. The status of irrigated area in the State during 2017-18 to 2021-22 is given in the **Table 2.1**.

⁴ The increase in percentage is calculated on last years average consumption.

Table 2.1: Status of irrigated area in the State during 2017-18 to 2021-22 (Area in lakh hectare)						
<i>In the State</i>				<i>In the selected 10 districts</i>		
Year	Total cropped area	Irrigated area	Percentage	Total cropped area	Irrigated area	Percentage
2017-18	251.14	113.94	45	44.54	20.10	45
2018-19	261.15	126.86	49	45.10	21.56	48
2019-20	282.77	147.04	52	51.37	27.19	53
2020-21	299.03	163.78	55	55.37	31.53	57
2021-22 ⁵	300.49	168.69	56	55.72	32.26	58

(Source: Commissioner Land Records, Gwalior)

Thus, the Director did not furnish information of irrigated/un-irrigated land to GoI which affected the assessment of requirement of fertilizer.

Department stated (January and February 2024) that due to non-availability of current year's data in land records, the data on irrigated area could not be sent to GoI. The reply is not acceptable because Director neither made efforts to get the irrigated area data from land records nor provided to GoI the data as available at the time of each crop season.

(b) Non-assessment of requirement of fertilizer for vegetables and horticultural crops

Fertilizers were also used for vegetables and horticultural crops. We noticed that the Director did not include the area covered under vegetables and horticultural crops. Survey of 250 farmers revealed that 56 *per cent* farmers utilized fertilizers in vegetable/fruits production. The status of area covered under vegetable and horticultural crops during 2017-22 in the State and in the selected 10 districts is shown in **Table 2.2**.

Table 2.2: Status of area covered under vegetable and horticultural crops during 2017-22 (Area in lakh hectare)								
<i>In the State</i>					<i>In the selected 10 districts</i>			
Year	Vegetable	Fruits	Spices	Total	Vegetable	Fruits	Spices	Total
2017-18	8.48	3.47	7.38	19.33	1.60	0.68	0.70	2.98
2018-19	8.67	3.61	7.24	19.52	1.61	0.69	0.71	3.01
2019-20	9.60	3.87	7.56	21.03	1.83	1.16	1.01	4.00
2020-21	10.48	4.11	8.24	22.83	1.87	0.81	0.78	3.46
2021-22	11.36	4.34	8.57	24.27	2.04	0.87	0.86	3.77
Total	48.59	19.40	38.99	106.98	8.95	4.21	4.06	17.22

(Source: Director Horticulture and Food Processing and Deputy Director, Horticulture of selected districts)

The Director intimated that fertilizer were used in horticultural crops but there was no separate order for covering the horticultural area in projected requirement of fertilizer. The reply is not acceptable because GoI required the area to be covered under crops while the State reported area covered under only agriculture crops and did not report the area covered under Horticulture crops.


Department stated (January and February 2024) that discussion was held in zonal conference for considering the horticultural area but GoI did not include the horticultural area in the calculation of requirement of fertilizer and field crops are included under crops. However,

⁵ This is estimated figure.

no supporting documents in this regard were provided with reply. Further, minutes of the Zonal conference did not have any details of such discussion.

Recommendations:

- *The GoMP should ensure block-wise assessment of requirement of fertilizer on the basis of soil deficiency, irrigation status and fertilizer need of crop, while considering the previous year's consumption. While assessing the requirement, the feedback from farmers and co-operative societies and involvement of panchayats and block samitis must be ensured.*
- *The GoMP should include the fertilizer requirement for cultivation of vegetables and horticultural crops while submitting the fertilizer requirement to GoI.*



Chapter-3

Procurement of fertilizer in Co-operative Sector

Chapter – 3

Procurement of fertilizer in Co-operative Sector

Markfed is the nodal agency of the State to ensure procurement and sale of fertilizer in co-operative sector. MD, Markfed invites season-wise offer¹ from supplier companies to ensure competitive/minimum rate and offer quantity according to estimated requirement of fertilizer. Further, MD Markfed invites counter offer from suppliers when the required quantity of fertilizer is not met by the supplier who quoted the lowest rate in the offer.

General Administration Department, GoMP constituted (March 2017) the Fertilizer Co-ordination Committee (FCC)² under the Chairmanship of ACS and APC to finalise the rates of fertilizers received through tenders and supply conditions. Markfed executes the agreement with fertilizer supplier companies and places delivery indent (DI) to suppliers.

3.1 Procurement of fertilizers in Co-operative Sector

The status of procurement of major fertilizers (Urea, DAP, MOP, SSP, Complex and AS) in co-operative sector (by Markfed and MP Agro³) in the State during 2017-22 is given in the **Table 3.1**.

Table-3.1: Status of procurement of major fertilizers (Urea, DAP, MOP, SSP, Complex and AS) in co-operative sector during 2017-22 (Qty. in LMT and amount in crore)								
Year	Name of fertilizers							
	Urea	DAP	SSP	MOP	Complex	AS	Total	Total Cost ⁴
2017-18	12.41	6.41	3.12	0.39	1.94	0.01	24.28	2,554.66
2018-19	12.02	8.48	3.36	0.55	1.77	0.02	26.20	3,376.28
2019-20	16.88	6.10	3.09	0.41	1.65	0.01	28.14	2,915.35
2020-21	17.38	7.64	3.51	0.63	2.19	0.02	31.37	3,310.02
2021-22	15.97	7.16	3.51	0.33	2.42	0.04	29.43	3,276.76
Total	74.66	35.79	16.59	2.31	9.97	0.10	139.42	15,433.07

(Source: Departmental records)

¹ 1 April to 30 September for *Kharif* and 1 October to 31 March for *Rabi*. Markfed adopted the process of inviting e-offer from *Kharif* 2020.

² MD Markfed as member secretary and MD, MP Agro, Apex bank, representative of Commissioner and Registrar Co-operatives (the rank of Additional Registrar) and Director FW&ADD or his representative as members.

³ Five *per cent* of rakes allotted quantity for co-operative sector is earmarked for MP Agro.

⁴ GST is not included in the cost.

3.1.1 Shortcomings in procurement

On scrutiny of offer documents of *Kharif* and *Rabi* seasons we found the following shortcomings-

(i) Non-procurement of complex fertilizer

Audit noticed that Markfed could not purchase the targeted complex fertilizers due to non/short assessment and receipt of offer against target as detailed below:-

- During *Kharif* 2019, *Kharif* 2021 and *Rabi* 2019-22 season, Markfed assessed 35,500 MT complex fertilizers and procured only 4,116.65 MT against the target of 1,19,350 MT given by Director, FW&ADD. Details are given in **Appendix-3.1**.
- Markfed did not procure targeted six fertilizers (4,975 MT) in *Kharif* 2019 and 2021 and seven fertilizers (24,906 MT) in *Rabi* 2019-22 due to non-assessment of such fertilizers for procurement. Details are given in **Appendix-3.1**.

MD Markfed stated that these fertilizers were not procured due to absence of demand and non-receipt of target of procurement from Director FW&ADD before assessment of these fertilizers by Markfed for procurement.

Department stated (January and February 2024) that the supply and less price of DAP and less demand by farmers affected the use of complex fertilizer. The demand of grade NPK 12:32:16 was more and other grades of complex fertilizer supplied when there was less supply of NPK 12:32:16. The other grades were not included in offer due to less demand. Chemical fertilizer is supplied by Markfed as per demand of farmers in the districts, otherwise excess non-salable stock more than requirement would remain in the godowns.

The reply is not acceptable as the other grades of fertilizer which were not purchased, were not included in assessment of procurement made by Markfed due to which offer was not invited. Markfed, the nodal agency for procurement of fertilizer in co-operative sector did not comply with the directions of Director FW&ADD given for procurement of different grades of complex fertilizers.

Further, if there was no/less demand of other grades, proposal of requirement of different other grades of complex fertilizers sent to GoI by the Department in each crop season during 2017-22 was not justified.

(ii) Other irregularities

Audit also noticed the following instances of fertilizer sale and purchase on higher rate in different seasons:

- ***Extra burden of ₹ 10.50 crore on farmers due to sale of fertilizer at higher rate***

The suppliers offered rebate of ₹ 1,100/- and ₹ 700/- per MT on DAP and MOP respectively for procurement in advance period in *Kharif* 2019. FCC decided (14 February 2019) to adjust the rebate amount against the claim for recoupment of loss to be made from government on advance storage. The rebate was not considered in sale rate. Further, FCC directed (April 2019) MD, Markfed to consider the above rebate while fixing the sale rate of regular period. Audit noticed that despite FCC

order, MD did not fix the sale price considering the rebate which resulted in extra burden of ₹10.50⁵ crore on farmers and fertilizers were sold to the farmers at higher rate during March to July 2019⁶. Thus, despite FCC order farmers were deprived of the benefit of the rebate and paid additional amount of ₹10.50 crore.

Department stated (February 2024) that rebate amount was adjusted against the claim for recoupment of loss made from government on advance storage.

The reply is not acceptable because adjustment of rebate against claim of advance storage was decided by FCC on 14 February 2019 but on 05 April 2019 FCC directed to consider the rebate against sale rate which was not complied with.

• **Extra financial burden due to sale of fertilizer at lower rate ₹ 4.38 crore**

MD Markfed invited offer from suppliers for procurement of fertilizer in regular season⁷ and offer for advance period⁸ was invited from approved suppliers of last season. We found that the purchase rate approved for DAP and NPK (12:32:16) in *Rabi* 2020-21 advance period was less than the minimum offer rate of *Rabi* 2020-21 regular season. The suppliers refused to supply at the advance period rate due to rise in price in the international market.

FCC decided (05 October 2020) to purchase fertilizer for regular season at minimum offer rate and sell at lower rate (last season *Kharif* 2020) to maintain uniformity in rates of *Kharif* 2020 and *Rabi* 2020-21 and avoid agitation of farmers. Further, it was decided to take action on recoupment of loss later on. The details of purchase rate are given in the **Table 3.2**.

Table-3.2: Purchase rate of fertilizers		
<i>(Rate in ₹ per MT)</i>		
Season	Purchase rate	
	DAP	NPK (12:32:16)
Regular season <i>Rabi</i> 2020-21	23,475	22,975
Advance period <i>Rabi</i> 2020-21	22,475	21,975

(Source: Departmental records)

Audit noticed that Markfed purchased 0.54 LMT⁹ DAP and NPK (12:32:16) between 13 October 2020 and 02 November 2020 at higher rate and sold 0.44 LMT¹⁰ at lower rate¹¹. As a result, the loss to Markfed was ₹ 4.38 crore¹². The loss was not reimbursed to Markfed till the date of audit. Further, the above decision of FCC without proper justification led to loss to Markfed.

⁵ DAP-0.77 LMT (₹8.89 crore @ ₹ 57.75 per bag) and MOP 0.23 LMT (₹1.61 crore @ ₹ 35 per bag).

⁶ DAP- March to June 2019 and MOP- March to July 2019.

⁷ 1st April to 30th September for *Kharif* and 1st October to 31st March for *Rabi* season.

⁸ 1st March to 31st May for *Kharif* season and 1st August to 15th September for *Rabi* season.

⁹ DAP-34,294.950 MT and NPK 12:32:16- 19,244.850 MT.

¹⁰ DAP- 25,138.500 MT and NPK 12:32:16- 18,660.750 MT. The remaining quantity 0.10 LMT was not sold at less rate.

¹¹ DAP (₹ 23,000 in place of ₹ 24,000) and NPK 12:32:16 (₹ 22,500 in place of ₹ 23,500).

¹² Loss is worked out as the difference between purchase rate of regular season *Rabi* 2020-21 and purchase rate of advance period *Rabi* 2020-21.

Department stated (February 2024) that DAP and NPK 12:32:16 purchased at higher rate, were sold at old approved existing rate to bring uniformity in sale rate and to avoid agitation among farmers. Action for recoupment of loss from government is under process.

- **Purchase of fertilizer at higher rate**

Audit noted that FCC approved (09 September 2021) the rate of NPK 12:32:16, 10:26:26 and APS 20:20:0:13 for the season *Rabi* 2021-22. Audit further noted that in the said season IFFCO¹³, one of the suppliers reduced (04 October 2021) the price and further increased (15 October 2021) the price of fertilizers which was approved by FCC on the ground that the rate of IFFCO is lower than the rates of other suppliers and due to shortage of phosphatic fertilizer in the State. The details of rates are given in the **Table 3.3**.

Table-3.3: Details of rates approved by FCC					
Sl. No.	Name of fertilizers	Number of suppliers finalized for procurement	Rate per MT approved by FCC (in the ₹)		
			September 2021	06 October 2021 (rate of 04 October 2021 which was effective from 01 October 2021)	21 October 2021 (rate of 15 October 2021 which was effective from 27 October 2021)
1	NPK 12:32:16	Five	28,875 ¹⁴	23,175	28,475
2	NPK 10:26:26	Four	28,975	22,975	28,275
3	APS 20:20:0:13	Four	23,975	22,475	23,875

(Source: Departmental records)

Audit further noted that the MD, Markfed sought (04 October 2021) the consent¹⁵ of other suppliers on new price structure of IFFCO, but did not seek consent of other suppliers on further change in price structure dated 15 October 2021. This resulted in the following:

- Markfed could not procure 1,08,441 MT (97 per cent) out of 1,12,185 MT fertilizers at lower price rate. This resulted in avoidable expenditure of ₹4.62 crore¹⁶.
- These fertilizers were sold to farmers at different rates¹⁷ (ranging between ₹23,000 and ₹ 29,400) in the same season.

Department stated (February 2024) that fertilizers were procured at higher rate as per decision of FCC on 06 October 2021 to ensure timely availability of fertilizer to farmers. The reply is not acceptable as no consents were sought from suppliers on the rates

¹³ Selected through counter offer.

¹⁴ FCC revised (21 October 2021) the rate of NPK 12:32:16 from ₹ 33,475/- (rate decided in September 2021) to ₹ 28,875/- which was effective from 01 October 2021.

¹⁵ None of the suppliers agreed on price structure of IFFCO.

¹⁶ N:P:K 12:32:16 (₹ 3.35 crore), N:P:K 10:26:26 (₹ 1.19 crore) and APS 20:20:0:13 (₹ 0.08 crore).

¹⁷ NPK 12:32:16 (₹23,700, ₹29,000, ₹29,400) and APS 20:20:0:13 (₹23,000, ₹24,400, ₹24,500).

offered by IFFCO on 15 October 2021 which resulted in avoidable expenditure of ₹ 4.62 crore.

3.1.2 Deficiencies in offer for procurement of fertilizer

We found the following deficiencies in offer documents and procedure -

- (i) There was no provision in offer conditions and agreement for imposing penalty for non-supply/less supply of offered quantity. We noticed that in 224¹⁸ cases, the suppliers could not supply (DAP, MOP, AS and SSP) the offer quantity during 2019-22 but due to non-provision of penalty clause in offer conditions/agreement, MD Markfed could not take legal action against them.

Department stated (February 2024) that the penalty provision have been included in paragraph 6(d) and 3(d) of e-offer form and agreement of *Kharif 2023* respectively.

- (ii) We further noticed that despite having the quantity offered by the suppliers in offers, MD Markfed did not mention the offered quantity in the agreement executed with the suppliers.

Department stated (February 2024) that as per demand of farmers, Markfed procured more or less quantity than the quantity offered by the suppliers. If the offer quantity is mentioned in agreement, then Markfed would be bound to purchase the quantity as per agreement.

The reply is not acceptable because the demand quantity placed on suppliers is restricted to offer quantity and fertilizers are supplied as per supply order placed on suppliers. If offered quantity is not mentioned in the agreement, transparency in supply cannot be ensured. Further, with offered quantity mentioned in agreement, Markfed can penalise the suppliers who supplied less than the offer or demand quantity.

- (iii) Further, we found that with reference to the decision (27 April 2021) of FCC regarding confiscating the Earnest Money Deposit (EMD), the committee at MD Markfed level decided (17 November 2021) that EMD of suppliers who accepted the L1 rates and then withdrew from the consented rates, would be confiscated. But MD, Markfed did not include provision for confiscation of EMD in seven agreements executed between 18 November 2021 and 17 March 2022.

Department stated (February 2024) that the provision relating to confiscation of EMD amount have been included in e- offer form from *Kharif 2023*.

- (iv) We found that the suppliers who participated in counter offer, did not indicate quantity to be supplied. In the absence of quantity, MD Markfed could not place the exact demand. However, Markfed issued supply order without knowing the offered quantity of suppliers. As a result, the suppliers could not meet the demand of Markfed as given in **Table 3.4**.

¹⁸ *Kharif 2019* (51 cases), *Rabi 2019-20* (45 cases), *Kharif 2020* (20 cases), *Rabi 2020-21* (44 cases) *Kharif 2021* (38 cases) and *Rabi 2021-22* (26 cases).

Table-3.4: Details of supply by suppliers through counter offers					
(Quantity in MT)					
Season	Fertilizers	No. of suppliers	Supply order quantity	Supplied quantity against supply order	Shortfall (percentage)
Kharif 2020	DAP	One	16,490	12,402	4,088 (25)
	SSP	Three	21,000	10,904	10,096 (48)
Kharif 2021	DAP	One	4,450	3,874	576 (13)
	SSP	Three	1,15,640	35,942	79,698 (69)
Rabi 2020-21	DAP	One	24.40	00	24.40 (100)
	SSP	Two	60,000	29,605	30,395 (51)
Rabi 2021-22	DAP	11	6,26,772	2,83,906	3,42,866 (55)
	SSP	Two	52,800	27,059	25,741 (49)
	MOP	One	280	85	195 (70)
Total		25	8,97,456.40	4,03,777	4,93,679.40 (55)

(Source: Departmental records)

From the above table it could be seen that 25 suppliers did not provide 55 per cent of quantity indented for supply. The supply orders issued by Markfed were not effective and purposeful as there were short supplies by suppliers against the quantity indented for supply through counter offers.

It was replied by the Department that if offered quantity is mentioned in the counter offer then suppliers with higher rates will offer lesser quantity of fertilizers which would affect the fertilizer supply.

The reply is not acceptable as the Department did not provide any data / documentation to support such an assumption.

Recommendations:

- *Assessment of complex fertilizer for procurement should be in accordance with the targets fixed by Director FW&ADD.*
- *GoMP should include penalty provision in offer conditions/agreement for suppliers and quantity offered by the suppliers should also be given in agreement to ensure transparency in Delivery Indent.*



Chapter-4

Financial management

Chapter-4

Financial management

4.1 Financial arrangement for procurement of fertilizers

The GoMP decided¹ to provide Government guarantee of ₹ 850 crore for each year during 2017-21 and ₹ 600 crore for the year 2021-22 to Markfed for taking loan to make payment to the supplier companies for purchase of chemical fertilizers in cooperative sector. During 2017-20, Apex bank sanctioned ₹ 825 crore cash credit limit for each year in the consortium of Apex Bank itself and 16 other District Co-operative Central Banks (DCCB) for purchase of chemical fertilizer on the request of Markfed. The proposal submitted by Markfed was placed before the Loan Examination Committee constituted at Apex level and the share of limit among the member banks decided in the consortium meeting. The annual rate of interest was 10.75 *per cent* in 2017-18, 10.50 *per cent* in 2018-19 and 10.25 *per cent* in 2019-20 and interest was to be charged on monthly basis.

As per conditions of sanction, cash credit limit was sanctioned on the basis of Government guarantee and Markfed was required to produce Government guarantee to Apex bank. We found that despite repeated request (June and November 2019, January and February 2020) of Apex bank, MD Markfed did not submit the Government guarantee for the year 2018-19 and 2019-20 to Apex bank and drew loan amounting to ₹ 3,372.79 crore from Apex bank and DCCB for procurement of fertilizer.

Apex bank also did not ensure submission of Government guarantee before releasing loan in 2018-19 and 2019-20. Thus, officials of both the organisations did not comply with the conditions of sanction.

Out of ₹ 6,134.17 crore drawn against cash credit limit during 2017-19, ₹ 345 crore was drawn from five out of 16 DCCB member banks and ₹ 580 crore from 10 DCCBs and the remaining ₹ 5,209.17 crore from Apex bank.

In the year 2018-19, the Finance Department objected (December 2018) to the loan amount taken from Apex bank at higher interest rate without seeking rate from other banks. Due to which Markfed had drawn only ₹ 93.43 crore against credit limit from Apex bank in 2019-20 and had drawn loan ₹ 230.36 crore against Fixed Deposit Receipt of ₹ 291.46 crore kept with Apex bank availing overdraft facility and used sales proceeds of ₹ 2,942.19 crore for making payment to supplier companies.

During 2020-22, Markfed had drawn loan of ₹ 8,077.53 crore from State Bank of India (SBI) against the Government guarantee seeking rate of interest from other banks.

During 2017-22, Markfed had drawn loan amounting to ₹ 14,535.49 crore from Apex bank, DCCB, SBI and against Fixed Deposit Receipt for procurement of fertilizers. As on 31 March 2022, outstanding loan amounting to ₹ 210 crore was not repaid to SBI.

¹ In April 2017 for the year 2017-18 to 2019-20, April 2020 for the year 2020-21 and May 2021 for the year 2021-22 to 2023-24.

Department stated (February 2024) that Markfed submitted proposal to Finance Department to provide Government guarantee to Apex bank. Finance Department sought information on inviting tender for interest rates. Further, Markfed requested Apex bank to provide loan on the interest rate of nationalized banks and other financial institutions. Government guarantee for 2018-19 was not received and the credit limit loan facilities were not availed in 2019-20. Tenders/offers have been invited from nationalized banks and other financial institutions from the year 2020-21 for finalization of rate of interest for taking loan against credit limit.

4.2 Outstanding Recovery

District Marketing Officers (DMOs), Markfed are required to submit the demand draft (DD) of DCCB (Branch offices) to DCCB (head office) against the fertilizer received by PACS. The DCCBs (head office) were required to clear the demand draft on the same day.

Scrutiny of records of selected DMOs revealed that the DCCBs did not make timely payment to Markfed. Cost of fertilizer amounting to ₹ 37.37 crore² was outstanding against the DCCBs in 15 districts as on 08 December 2023. MD Apex Bank issued directions from time to time to DCCBs for payment, however, the DCCBs did not ensure payment on the same day of receipt of DD. MD Apex bank attributed reasons for delay in payment to lack of liquidity in the bank branch offices where recovery of dues was slow and delay in recovery of loan from farmers affected the liquidity of PACS.

In selected districts we noticed that the DCCB did not pay the cost of fertilizer in time to Markfed. In eight districts sales proceeds of ₹ 20.84 crore³ were paid to Markfed in next years. DMO Bhopal did not recover cost of fertilizer ₹ 30.08 lakh due from DCCB bank prior to 2012-13. Further, we noticed outstanding loans/overdues (fertilizer and other loans) of ₹ 52.42 crore was pending against 16,093 farmers in 22 selected PACS of nine districts.

We further noticed that sales proceeds of ₹ 8.54 crore⁴ were outstanding for recovery (as on 20 January 2023) from Agriculture, Horticulture and other Departments in 38 districts.

Since Markfed procured fertilizer taking loan from banks, non-payment of cost of fertilizer by DCCB banks could affect payment to suppliers and put extra financial burden (approximate ₹ 5.38 crore)⁵ in terms of payment of interest.

Department stated (February 2024) that Markfed had requested in High level meetings and through correspondences from time to time to the District Collectors, Apex bank, PS Co-operation, Commissioner Co-operation and Registrar Co-operative Societies to recover the outstanding amount of sold fertilizers from DCCB. Further, the DMOs at district level requested in all the meetings of District Collectors to issue instructions to the DCCBs to recover the outstanding amount.

² From the outstanding balance ₹ 237.40 crore as on March 2022.

³ Balaghat- ₹ 495.90 lakh, Bhopal- ₹ 78.57 lakh, Chhindwara- ₹ 333.46 lakh, Dhar- ₹ 753.11 lakh, Hoshangabad- ₹ 40.90 lakh, Tikamgarh- ₹ 41.37 lakh, Umaria- ₹ 33.44 lakh and Sidhi- ₹ 307.45 lakh.

⁴ Agriculture (₹ 5.03 crore), Horticulture (₹ 0.23 crore) and other Departments (₹ 3.28 crore).

⁵ Interest is calculated on the outstanding amount ₹37.37 crore upto November 2023.

The Department did not take effective steps to ensure timely payments of cost of fertilizers by the DCCBs to Markfed and recovery of outstanding loans from the farmers/departments to ensure uninterrupted supply of fertilizers.

4.3 Non-recoupment of loss from suppliers

As per provision in tender and agreement, in case of any revision in MRP due to changes in fertilizer subsidy or any other matter and consequent to this, the MRP is reduced then in such cases the re-imbursement/burden or such reduction shall be made/borne by the fertilizer supplier on unsold fertilizers stored at PACS/Markfed godown.

We found that during 2019-22, Markfed and PACS suffered loss of ₹ 83.96 crore⁶ due to selling the balance stock of fertilizers at reduced rate/lower rate. Out of total loss of ₹ 83.96 crore, ₹ 78.90 crore was recouped and the balance ₹ 5.06 crore was yet to be recouped (as of December 2023) from suppliers.

Department stated (February 2024) that there was delay in adjustment of loss amount at PACS level due to time taken in getting PACS-wise/product-wise information from Apex bank. Action to recover the remaining amount was under process.

4.4 Fertilizer Development Fund

The Co-operation Department fixed margin⁷ on the selling quantity of different fertilizers for the fertilizer selling agencies *i.e.* PACS and Markfed godown. Out of the margin money earned by the selling agencies, rupees four to ten per MT was meant for Fertilizer Development Fund created (November 1983) under MP Co-operative Fertilizer Distribution Arrangement and Member Development Fund Rules.

The fund was to be utilized for (i) providing assistance to PACS for availing agricultural implements to member farmers, (ii) rebate on fertilizer rate for small and marginal farmers during natural calamities, (iii) providing training facilities and technical information to member farmers and Departmental officers, (iv) developing infrastructure and providing furniture/fixture at society/Department level and (v) providing vehicle facilities to Departmental officials for monitoring and supervision etc. The Fertilizer Development Fund is to be managed by Registrar Co-operative Societies, Bhopal.

Scrutiny of records of MD, Markfed revealed that the MD remitted ₹ 4.72 crore out of margin money amounting to ₹ 6.95 crore payable to Fertilizer Development Fund during 2017-18 to 2021-22. Out of remaining amount of ₹ 3.58 crore (₹ 2.23 crore out of ₹ 6.95 crore plus ₹ 1.35 crore pertaining to period prior to 2017-18), Markfed paid ₹ 2.10 crore during 2022-24 and ₹ 1.48 crore was not paid to Fertilizer Development Fund due to non-recovery of sales proceeds from DCCB.

⁶ Loss to Markfed and PACS occurred due to selling the balance stock of DAP as on 31 July 2019 at reduced rate and the balance stock as on 31 July 2019 at new rate applicable from 01 August 2019 as per decision (July 2019) of FCC. Similarly, NPK in *Kharif* and *Rabi* 2019-20 and DAP and MOP in *Rabi* 2019-20 sold at lower rate. Further, in 2020-21, the loss was due to sale of DAP, NPK and MOP as on 29 February 2020 at lower rate of *Kharif* 2020. In 2021-22, loss was due to revision in rate of DAP and NPK 12:32:16.

⁷ Margin was allowed on release order on basis of sales of DAP, Potash (MOP), Complex and SSP from February 2014 and further on Urea from May 2019.

Department stated (February 2024) that amount of ₹ 1.48 crore was outstanding for payment to Fertilizer Development Fund.

(i) Utilization of fund for usage of vehicle

Audit found that Registrar co-operative societies did not use the fund for specified purposes and used 90 *per cent* (₹ 4.79 crore out of ₹ 5.31 crore) of the fund for vehicle purposes. Scrutiny of records of Registrar Co-operative Societies revealed that Registrar spent ₹ 5.31 crore during 2017-22 on different heads *i.e.* vehicle purchase/ maintenance at State/ district level, stationery, office expenses and farmers training/seminar etc. We noticed that out of ₹ 5.31 crore, ₹ 2.77 crore was spent at State level and ₹ 2.54 crore (48 *per cent*) was released to divisional/district level offices for salary of driver/maintenance of vehicle etc. Further, expenditure of ₹ 2.25 crore was incurred on 20 vehicles out of above ₹2.77 crore spent at State level. We noticed that during 2017-18, only ₹ 5.10 lakh was spent on farmer's training/seminar. Registrar intimated (October 2022) that the expenditure incurred on vehicle was used for official works.

As evident from the above details that no expenditure was incurred on providing assistance to PACS, rebate on fertilizers for small and marginal farmers and providing training facilities to the farmers (except the year 2017-18).

Department did not furnish reply on use of fertilizer fund for specified purposes. However, in the exit conference ACS, FW&ADD stated that the issue will be examined. Further, Principal Secretary, Co-operation Department stated (February 2024) that the objective of Fertilizer Development Fund is to monitor and supervise the fertilizer distribution. To achieve the objectives, facilities are provided to the state and district level officials for monitoring and supervision of storage and distribution and inspection of godowns of PACS as well as Markfed. Vehicles were purchased at Commissioner Co-operative and their sub-ordinate offices level and expenditure incurred as per objective of the Fertilizer Development Fund.

The reply is not acceptable as the funds were utilized mainly for use of vehicles and priority was not given to other specific purposes of Fertilizer Development Fund.

(ii) Non-receipt of utilization certificates

Registrar directed (November 2018) to release fund to division/district level offices for use of vehicles after obtaining utilization certificates from them. Utilization certificates of ₹ 25.71 lakh for the year 2021-22 were not received as of December 2023 from 36 division/district level offices. Registrar Co-operative Societies, Bhopal did not obtain the required utilization certificates against the amount provided to districts/divisions. Thus, the utilization of ₹ 2.54 crore provided to districts for the intended purposes was not ensured during 2017-22. Besides, the Registrar continued release of the amount to divisions/districts offices⁸. Registrar intimated (October 2022) that utilization certificates would be obtained from districts.

⁸ In 2021-22, funds released to Joint Commissioner Indore, DRCS Agar Malwa and Satna without getting UC of previous quarter.

However, in the exit conference ACS, FW&ADD also stated that the issue will be examined.

Recommendations:

- *Responsibility should be fixed on officials of both MD, Apex bank and MD, Markfed for violating the conditions of production of Government guarantee in connection with loans.*
- *GoMP should make efforts to recover the outstanding amounts for repayment of its loan to reduce the interest burden.*
- *GoMP should ensure the use of Fertilizer Development Fund for specific purposes as per objectives of the fund.*



Chapter-5

Supply and distribution of fertilizer

Chapter – 5

Supply and distribution of fertilizer

5.1 Supply of fertilizer

Before the start of each cropping season, GoMP submits demand for five fertilizers *i.e.* Urea, DAP, MOP, Complex and SSP to Department of Agriculture and Farmers Welfare (DoAFW), GoI. Thereafter, the DoAFW, GoI assesses the fertilizer requirement of the State in the Zonal Conference and makes allocation of the fertilizer with the direction to submit month-wise requirement of the State. The State submits month-wise requirement to the GoI. Department of Fertilizer, GoI, issues monthly company-wise and fertilizer-wise (except SSP) supply plan for the State. Accordingly, the fertilizer companies supplies fertilizers for co-operative and private sector. State Government is responsible to ensure availability of fertilizer Intra State. Further, GoMP arranged for availability of SSP at State level by procurement directly from manufacturing companies/distributors.

Department stated (January and February 2024) that GoI makes available DAP, MOP, Urea and Complex fertilizers excluding SSP. The Department regularly reviewed the intra State arrangement of fertilizer.

5.1.1 Status of supply of fertilizers by the GoI

GoMP received supply of Urea, DAP, MOP and Complex as per allocation and monthly supply plan of GoI. The status of requirement finalized by GoI, actual allocation as per monthly supply plan, supply and distribution are given in **Table 5.1**.

Year	Season	Requirement	Allocation	Supply	Excess (+)/ short (-) supply against GoI allocation (in per cent)	Distribution	Excess (+)/ short (-) distribution against supply
2017-18	<i>Kharif</i>	16.85	25.03	21.77	(-) 3.26 (13)	17.49	(-) 4.28
	<i>Rabi</i>	20.05	22.90	21.27	(-) 1.63 (7)	19.36	(-) 1.91
	Total	36.90	47.93	43.04	(-) 4.89 (10)	36.85	(-) 6.19
2018-19	<i>Kharif</i>	17.55	28.86	19.43	(-) 9.43 (33)	21.11	(+) 1.68
	<i>Rabi</i>	21.00	30.88	23.54	(-) 7.34 (24)	25.99	(+) 2.45
	Total	38.55	59.74	42.97	(-) 16.77 (28)	47.10	(+) 4.13
2019-20	<i>Kharif</i>	20.50	28.69	20.29	(-) 8.40 (29)	15.99	(-) 4.30
	<i>Rabi</i>	23.25	32.73	26.18	(-) 6.55 (20)	32.33	(+) 6.15
	Total	43.75	61.42	46.47	(-) 14.95 (24)	48.32	(+) 1.85
2020-21	<i>Kharif</i>	21.00	26.50	25.75	(-) 0.75 (3)	23.18	(-) 2.57
	<i>Rabi</i>	26.80	32.37	25.84	(-) 6.53 (20)	28.56	(+) 2.72
	Total	47.80	58.87	51.59	(-) 7.28 (12)	51.74	(+) 0.15
2021-22	<i>Kharif</i>	29.00	28.34	19.00	(-) 9.34 (33)	20.50	(+) 1.50
	<i>Rabi</i>	31.65	29.97	25.44	(-) 4.53 (15)	26.71	(+) 1.27
	Total	60.65	58.31	44.44	(-) 13.87 (24)	47.21	(+) 2.77

(Source: Departmental records/information and iFMS data)

It may be seen from the above table that GoI allocated excess¹ quantity of fertilizer. However, the supply of fertilizer in comparison to GoI allocation remained short ranging between three and 33 *per cent* during 2017-18 to 2021-22. We noted that supply of fertilizer during 2021-22 was substantially short by 27 *per cent* (44.44 LMT against the requirement of 60.65 LMT). The State Government sent (during *Kharif* 2018, *Kharif* 2020 to 2021 and in *Rabi* 2017-18 and 2019-22) letters to GoI for supply of Urea and DAP as per allocation, however, the shortfall in supply was persistent. We further noted that due to non-receipt of fertilizers as per supply plan, the supply remained short/excess which affected the distribution during 2017-18 to 2021-22.

Department stated (January and February 2024) that GoI decided the fertilizer-wise/supplier-wise quantity each month for supply of allotted quantity. Supply by suppliers depends on various factors like availability of vessels, climate in the port, availability of rake, international price and priority to supply to other states and mostly the supply was affected due to these factors.

The Department provided a generic reply without specifying supplier-wise/fertilizer-wise constraint in supplying fertilizer in any year in *Kharif* and *Rabi* seasons during 2017-22.

5.1.1.1 Delay in intimation of monthly supply plan

After seasonal allocation of fertilizer to the State, the GoI intimates monthly supply plan indicating quantity of the fertilizers to be supplied during the month.

Scrutiny of records of Director, FW&ADD revealed that during 2017-18 to 2021-22, the GoI intimated the monthly supply plan either close to or after the beginning of the month. We noted that during 2017-18 to 2021-22 in case of five to eight months, GoMP received intimation of the monthly supply plan very close to the start of the month. Further, during 2017-18 in case of five months, GoMP received intimation of the monthly plan after lapse of two to six days from the start of the months. Delayed intimation of supply plan led to delay in supply of fertilizers as we noted that suppliers made 28 to 49 *per cent* of total supply in the last week of the month. Further, due to non-receipt of timely intimation of supply plan, agencies involved in the distribution of fertilizer could not plan for further distribution of fertilizers in places of requirement.

Department stated (January and February 2024) that GoI allotted fertilizer-wise/supplier-wise fertilizer mostly on the last day of each month.

5.1.1.2 Short supply of fertilizers

Analysis of monthly supply of fertilizer against the monthly supply plan of GoI revealed that during 2018-22², the suppliers did not supply the allocated quantity fixed for each month and the short supply ranged between four *per cent* and 79 *per cent* against requirement. Season-wise short supply against requirement during 2017-18 to 2021-22 is detailed in **Table 5.2**.

¹ Except for 2021-22 wherein the GoI allocation was less than the requirement of the State.

² Director, FW&ADD did not provide fertilizer-wise monthly supply against GoI allocation for 2017-18.

Table-5.2: Status of short supply against requirement (Qty. in LMT)					
Year	Season	Name of fertiliser	Requirement	Supply	Shortage (percentage)
2017-18	Rabi	DAP	5.00	4.49	0.51 (10)
		MOP	0.50	0.48	0.02 (4)
2018-19	Rabi	MOP	0.50	0.35	0.15 (30)
2019-20	Kharif	DAP	7.00	6.48	0.52 (7)
		Complex	2.00	1.60	0.40 (20)
		MOP	1.00	0.68	0.32 (32)
	Rabi	MOP	0.50	0.45	0.05 (10)
		Complex	1.75	1.60	0.15 (9)
2020-21	Kharif	MOP	1.00	0.92	0.08 (8)
	Rabi	DAP	6.55	5.07	1.48 (23)
2021-22	Kharif	Urea	15.00	10.90	4.10 (27)
		DAP	11.00	5.90	5.10 (46)
		Complex	2.00	1.53	0.47 (24)
		MOP	1.00	0.65	0.35 (35)
	Rabi	Urea	20.00	17.70	2.30 (12)
		DAP	8.50	4.70	3.80 (45)
		MOP	0.80	0.17	0.63 (79)

(Source: Departmental records/information and iFMS data)

Further, scrutiny of month-wise supply of fertilizers (Urea, DAP, MOP and Complex) revealed that the suppliers supplied short quantity of fertilizers against the requirement during 2018-22³ as detailed in **Table 5.3**:

Table-5.3: Month-wise short supply of fertilizers against requirement						
Sl. No.	Year	Season	Short supplied during the months	Target of the month (in LMT)	Supply in the month (in LMT)	Range of short supply (in per cent)
1.	2018-19	Kharif	April and May	3.45-3.50	1.01-3.08	12 to 71
		Rabi	October and December	4.60-6.10	3.89-4.54	15 to 26
2.	2019-20	Kharif	April, May and August	3.50-3.95	1.47-3.45	11 to 58
		Rabi	October	7.15	4.95	31
3.	2020-21	Kharif	April	3.55	3.31	7
		Rabi	October to December	6.35-8.60	5.21-7.28	9 to 18
4.	2021-22	Kharif	April to May and August to September	4.84-5.40	1.15-3.44	29 to 79
		Rabi	October to December	6.65-11.20	5.68-6.48	15 to 42

(Source: Departmental records/information and iFMS data)

The State could not ensure supply of fertilizers as per monthly supply plan which resulted in significant shortfall ranging from seven to 79 *per cent* in supply of fertilizers in the State. Further, the supply in peak month⁴ of season was adequate in *Kharif* but short supply ranging from 15 to 35 *per cent* was in *Rabi* 2018-19 and 2020-22. Significant shortfall in supply of fertilizers affected the timely availability of fertilizers.

³ The Department did not provide month-wise supply of fertilizers for 2017-18.

⁴ For *Kharif* -July to September and for *Rabi*-November and December.

Further in the survey, four PACS of Dhar and Seoni and two MS of Balaghat and Seoni district reported about agitation/violence by farmers. Two private retailers and three wholesalers reported about agitation by farmers for non-receipt of fertilizer.

In the exit conference, ACS, FW&ADD stated that shortage in supply happened during peak season due to huge demand of fertilizers. Further, the supply is dependent on GoI and the department will try to improve it.

Further, Department stated (January and February 2024) that the companies supplied fertilizer as per the fertilizer-wise/supplier-wise plan for each month for supply of allotted quantity as decided by the GoI. Supply by suppliers depends on various factors like availability of vessels, climate in the port, availability of rake, international price and priority to supply to other states and mostly the supply was affected due to these factors.

The Department provided a generic reply without specifying supplier-wise/fertilizer-wise constraint in supplying fertilizer in any year in *Kharif* and *Rabi* seasons during 2017-22.

5.1.1.3 Short/excess supply of fertilizers to districts

GoI allotted fertilizers for each month for the State as a whole. To ensure supply of required quantity of fertilizer to districts, the GoMP was required to prepare movement plan indicating district-wise monthly requirement of the different fertilizers *i.e.* Urea, DAP, MOP etc. The movement plan would ensure timely supply of fertilizers as per the requirement of the districts.

Scrutiny of records of Director, FW&ADD and MD, Markfed revealed that neither the Director nor the MD, Markfed prepared district-wise monthly movement plan to ensure timely supply of required quantity of fertilizer in the districts. In absence of the district-wise movement plan as per the requirement of the districts, we found excess/short supply of fertilizers (Urea, DAP, MOP and Complex) in selected 10 districts during 2018-22 as detailed in **Table 5.4**.

Table-5.4: District-wise details of short/excess supply of fertilizers against requirement (in LMT)					
Sl. No.	Name of the fertilizer	Short supplied		Excess supplied	
		Number of districts	Quantity	Number of districts	Quantity
1.	DAP	10	1.35	--	--
2.	MOP	10	0.27	--	--
3.	Urea	06 ⁵	0.97	04 ⁶	0.26
4.	Complex	04 ⁷	0.11	06 ⁸	0.20

(Source: Departmental records/information and iFMS data)

Evidently, non-preparation of movement plan for effective distribution of fertilizers to the districts resulted in short/excess supply of fertilizers in the district.

⁵ Balaghat, Chhindwara, Dhar, Hoshangabad, Tikamgarh and Umaria.

⁶ Alirajpur, Bhopal, Seoni and Sidhi.

⁷ Alirajpur, Chhindwara, Dhar and Sidhi.

⁸ Balaghat, Bhopal, Hoshangabad, Seoni, Tikamgarh and Umaria.

Further, the status of requirement, supply and distribution of fertilizers in selected 10 districts is given in **Table 5.5**.

Table-5.5: Requirement, supply and distribution of fertilizers in selected districts (in LMT)						
Year	Season	Requirement	Supply	Excess (+)/ short (-) supply	Distribution	Excess (+)/short (-) distribution against supply
2017-18 ⁹	<i>Kharif</i>	3.83	5.24	(+) 1.41	4.70	(-) 0.54
	<i>Rabi</i>	4.05	4.56	(+) 0.51	3.81	(-) 0.75
	Total	7.88	9.80	(+) 1.92	8.51	(-) 1.29
2018-19	<i>Kharif</i>	4.38	5.05	(+) 0.67	5.80	(+) 0.75
	<i>Rabi</i>	4.20	4.51	(+) 0.31	4.94	(+) 0.43
	Total	8.58	9.56	(+) 0.98	10.74	(+) 1.18
2019-20	<i>Kharif</i>	5.36	5.11	(-) 0.25	4.49	(-) 0.62
	<i>Rabi</i>	4.38	5.14	(+) 0.76	6.34	(+) 1.20
	Total	9.74	10.25	(+) 0.51	10.83	(+) 0.58
2020-21	<i>Kharif</i>	5.37	5.75	(+) 0.38	5.69	(-) 0.06
	<i>Rabi</i>	5.21	5.18	(-) 0.03	5.29	(+) 0.11
	Total	10.58	10.93	(+) 0.35	10.98	(+) 0.05
2021-22	<i>Kharif</i>	7.01	4.20	(-) 2.81	4.83	(+) 0.63
	<i>Rabi</i>	5.99	4.73	(-) 1.26	4.97	(+) 0.24
	Total	13.00	8.93	(-) 4.07	9.80	(+) 0.87

(Source: Departmental records/information and iFMS data)

It may be noticed from **Table 5.5** that supply of fertilizers in selected districts remained excess/short which was due to non-preparation of district-wise monthly movement plan. Thus, the State level authorities and district officials did not adequately plan the supply of fertilizers in different districts resulting in short/excess supply of fertilizers in the districts.

Department stated (January and February 2024) that regular review on storage of fertilizer in Markfed godown and PACS and their demand for fertilizer is conducted through video conference with regional officials *i.e.* Markfed and Apex Bank and accordingly supply is made to districts. It was further stated that Short/excess supply of fertilizers to districts depend on the availability of fertilizer in the port and supply is affected due to non-arrival of vessel in time in the port or excess arrival of vessel. Department further stated that at present district-wise/ month-wise rake movement plan is being prepared on the basis of previous year sale quantity.

The reply is not acceptable as monthly plans for movement of rakes to districts were not being prepared during 2017-22 which led to short/excess supply of fertilizers to the districts. Further, rake movement plans being prepared at present are based on previous years sale quantity of the district instead of the current requirement of the districts.

⁹ The Department did not provide supply data. Therefore, the available balance of fertilizers provided by the department were taken as supply.

5.1.2 Status of supply of Single Super Phosphate (SSP)

GoMP arranged for availability of SSP at State level by procurement directly from manufacturing companies/distributors. The status of requirement, supply and distribution of SSP in the State during 2017-18 to 2021-22 is given in **Table 5.6**.

Table-5.6: Status of requirement, supply and distribution of SSP in the State (Qty. in LMT)					
Year	Requirement	Supply	Excess (+)/ short (-) supply against requirement (in per cent)	Distribution	Excess (+)/ short (-) distribution against supply
2017-18	10.50	6.33	(-) 4.17 (40)	5.41	(-) 0.92
2018-19	12.00	9.54	(-) 2.46 (21)	11.07	(+) 1.53
2019-20	9.00	10.45	(+) 1.45 (16)	10.49	(+) 0.04
2020-21	9.00	10.85	(+) 1.85 (21)	10.45	(-) 0.40
2021-22	12.00	11.71	(-) 0.29 (2)	12.26	(+) 0.55
Total	52.50	48.88	(-) 3.62 (7)	49.68	(+) 0.80

(Source: Departmental records/information and iFMS data)

Further, requirement, supply and distribution of SSP in selected 10 districts during 2017-18 to 2021-22 is given in **Table 5.7**.

Table-5.7: Status of requirement, supply and distribution of SSP in selected districts (Qty. in LMT)					
Year	Requirement	Supply	Excess (+)/ short (-) supply against requirement (in per cent)	Distribution	Excess (+)/ short (-)) distribution against supply
2017-18	1.78	1.17	(-) 0.61	1.16	(-) 0.01
2018-19	2.35	1.85	(-) 0.50	2.18	(+) 0.33
2019-20	1.77	1.96	(+) 0.19	2.00	(+) 0.04
2020-21	1.76	2.11	(+) 0.35	1.95	(-) 0.16
2021-22	2.24	2.29	(+) 0.05	2.42	(+) 0.13
Total	9.90	9.38	(-) 0.52	9.71	(+) 0.33

(Source: Departmental records/information and iFMS data)

It may be noted from **Table - 5.6** and **5.7** that the State decreased the requirement of SSP from 12 LMT to 9 LMT during 2019-20 and 2020-21 while the supply and distribution (10.45 LMT and 10.49 LMT) remained at higher side. This indicates poor assessment of requirement by the Department during 2019-21. It may further be noted that during 2017-19, the supply of SSP remained short in comparison to the requirement. Further, there was increase in distribution of SSP from 5.41 LMT to 12.26 LMT during 2017-18 to 2021-22 along with increase in supply (from 6.33 LMT to 11.71 LMT). However, supply at State level in comparison to requirement remained short ranging from 21 to 40 per cent during 2017-19 indicating that the Department could not ensure the availability of SSP to meet the requirement of the farmers.

Further, scrutiny of monthly supply of SSP during 2018-22 revealed that the monthly supply of SSP remained short by nine to 78 per cent.

Department stated (January and February 2024) that SSP was supplied directly by the suppliers to the selling agencies. As per arrangement made by Markfed, the sale quantity is accepted as the storage quantity. The farmers used SSP before sowing season due to which demand is less in peak season. The suppliers may supply less due to rise in price of fertilizer and the raw material in international market and due to no increase in subsidy. Further, on some occasions the rake could not reach in time at destination point due to railway problems in peak season.

The reply is not acceptable as SSP was supplied in co-operative sector as per joint programme which was based on current requirement of the selling agencies. The Department did not ensure the availability according to requirement. The short/excess supply against requirement indicates improper assessment of SSP which was based on last year's consumption. Further, the supply of SSP had no direct relation with international market prices as SSP was provided by domestic manufacturers.

Thus, the supply of SSP as per requirement was not ensured. The short supply against month-wise requirement affected the availability of fertilizers.

5.2 Storage

Markfed and MP Agro have 378 godowns for storage of fertilizer. Further, PACS have also their own godowns for storage of fertilizers.

5.2.1 Facilities available in godowns

After receipt of fertilizers from supplier companies, the fertilizers are stored in Markfed/MP Agro godowns till further distribution to the farmers. Further, the Departmental directions (October 2010) provided for display of sale rate, available stock, authorization letter etc. at fertilizer sale points. PACS/MS/Markfed godowns were also required to enter the quantity of fertilizer issued to the farmer in *Rin Pustika* (Records of rights of farmer).

Further, during visit of selected 74 PACS/MS/Markfed/MP Agro godowns and private retailers, we noticed that 13¹⁰ PACS/MS/Markfed/MP Agro godowns and private retailers did not display sale rate, available stock, authorization letter etc. and 23¹¹ PACS/ MS/ Markfed/MP Agro godowns and private retailers displayed incomplete information in the notice board.

We noticed that Barcode/QR code facility for cashless transaction was not available in 13 out of 16 surveyed Markfed /MP Agro godowns and in four out of 17 private retailers. Bar code was not available with 39 out of 41 PACS and Marketing societies.

Further, beneficiary survey of farmers revealed that the retailers did not enter details of fertilizers distributed to the farmers in *Rin Pustika* in case of 50 *per cent* farmers and in case of two *per cent* farmers entries were not made regularly.

¹⁰ Five (out of 31) PACS, two Markfed godown (out of 11), one (out of five) MP Agro godown, three (out of 17) private retailers and two (out of 10) marketing societies.

¹¹ 11 PACS, four Markfed godowns, one MP Agro godown, two private retailers and five marketing societies.

Non-availability of requisite information on display board and Barcode/QR code for cashless payments was not in the interest of farmers.

Department stated (January and February 2024) that directions have been issued (December 2023) by Director FW&ADD to display stock/price list and providing QR code facilities at sale points. GoI has not made QR code facilities mandatory and QR code is not required as fertilizer is provided by PACS in the form of loan.

The reply is not acceptable as QR code facilities are required for cash less transaction and department did not ensure displaying sale rate/available stock as required under Clause 4 of FCO¹².

5.2.2 Disposal of non-salable fertilizers

Clause 23 of the FCO provides for disposal of non-standard fertilizers.

Scrutiny of records of MD, Markfed revealed that 4,789.556 MT¹³ (₹ 6.03 crore¹⁴) of non-salable fertilizer were kept (between 1988-89 and 2021-22) in 129 Markfed godowns of 42 districts. MD, Markfed did not take action for disposal of the stock. We also noticed that in seven out of 10 selected districts, 722.854 MT¹⁵ of non-salable fertilizers were lying in 21 Markfed godowns and three test checked PACS and MP Agro godowns. Thus, MD, Markfed did not take timely action for disposal of non-salable 4,789.556 MT quantity of fertilizer resulting in idling of huge stock for period ranging from one to thirty four years apart from further deterioration of the stock.

Department stated (January and February 2024) that action for disposal of non-salable stock as per FCO 1985 was taken from time to time. Further, information on non-salable fertilizer is being called for (November 2023) from districts (DMOs) and action for disposal of stock would be taken after receipt of information.

Reply is not acceptable as 4,789.556 MT of fertilizer was lying in the stocks of Markfed/PACS for want of disposal.

5.2.3 Discrepancy in PoS stock balance and physical balance

The physical stock of fertilizers should be matched with stock balance of PoS as per iFMS.

Physical verification (December 2022 to February 2023) of stock of 23¹⁶ PACS/MS/MP Agro godowns of selected districts revealed difference of 790.880 MT in physical stock and

¹² Clause 4 of FCO provides that every dealer who makes or offers to make a retail sale of any fertilizer shall prominently display in his place of business (i) the quantities of opening stock of different fertilizers held by him on each day (ii) a list of prices or rates of such fertilizers.

¹³ AS 56.016 MT, DAP 1501.519 MT, Complex 1517.050 MT, MOP 36.900 MT, SSP 347.250 MT, Urea 1234.086 MT and Others 96.735 MT.

¹⁴ Cost of 1310.351 MT fertilizer is calculated on the basis of purchase rates of *Rabi* 2017-18. Further, the cost did not include cost of complex 334.772 MT and other fertilizer 23.617 MT due to non-production of purchase rates by Markfed.

¹⁵ Bhopal (four godowns, 20.250 MT), Chhindwara (three godowns, 19.500 MT), Dhar (five godowns, 137.141 MT), Hoshangabad (five godowns, 274.085 MT), Seoni (two godowns, 68.800 MT), Tikamgarh (four godowns, 14.878 MT) and Umari (one godown, 188.200 MT).

¹⁶ PACS (16), MS (Four) and MP Agro (three).

iFMS stock balance. The reasons-wise mismatch in stock balances in different units are given in **Table 5.8**.

Table-5.8: Showing reasons for mismatch in stock balances			
Sl. No.	Reasons for mismatch in stock	No. of units wherein mismatch in stock noticed	Difference in physical and iFMS stock (in MT)
1.	Non-working of PoS device	11	(-) 301.422
2.	Non-updation of stock register	04	(-) 61.330
3.	Not selling through PoS device	03	(-) 191.895
4.	Nil stock in PoS	03	(+) 124.300
5.	Selling without taking thumb impression	01	(-) 10.710
6.	Other reasons i.e. non-lifting after putting thumb impression and non- receipt of acknowledgement ID etc.	12	(-) 101.223
Total			790.880

Thus, the PACS/MS/MP Agro godowns did not reconcile the stock in regular intervals resulting in huge stock differences.

Department agreed with audit contention and stated (January and February 2024) that efforts would be made to bring more transparency and instructions have been issued (December 2023) to ZM/DMOs to update records timely. Department further stated that directions have been issued to reconcile iFMS stock balance with physical stock.

The mismatch in stock indicates that Department did not ensure the compliance of its own instructions.

5.2.4 Advance storage

In order to avoid paucity in stock of fertilizers due to disruption/delay in supply in peak period of season and to tide over the sudden spurt in demand, GoMP introduced (during 2012-13) advance storage scheme for chemical fertilizers¹⁷ to ensure supply of required fertilizers and their timely availability to farmers as per their requirement. GoMP authorized (April 2017, April 2020 and May 2021) Markfed to ensure advance storage for co-operative sector and the Agriculture Production Commissioner (APC) was authorized to fix target for advance storage. The period of advance storage was 1 March to 31 May for *Kharif* season¹⁸ and 1 August to 15 September for *Rabi* season. The expenditure incurred on advance storage by Markfed was to be recouped by the Department.

5.2.4.1 Non-constitution of committee for advance storage

As per instructions issued¹⁹ by Registrar, Co-operative Societies for regulation of advance storage, a committee of four members (DDA, DMO, CEO and DRC) under the chairmanship of Collector was to be constituted for monitoring of the scheme at district level. The committee was responsible (i) to make PACS-wise assessment of fertilizers required for

¹⁷ Fertilizers DAP, Complex, Urea and MOP covered in advance storage.

¹⁸ For *Kharif* 2017, the period was 1 April to 31 May.

¹⁹ April 2017, March 2018, August 2018, March 2019, October 2019, May 2020 and May 2021.

advance storage and inform the requirement to DMO, (ii) DMO would ensure availability of required fertilizer coordinating with Markfed head office (iii) identification of godown for storage (iv) to make effective lifting of fertilizers by PACS from Markfed and by farmers from PACS. (v) weekly review of the advance storage by Collector and sending the weekly report to Registrar, Co-operation Department.

Scrutiny of records of DDAs, DMOs and DRCs of selected districts revealed that the Committee was not constituted.

Thus, the Collector and district level officers did not effectively carry out the responsibilities assigned to them for assessment of fertilizers for advance storage and weekly review of advance storage. As a result, the target of advance storage was not achieved as discussed in succeeding paragraph.

Department stated (January and February 2024) that status of advance storage was reviewed from time to time in the weekly meetings. Department further stated that a letter was issued (December 2023) to DMOs for constitution of required committee as per directions of Registrar, Co-operative Societies on advance storage immediately.

The fact remains that the Department did not ensure constitution and working of the Committee to ensure close monitoring of advance storage at district level.

5.2.4.2 Target and achievement of advance storage

The Department fixed season-wise target of advance storage for Markfed, PACS and farmers each year. The achievement²⁰ against target of advance storage by Markfed and PACS in the State during 2017-18 to 2021-22 is given in **Table 5.9**.

Table-5.9: Achievement against target of advance storage in the State (Qty. in LMT)					
Year	Season	Markfed		PACS	
		Target for advance storage	Actual storage against target (percentage)	Target for advance storage	Actual storage against target (percentage)
2017-18	Kharif	6.00	6.85 (114)	4.82	3.72 (77)
	Rabi	7.30	5.67 (78)	5.92	3.23 (55)
	Total	13.30	12.52 (94)	10.74	6.95 (65)
2018-19	Kharif	8.90	7.14 (80)	6.90	3.62 (52)
	Rabi	7.90	6.05 (77)	5.92	3.51 (59)
	Total	16.80	13.19 (79)	12.82	7.13 (56)
2019-20	Kharif	9.40	7.89 (84)	7.15	3.93 (55)
	Rabi	8.15	8.43 (103)	6.11	4.17 (68)
	Total	17.55	16.32 (93)	13.26	8.10 (61)
2020-21	Kharif	9.40	7.91(84)	7.15	3.99 (56)
	Rabi	8.15	6.24 (77)	6.11	3.85 (63)
	Total	17.55	14.15 (81)	13.26	7.84 (59)
2021-22	Kharif	9.40	5.15 (55)	7.15	0
	Rabi	8.15	4.13 (51)	6.11	3.13 (51)
	Total	17.55	9.28 (53)	13.26	3.13 (24)

(Source: Departmental records)

²⁰ The storage in advance period included balance stock prior to the start of advance period and purchases made during advance period.

It may be noted from **Table 5.9** that during 2017-18 to 2021-22 the Markfed achieved the target for advance storage ranging between 53 to 94 *per cent*. The achievement against targets of PACS for advance storage during 2017-18 to 2021-22 were significantly low ranging between 24 to 65 *per cent*. The achievement against the target for advance storage remained short due to non-supply/purchase of fertilizers during advance storage period.

We noticed that the Department delayed in declaring Markfed as nodal agency for co-operative sector during 2020-21 and 2021-22. We further noticed that during 2021-22, the Department declared Markfed as nodal agency at the end of the season *i.e.* in May 2021 (for advance storage during 1 March 2021 to 31 May 2021). This affected the advance storage as the expenditure on storage during the advance period could not be incurred by Markfed without authorization from the Department. Further, the Department fixed target of advance storage (82.75 LMT) during 2017-18 to 2021-22 which was more than the monthly target fixed by GoI (77.09 LMT).

MD, Apex Bank and Markfed did not have information regarding advance storage by the farmers against the target (45.24 LMT during 2017-18 to 2021-22).

Further, scrutiny of records in selected districts revealed that overall achievement against target fixed for advance storage for Markfed in all 10 selected districts ranged between 60 *per cent* and 87²¹ *per cent*. The target and achievement for advance storage in selected districts are detailed in **Table 5.10**:

Table-5.10: Achievement against target of advanced storage in selected districts					
(Qty. in LMT)					
Year	Season	Markfed²²		PACS²³	
		Target for advance storage	Actual storage against target (percentage)	Target for advance storage	Actual storage against target (percentage)
2017-18	<i>Kharif</i>	0.96	0.71 (74)	0.72	0.39 (54)
	<i>Rabi</i>	0.87	0.62 (71)	0.80	0.50 (63)
	Total	1.83	1.33 (73)	1.52	0.89 (59)
2018-19	<i>Kharif</i>	2.08	1.73 (83)	1.30	0.83 (64)
	<i>Rabi</i>	1.56	1.42 (91)	0.67	0.54 (81)
	Total	3.64	3.15 (87)	1.97	1.37 (70)
2019-20	<i>Kharif</i>	2.54	1.81 (71)	1.87	1.08 (58)
	<i>Rabi</i>	1.70	1.70 (100)	1.19	0.75 (63)
	Total	4.24	3.51 (83)	3.06	1.83 (60)
2020-21	<i>Kharif</i>	2.42	1.55 (64)	1.76	1.10 (63)
	<i>Rabi</i>	1.70	1.46 (86)	1.19	0.72 (61)
	Total	4.12	3.01 (73)	2.95	1.82 (62)

²¹ The achievement in seven districts Alirajpur, Chhindwara, Dhar, Sidhi, Seoni, Tikamgarh and Umari was between 35 and 78 *per cent* during 2017-22 and the achievement of two districts Balaghat and Bhopal was 37 and 51 *per cent* respectively during 2018-22. Hoshangabad district achieved the target.

²² DMO, Markfed, Bhopal, Hoshangabad and Balaghat did not provide information for 2017-18.

²³ Information of achievement against the target for advance storage were not provided by DMO, Markfed, Bhopal (for 2017-18), Hoshangabad (for 2017-18, 2018-19 and *Kharif* 2021-22), Alirajpur (for 2017-18 and 2018-19), Umari, Sidhi (for 2017-22), Seoni (*Kharif* 2017, 2021 and *Rabi* 2018-19) and Tikamgarh (*Kharif* 2017 and 2021-22).

Table-5.10: Achievement against target of advanced storage in selected districts (Qty. in LMT)					
Year	Season	Markfed ²²		PACS ²³	
		Target for advance storage	Actual storage against target (percentage)	Target for advance storage	Actual storage against target (percentage)
2021-22	Kharif	2.44	1.20 (49)	0.89	0.51 (57)
	Rabi	1.68	1.26 (75)	1.32	0.65 (49)
	Total	4.12	2.46 (60)	2.21	1.16 (52)

(Source: Departmental records)

Further, achievement against target in PACS godowns ranged between 52 *per cent* and 70 *per cent*. The shortfall in advance storage was due to non-receipt of allotted monthly quantity of fertilizers. Significant shortfall in achievements against targets affected the very purpose of advance storage which provides to overcome paucity in stock of fertilizers due to disruption/delay in supply in peak period of season and to tide over the sudden spurt in demand.

Department stated (January and February 2024) that target for advance storage was fixed before allocation by GoI and the availability of fertilizer for advance storage depends upon the fertilizer made available by GoI. Further, the achievement in target of advance storage was achieved as per movement of fertilizer rake to districts.

The reply is not acceptable as the target fixed for advance storage period was more than the monthly targets intimated to GoI by the department and the Department did not intimate the advance storage target to GoI to ensure supply by suppliers as per targets of advance storage.

5.3 Distribution of fertilizer

For each season, the Agriculture Production Commissioner (APC) decided the percentage for distribution of fertilizer between co-operative and private sector. On that basis, Director FW&ADD fixes district-wise and fertilizer-wise target of distribution for co-operative and private sector. The Zonal Manager Markfed of divisions makes distribution of rake quantity between different districts under their control on the basis of percentage fixed for co-operative and private sector.

5.3.1 Role of Co-operative Sector

In Madhya Pradesh, there are 38 DCCBs working under Apex bank and 4,511 PACS attached to the DCCBs are carrying on the fertilizer business. In selected 10 districts there were eight DCCBs and 737 PACS attached to the DCCBs.

5.3.1.1 Excess credit against the permissible credit limit

The DCCB (head office) sanctions hypothecation credit limit to the PACS for doing fertilizer business. The DCCB (branch office) is responsible for making payment to Markfed for the fertilizer procured by the PACS by sanctioning loan against the credit limit.

Out of 31 PACS in test checked 10 districts, scrutiny of loan account of three PACS²⁴ in two districts revealed that DCCB branches permitted these PACS to take fertilizer on credit (₹ 10.28 lakh to ₹ 99.01 lakh) on 189 occasions over and above the permissible credit limit (₹ 9.60 lakh to ₹ 60.00 lakh) during 2017-18 to 2021-22. This indicates that DCCB branches overlooked the credit limit fixed by its head office.

Reply of the Department was awaited (November 2024).

5.3.2 Distribution of fertilizers against month-wise target

Director, FW&ADD sent the month-wise requirement of fertilizer for a season to GoI on the basis of which GoI allocated monthly allocation.

Scrutiny of records of selected districts revealed that the Deputy Director Agriculture (DDAs) did not assess and send the month-wise requirement of fertilizer to the Director. The Director assessed the requirement of the districts on his own without getting requirement from districts on the basis of past three to four seasons consumption. The status of fertilizer-wise shortfall in different months during 2017-18 to 2021-22 is given in **Appendix-5.1**. The main reason for not achieving the target was non-supply of fertilizer as per requirement/target.

The status of major fertilizers Urea and DAP distributed more/less than the target in different districts of the State during 2017-18 to 2021-22 is given in the **Table 5.11**.

Table-5.11: Status of major fertilizers Urea and DAP distributed more/less than the target in different districts of the State during 2017-18 to 2021-22									
Year	Urea				DAP				No. of same districts where both Urea and DAP excess distributed
	Excess distribution		Less distribution		Excess distribution		Less distribution		
	No. of districts	Percentage of excess distribution	No. of districts	Percentage of less distribution	No. of districts	Percentage of excess distribution	No. of districts	Percentage of less distribution	
2017-18	24	Two to 73	26	Two to 29	22	Two to 89	27	Two to 44	13
2018-19	49	Two to 72	Two	Three to 15	25	Three to 65	21	Three to 22	25
2019-20	45	Two to 57	Three	Four to seven	28	Two to 46	18	Two to 40	25
2020-21	32	Two to 46	12	Two to 68	46	Two to 44	Three	Three to 29	31
2021-22	Four	Four to 20	46	Five to 38	-	-	51	Nine to 65	-

(Source: Departmental records)

We noticed that the Director assessed month-wise target of distribution, but did not prepare month-wise/district-wise bifurcation of such target. As a result 13 to 31 districts distributed excess quantity of both Urea and DAP during 2017-21. In test checked districts, the excess supply was noticed in Alirajpur (2019-20), Chhindwara (2017-20), Bhopal (2017-19 and 2020-21), Umari (2018-21), Tikamgarh (2018-20), Balaghat and Sidhi (2020-21) and Hoshangabad and Seoni (2017-21).

²⁴ Bhopal (1. Amravat kalan- permissible limit ₹ 50 lakh, limit used-₹ 50.14 to ₹54.99 lakh, 37 occasions 2. Misrod- permissible limit ₹60 lakh, limit used ₹60.12 to ₹99.01 lakh, 90 occasions) and Seoni (Dharna- permissible limit ₹9.60 lakh-₹30 lakh, limit used ₹ 10.28 to ₹65.41 lakh, 62 occasions).

Department stated (January and February 2024) that at present storage is being made before one month on the basis of sale quantity in previous crop season.

The reply is irrelevant because the Department did not furnish the reasons for non-preparation of month-wise/district-wise bifurcation of target.

5.3.3 Target and achievement of distribution in co-operative and private sector

Director, FW&ADD was required to fix the targets for distribution of fertilizers between co-operative sector and private sector well before the start of crop season.

Scrutiny of records of Director, FW&ADD revealed that the Director fixed the targets for distribution of fertilizers between co-operative sector and private sector with a delay of 10 to 112 days after the beginning of *Kharif* season during 2018-21 and 11 to 25 days after the beginning of *Rabi* season during 2019-21. Due to delay in fixing target, the MD Markfed could not make proper assessment of procurement for the season and the districts could not make proper planning for their requirement which resulted in short procurement of fertilizer as given in the **Table 5.12**.

Table-5.12: Shortage of fertilizers with co-operative sector against the requirement during 2017-18 to 2021-22					
(Qty. in LMT)					
Sl. No.	Name of fertilizer	Total requirement	Total procurement	Opening balance	Total availability (percentage against requirement)
1	SSP	28.85	16.59	0.02	16.61 (57.57)
2	Complex	12.19	9.97	0.24	10.21 (83.76)
3	MOP	4.21	2.31	0.11	2.42 (57.48)
4	DAP	37.91	35.79	1.04	36.83 (97.15)
5	Urea	75.82	74.66	0.80	75.46 (99.53)

(Source: Departmental records)

Further, target of distribution and actual distribution of major fertilizers (except AS) by co-operative and private sector during 2017-18 to 2021-22 are given in **Table 5.13**.

Table-5.13: Status of actual distribution of major fertilizers (except AS) against the target during 2017-18 to 2021-22 in co-operative and private sector						
(Qty. in LMT)						
Year	Target of distribution			Actual distribution against target		
	Co-operative sector	Private sector	Total	Co-operative sector (percentage)	Private sector (percentage)	Total
2017-18	25.30	22.10	47.40	22.93 (91)	19.33 (87)	42.26
2018-19	26.85	23.70	50.55	26.18 (98)	31.99 (135)	58.17
2019-20	31.93	20.82	52.75	29.30 (92)	29.51 (142)	58.81
2020-21	30.99	25.81	56.80	30.65 (99)	31.54 (122)	62.19
2021-22	43.91	28.75	72.66	30.89 (70)	28.58 (99)	59.47

(Source: Departmental records)

It may be seen from above Table that the targeted distribution in co-operative sector could not be achieved fully during 2017-18 to 2021-22. The private sector distributed more than the target during 2018-21. The reason for shortfall in co-operative sector was delay in fixing the target by the Director, FW&ADD which resulted in lack of proper planning for procurement (as discussed in **paragraph 3.1.1**) against the above targets for distribution through co-operative sector and inability of PACS in lifting the allocated quantity due to

financial reasons. The reason for excess distribution in private sector was due to excess supply against their targets of distribution. The supply in private sector in excess of requirement was 0.79 LMT in 2018-19, 6.33 LMT in 2019-20 and 3.21 LMT in 2020-21.

Department stated (January and February 2024) that the Government decided the ratio of distribution of fertilizers between private and co-operative sector and targets could not be achieved on certain occasions as the supply of fertilizers were made according to availability of raw material in international market.

The reply is not convincing as the supply to private sector was more than their requirement. This indicates that there were inadequate efforts in co-operative sector in getting fertilizers as per target to meet the requirement of farmers.

5.3.4 Deficiencies in sale of fertilizer

Audit noticed the following deficiency in sale of fertilizers:

5.3.4.1 Delay in deposit of sale proceeds

Markfed directed (July 2005) In-charge, Markfed godowns to deposit the sale proceeds on the same day. Scrutiny of records of selected Markfed godowns revealed that seven Markfed godowns in seven test checked districts did not deposit the sales proceeds on the same day in 197 cases during 2017-18 to 2021-22. Delay in deposit of sale proceeds may attract interest burden on Markfed.

Department stated (January and February 2024) that the banks where sales collection account were opened to deposit the sales proceeds, collected cash upto 3.30 PM while during season time fertilizers were sold even in late evening hours by Markfed godowns due to which the collected cash could not be deposited on the same day. In this regard, MD Markfed issued letters in November 2022 to District Collectors to direct the banks to accept cash till 5 PM. The reply indicates that Markfed could not ensure remittance of sale proceeds by the Markfed godowns on the same day.

5.3.4.2 Price variations in sale of fertilizers

MD, Markfed prescribes sale rate of different fertilizers in co-operative sector in the beginning of the season on the basis of rates approved by the FCC.

Scrutiny of records of PACS/Godown revealed variations in actual sale rate at which fertilizers were sold and the sale rate as prescribed for co-operative sector by MD, Markfed. The details of variation in sale rate are as given below-

(i) Sale of fertilizers at higher rate

MD Markfed reduced (October 2019) the rate of DAP, NPK 12:32:16, NPK 10:26:26 and NPK 20:20:0:13 and the new rates were effective from 11 October 2019 and there was no change in rate till February 2020. The PACS were to be informed to sell the available stock at new rate and the farmers were also to be informed. The change in rate is given in **Table 5.14**.

Table-5.14: The details of change in rate				
(Amount in ₹)				
Sl. No.	Name of fertilizer	Old rate (per bag)	New rate (per bag)	Difference per bag
1	DAP	1,221.25	1,200	21.25
2	NPK 12:32:16	1,210	1,185	25.00
3	NPK10:26:26	1,200	1,175	25.00
4	NPK 20:20:0:13	997	975	22.00

(Source: Departmental records)

We found that 17 PACS, MS, MP Agro and Markfed godown in six districts sold 1,155.00 MT fertilizers at higher rates (difference of higher rate valued ₹ 8.45 lakh) to farmers. The details are given in **Appendix – 5.2**.

(ii) **Variations in sale rate**

We found that nine PACS in five selected districts did not sell fertilizers to farmers as per rate prescribed by MD, Markfed during 2018-22. The details are given in **Table 5.15**.

Table-5.15: Details of variations in sale rate					
(Qty. in MT and amount in ₹)					
Sl. No.	Name of fertilizer	At higher rate		At lower rate	
		Quantity	Difference in sale value	Quantity	Difference in sale value
1	DAP	-	-	16.900	17,945
2	MOP	1.550	977	-	-
3	Urea	2,601.735	1,92,666	-	-
4	NPK 12:32:16	-	-	299.350	1,71,901
Total		2,603.285	1,93,643	316.250	1,89,846

(Source: Departmental records)

The details are shown in **Appendix – 5.3**.

Department stated (January and February 2024) that Markfed issued (December 2023) instructions to comply with the sales rates prescribed for effective period. Reply is not acceptable as the fertilizers were sold to farmers at rates different from those prescribed by the department during audit period.

5.3.4.3 Sale of fertilizer in excess of prescribed quantity

The FW&ADD, GoMP did not issue any instructions on quantity of different fertilizers to be sold specifying the maximum limit of fertilizer to the farmers. Further, the DDAs stated that fertilizers were to be sold according to the area/cultivable area of farmers.

However, as per the order (September 2020) of Deputy Director Agriculture, district Bhopal, five bags of urea and three bags of DAP per hectare was required to be provided to farmers as per area mentioned in their *Rin pustika*. Similar pattern of distribution was adopted in the district Umariya by the PACS. Adopting the above criteria of distribution, Audit scrutinized the purchase of Urea and DAP as per iFMS portal data according to land area as per *Rin pustika* of 15 out of 20 surveyed farmers under PACS Misrod, district Bhopal and 14 out of 25 surveyed farmers under two PACS Karkeli (nine out of 13 farmers) and Dadraudi (five out of 12 farmers) of district Umariya. We found:-

- Excess purchase of 16.951 MT Urea by all 15 farmers and 6.564MT DAP by 12 out of 15 farmers under PACS Misrod, Bhopal.
- Similarly, in Umaria district, we found excess purchase of 0.864MT Urea by three farmers and 1.612 MT DAP by five out of nine farmers in PACS Karkeli. Under PACS Dadraudi, excess purchase of 0.315 MT Urea by two farmers and 0.348 MT DAP by two out of five farmers were found.

Further, the distribution of fertilizers to remaining 16 farmers (five farmers Misrod, four farmers Karkeli and seven farmers Dadroudi (PACS) could not be ascertained as the village address of farmers did not match with the address given in iFMS portal.

5.3.5 Manipulation in stock balances of fertilizers

(i) PACS Amravat Kalan, Bhopal

Fertilizers received in PACS/Markfed godowns should immediately be taken into stock.

Scrutiny of records of PACS Amravat Kalan revealed that during 2018-22, Manager, PACS manipulated the stock of 126.980 MT fertilizers amounting to ₹14.45 lakh by either non-taking the receipt of fertilizers in the stock or increasing the sale and closing stock of fertilizers. Further, Manager mentioned sale of fertilizers in his name or his assistant name in the stock register and outstanding sales proceeds against them in the cash book. The amount was also shown in the audit report of society as outstanding sales. Further, the society did not produce permit book for credit sale/receipt book for cash sale in support of sale of fertilizers. The brief position is given in **Table 5.16** below and the details are given in **Appendix-5.4**.

Table-5.16: Details of fertilizer-wise manipulated/suspected sale							
Sl. No.	Name of fertilizer	Stock Manipulated			Suspected sale (the records not produced)		
		Period	Quantity (MT)	Amount (₹ in lakh)	Period	Quantity (MT)	Estimated Cost (₹ in lakh)
1	DAP	2018-22	35.850	8.60	2018-20	52.000	14.51
2	Urea	2018-22	85.125	5.04	2018-20	141.920	8.40
3	SSP	2018-22	4.450	0.27	2018-20	11.650	0.67
4	Zinc Sulphate	2021-22	1.555	0.54	2019-20	0.070	0.02
Total			126.980	14.45		205.640	23.60

- (ii) We also found discrepancies viz. sales more than stock, shortage in stock and increase in stock in the selected seven²⁵ out of 31 PACS. Fertilizer-wise and PACS-wise brief are given in **Table 5.17** and detailed in **Appendix-5.5**.

²⁵ Ghatli, Anchalkheda, Sirwad and Sukhtawa of district Hoshangabad, Misrod of Bhopal, Banki of districts Seoni and Dadraudi of Umaria district.

Table-5.17: Statement showing manipulation in stock					
Sales more than stock		Shortage in stock		Increase in stock	
Name of PACS	Quantity (in MT)	Name of PACS	Quantity (in MT)	Name of PACS	Quantity (in MT)
Ghatli	0.100	Ghatli	0.640	Anchalkheda	1.050
		Anchalkheda	21.120		
Anchalkheda	3.480	Sirwad	26.205	Banki	40.000
		Banki	24.700		
Dadraudi	3.150	Sukhtawa	0.850	Misrod	8.275
Total	6.730		73.515		49.325

(Source: Records of test checked PACS)

The Co-operation Department issued (September 2002) instructions for inspection of PACS. However, the Deputy Registrar, Co-operation did not submit records indicating inspection of these PACS. Non-inspection/physical verification by Deputy Registrar led to manipulation of stock by the officials of the PACS. The above incidents indicate that internal control system needs to be strengthened to stop recurrence of such incidents in future.

Department stated (January and February 2024) that letter was issued (December 2023) to MD, Apex bank to conduct investigation and intimate the status relating to manipulation in PACS Amravat Kalan.

5.3.6 Delay in issue of release order and demand draft

As per instructions (September 2020 and October 2021) of Co-operation Department and Markfed in case of direct receipt of fertilizer from rake points by the PACS, the release order (RO)/ demand draft (DD) was required to be sent within two to three days of receipt of stock. DMO is required to issue warehouse receipt (WHR) on receipt of release order/demand draft (RO/DD) from PACS and the supplier companies would send dispatch ID after verifying the stock shown in WHR. The PACS would acknowledge the stock in PoS using the dispatch ID of suppliers.

Scrutiny of records in selected districts revealed delay ranging between one and 212 days in issue of RO/DD for 4,115.115 MT in four districts²⁶ in 10 PACS (135 cases) during 2018-22. Further, in three districts²⁷ (nine PACS) WHR for 3,731.410 MT was issued between two and 74 days after issue of RO/DD in 122 cases. We further noticed in Bhopal district that in eight cases, the company verification was done between one and 23 days during 2019-22 after issue of WHR. Delay in issue of RO/DD and company verification resulted in 11 PACS (five districts²⁸) having sold 408.995 MT fertilizers (sale value ₹ 25.99 lakh) during 2019-22 before issue of dispatch ID by the supplier companies. This led to stock difference

²⁶ Balaghat (four PACS, 2,304.415 MT, 77 cases, one to 141 days), Bhopal (two PACS, 676.20 MT, 18 cases, two to 169 days), Hoshangabad (one PACS, 55 MT, two cases, one to 41 days) and Seoni (three PACS, 1,079.50 MT, 38 cases, two to 212 days).

²⁷ Balaghat (four PACS, 2,300.910 MT, 76 cases, two to 74 days), Bhopal (two PACS, 452 MT, 13 cases, two to 20 days) and Seoni (three PACS, 978.50 MT, 33 cases, two to 21 days).

²⁸ Alirajpur (two PACS, 43.70 MT, amount ₹2.57 lakh), Balaghat (four PACS, 72.150 MT, amount ₹4.57 lakh), Bhopal (two PACS, 154.400 MT, amount ₹10.29 lakh), Dhar (one PACS, 4.845 MT, amount ₹ 0.28 lakh) and Seoni (two PACS, 133.900 MT, ₹8.28 lakh).

as per PoS and physical stock. Thus, the DMOs did not monitor the compliance of instructions of Headquarters.

Department accepted the fact and stated (January and February 2024) that instructions were issued for issue of WHR after receipt of stock. On certain occasions, there was delay in issue of WHR due to delay in issue of RO/DD in case of direct supply of fertilizer. Further, efforts were being made for immediate issue of WHR in review meetings held through video conference every day.

5.4 Sale of fertilizer to factories/corporations

As per letter (September 2015 and December 2019) of Director, FW&ADD and MD, Markfed to PS and MP State Co-operative and Dairy Federation Limited, Bhopal respectively, the State Government was not authorized to provide fertilizer for non-agricultural purposes. The industrial dealers could provide fertilizer for non-agricultural purposes.

Scrutiny of records of selected DMOs and Manager MP Agro revealed that DMOs and Manager, MP Agro sold 8,263.135 MT fertilizer (chemical and organic/bio fertilizers) costing ₹11.92 crore to different Government/non-Government bodies/institutions in nine out of 10 selected districts. The district-wise status of fertilizers sold during 2017-18 to 2021-22 is given in the **Table 5.18**.

Table-5.18: District-wise status of fertilizers sold during 2017-18 to 2021-22				
Name of districts	Name of fertilizers	Quantity (in MT)	Cost of fertilizer (₹ in lakh)	Name of distributor
Balaghat	DAP, SSP, Urea	57.675	6.01	DMO
	Vermi compost and PROM	2,159.30	271.47	MP Agro
Bhopal	DAP, SSP, MOP, NPK 12:32:16 and Urea	496.79	76.21	DMO
	DAP, SSP, MOP, NPK and Urea	76.840	9.70	MP Agro
Chhindwara	DAP, SSP, MOP, NPK 12:32:16, Vermi compost and Urea	751.930	129.40	DMO
Dhar	DAP,Urea,MOP and NPK	106.18	19.41	MP Agro
Hoshangabad	DAP, SSP, MOP, and Urea	78.32	9.84	DMO
	DAP, SSP, MOP, and Urea	558.82	41.65	MP Agro
Sidhi	DAP, SSP, MOP, NPK 12:32:16, and Urea	361.065	67.48	DMO
Seoni	DAP, SSP, MOP, PROM, Vermi compost and Urea	648.87	67.14	DMO
	DAP, MOP, PROM, SSP and Urea	2,366.05	393.26	MP Agro
Tikamgarh	DAP, SSP, MOP, and Urea	84.805	17.07	DMO
Umaria	DAP, SSP, MOP, NPK 10:26:26 and Urea	407.140	65.85	DMO
	DAP and Urea	109.35	17.59	MP Agro
Total		8,263.135	1,192.08	

(Source: Departmental records)

We noticed that out of 8,263.135 MT fertilizer, 250.12 MT was sold to Cattle Feed Factory, Bandol in Seoni, 6.375 MT sold to *Dugdh Sangh* in Bhopal and 11.30 MT was sold to MP State Livestock and Poultry Development Corporation in Hoshangabad. The State Government sent demand for fertilizers to GoI on the basis of crop-wise area for a particular season and GoI provided consent on fertilizers as per proposed area. Sale of fertilizers to these organisations was not taken into consideration while sending demand to GoI. Thus, DMOs/MP Agro in violation of departmental directions, sold fertilizers to factories/corporations which deprived the needy farmers of fertilizers.

Department stated (January and February 2024) that letter would be issued to concerned organizations for taking departmental action against the sellers. Letters issued to DDAs and concerned organizations to investigate and take action. Further, directions were issued to DMOs to follow the instructions issued by Government on sale of fertilizers to other institutions in addition to farmers.

The above fact indicates that the district authorities did not follow the departmental instructions.

5.5 Use of bio/organic fertilizer

The increasing use of chemical fertilizers has affected the environment. According to the United Nations-backed Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the nutrient run-off from farms laced with synthetic fertilizer has adversely affected land ecosystems. Also, the ammonia emissions from agricultural activities can combine with pollution from vehicle exhausts to create dangerous particulates in the air and exacerbate respiratory diseases. Fertilizer use also constitute significant share in greenhouse gases emitted in crop production. Promoting organic and bio fertilizers and replacing chemical fertilizers with them is an eco-friendly intervention that will reduce environmental pollution and has a scope to reduce the cost of cultivation.

The GoI directives²⁹ provide for assessment of quantity of bio-fertilizer/organic fertilizers to ensure the balanced and integrated use of fertilizer.

Scrutiny of records of Director, FW&ADD revealed that Director neither fixed separate target for distribution of organic fertilizer, bio fertilizer and micronutrient based fertilizer in the State during 2017-18 to 2021-22 nor appointed Nodal agency for distribution of bio/organic fertilizer for distribution under co-operative sector. Besides, the Director did not propose use of organic fertilizer replacing chemical fertilizer in Zonal Conference input during 2017-18 to 2021-22. We further noticed that the GoI approved distribution of city compost 175.79 LMT in *Kharif* season and 136.47 LMT in *Rabi* season in the year 2017-18, however, Director, FW&ADD did not fix target and make arrangement for use of City Compost.

We noticed that Markfed assessed the requirement of organic/bio fertilizers and micronutrients fertilizers without obtaining demand from districts. Markfed also did not obtain information from Director, FW&ADD about the organic and bio fertilizers proposed

²⁹ Zonal conference minutes dated 11 September 2017, 25 September 2018 and 12 February 2019.

for distribution in different schemes. Thus, Markfed estimated a token quantity each year without collecting information regarding requirement from districts. The procurement and sale is discussed in succeeding paragraphs.

Department stated (January and February 2024) that due to less demand for bio/organic fertilizers, distribution of these fertilizers becomes difficult and as a result less storage was made.

The reply is not acceptable as GoI directed the State Government to assess the requirement of bio/organic fertilizers to ensure the balanced and integrated use of fertilizer. Records made available showed that the Department did not fix targets for using organic/bio fertilizer as a substitute to chemical fertilizer as required by GoI through zonal conference inputs.

5.5.1 Short procurement of bio/organic fertilizer

Scrutiny of records of MD, Markfed revealed that during 2017-18 to 2021-22, the MD purchased short quantity of bio/organic fertilizers (Organic manure, Phosphatic rich organic manure, Vermi compost, City compost) against the estimated quantity. The status of requirement, offered quantity, Delivery Indents issued and quantity purchased against required quantity during 2017-18 to 2021-22 is given in the **Table 5.19**.

Table-5.19: Status of requirement, offered quantity, Delivery Indents issued and quantity purchased against required quantity during 2017-18 to 2021-22					
(Qty. in MT)					
Year	Required quantity	Offered quantity	Quantity for which Delivery Indents placed	Quantity procured	Quantity not procured against requirement (percentage)
2017-18	80,000	4,28,875	Not available	5,975	74,025 (93)
2018-19	80,000	8,89,500	86,462	17,651	62,349 (78)
2019-20	70,000	6,04,000	65,475	13,544	56,456 (81)
2020-21	70,000	3,57,700	1,03,412	16,130	53,870 (77)
2021-22	70,000	3,80,300	67,017	22,005	47,995 (69)

(Source: Departmental Records)

It is evident from the table that despite availability of adequate offers, Markfed could purchase only seven to 31 *per cent* of requirement during 2017-18 to 2021-22. Further, Markfed purchased organic manure at 10 *per cent* of required quantity, Phosphatic Rich Organic manure 66 *per cent*, Vermi-compost two *per cent* of required quantity and city compost was not purchased. The fertilizer-wise details are given in **Appendix-5.6**.

Department stated (January and February 2024) that the target for procurement of organic/bio fertilizers was not decided at Government level. The estimation of actual demand of these fertilizers is not possible and purchase of these fertilizers were demand based and supplies made to districts as per demand of districts.

The fact remains that quantity of bio-fertilizer procured was significantly less, when compared with the quantity for which delivery indents were placed.

5.6 Shortfall in purchase of Micronutrient fertilizer

While the primary fertilizers are required in larger amounts, the secondary fertilizers and the Micronutrient Fertilizer (MNFs) are required in smaller quantities. The micro nutrients are also called trace elements whose deficiency can affect food grain yield equally. The MNFs play an important role in many biochemical reactions in the plant cells and thus enhance plant productivity.

Scrutiny of records of MD, Markfed revealed purchase and supply of short quantity of micronutrient fertilizers against the requirement as detailed in **Table 5.20**.

Table-5.20: Status of micronutrients fertilizer purchased against the requirement and quantity sold for co-operative sector				
(Qty. in MT)				
Year	Required quantity	Offered quantity	Purchased quantity	Quantity sold
2017-18	9,500	Not available	4,079	4,697
2018-19	9,500	63,950	3,935	3,939
2019-20	17,000	95,400	1,131	1,123
2020-21	14,500	Offer was not received	7,857	7,859
2021-22	14,500	78,050	8,933	8,919
Total	65,000	2,37,400	25,935	26,537

(Source: Departmental records)

It is evident from the table that despite availability of adequate offer Markfed could purchase only 40 per cent of the required quantity during 2017-18 to 2021-22.

The DMO of seven³⁰ out of 10 test checked districts reported use of 7,667.508 MT MNFs (Zinc Sulphate 7,454.320 MT and Borex/Boron-213.188 MT) during 2017-18 to 2021-22 and the other three districts reported non-use of MNFs. However, nine out of 10 DDAs did not report about the distribution of micronutrients under different schemes in the districts. Only DDA Tikamgarh reported use of 0.120 MT (Bentonite Sulphur).

Department stated (January and February 2024) that the target for procurement of organic/bio fertilizers was not decided at Government level. The estimation of actual demand of these fertilizers is not possible and purchase of these fertilizers were demand based and supplies made to districts as per demand of districts. The reason for less procurement was due to less demand of these products.

Thus, the MD, Markfed could not ensure adequate availability of required quantity of micronutrient fertilizers in the State.

5.6.1 Non-utilization of MNFs as per deficiency

Analysis of soil requirement of micronutrient fertilizer and fertilizer provided revealed that in five out of selected 10 districts, Markfed did not ensure supply of MNFs as per deficiency in the districts during 2017-18 to 2021-22. We noticed that deficiency of MNFs increased

³⁰ Bhopal (Zinc Sulphate-33.46 MT), Hoshangabad (Zinc-728.75 MT and Boron 20 MT), Alirajpur (Zinc Sulphate 19 MT and Borex/Boron 19.594 MT), Dhar (Zinc Sulphate 328.460 MT and Borex 173.594 MT), Balaghat (Zinc Sulphate 1,490.25 MT), Seoni (Zinc Sulphate 4,836.15 MT) and Umaria (Zinc Sulphate 18.25 MT).

over the five years in 2020-21³¹/2021-22 compared to 2017-18 (reported by the soil testing units). The details are given in **Table 5.21**.

Sl. No.	Name of districts	Micronutrients where deficiency increased	Fertilizers provided	Fertilizers not provided
1	Bhopal	Zinc, Iron, Copper, Manganese and Boron	Zinc Sulphate for Zinc	MNFs not provided for other deficiency
2	Hoshangabad	Zinc, Iron and Boron	Zinc for Zinc and Boron for Boron	MNFs not provided for Iron
3	Sidhi	Boron	Required MNFs not provided	MNFs were not provided
4	Umariya	Copper, Manganese and Boron	Required MNFs not provided	MNFs were not provided
5	Chhindwara	Copper and Manganese	Required MNFs not provided	MNFs were not provided

(Source: Departmental records)

Department stated (January and February 2024) that micronutrients are non-subsidized fertilizers and no targets were fixed. Further, there is provision of subsidy under the Food and Nutrition Protection Scheme to promote availability of nutrition in the soil.

The reply is not convincing as Department did not furnish evidence in support of the scheme with target and achievement. Further, effective efforts were not made to provide micronutrient based fertilizer as required in the districts to rectify the deficiency in soil.

Thus, the Department could not provide the required micronutrient as per deficiency to farmers in the State to control soil deterioration happening through excess use of Urea and DAP.

Recommendations:

- *GoMP should prepare month-wise/district-wise movement supply plan on the basis of requirement of districts and send it to Director, FW&ADD for effective rake movement and issue Delivery Indents to the suppliers as per monthly supply plan of districts to maintain equity in supply in different districts.*
- *GoMP should ensure monitoring of advance storage of fertilizers through district level committee.*
- *GoMP should take timely action against the persons/officials involved in manipulation of fertilizer store.*
- *GoMP should review the quantum of organic/bio fertilizers and micronutrient fertilizers used by farmers through different sources and availability of these fertilizers should be ensured according to their requirement as per soil status of the districts.*

³¹ Deficiency in MNFs were not analysed in Umariya and Sidhi districts during 2021-22.



Chapter-6

Quality Control Mechanism for fertilizers

Chapter–6

Quality Control Mechanism for fertilizers

As per the provision of the FCO, the fertilizers which meet the standard of quality should only be sold to the farmers. The State Government is supposed to check the quality of the fertilizers to ensure supply of quality fertilizers by the manufacturers/importers of fertilizers and is fully empowered to take action under Essential Commodities Act (EC Act), if the fertilizers are found to be non/sub-standard. The quality control system that ensures delivery of good quality fertilizers must be effective and efficient.

The main role is played by the fertilizer inspectors who draw random samples of the fertilizers and send them to laboratories for testing followed by the analysts who examine the samples in the laboratories.

6.1 Quality Control Testing Infrastructure

In Madhya Pradesh, there were six¹ State controlled Fertilizer Quality Control Testing Laboratories (FQCTL) with annual capacity to analyse 18,000 samples. Up to 2017-18, there were four laboratories and two² new laboratories came into operation from 2018-19. Out of six, three laboratories³ had both the facilities to analyse chemical and micronutrient fertilizers and the other three had only the facility to analyse chemical fertilizer. There is one GoI controlled fertilizer testing laboratory at Jabalpur to analyse bio-fertilizer sample.

6.1.1 Establishment of bio-fertilizer testing laboratory

Department sanctioned (February 2021) ₹ 4.02 crore for establishment of two Bio-fertilizer laboratories at Indore and Bhopal under *Rastriya Krishi Vikas Yojna* approved by GoI (2020-21). Director, FW&ADD accorded administrative sanction (July 2021) of ₹ 65 lakh each for both the laboratories for civil work to be done by Markfed.

Director, FW&ADD released ₹ 1.30 crore in March 2022 to MD, Markfed for civil work and ₹ 12 lakh for purchase of computers and furniture etc. Similarly, ₹ two crore was released (March 2022) to *Jawahar Lal Nehru Krishi Vishwavidyalaya* (JNKVV), Jabalpur for purchase of equipment/machinery for said labs. Thus, Director, FW&ADD released ₹ 3.42 crore out of budget provision of ₹ 3.92 crore for both the Labs.

Further, Director, FW&ADD accorded (May 2022) administrative sanction of ₹ 85 lakh for each laboratory as per revised estimate of Markfed. Though work order for both the works was issued (October 2022 and January 2023), but works could not be started due to non-availability of land at Bhopal and Indore. Further, Director FW&ADD accorded (February 2023) administrative sanction for construction of laboratory at Agriculture farm Phanda, (Bhopal) and Government Agriculture Extension and Training Centre, Kothi, Ujjain in place of Indore. MD, Markfed stated that action to cancel the earlier work order and inviting further tender was under process. Director, FW&ADD being the administrative

¹ Bhopal, Gwalior, Indore, Jabalpur, Sagar and Ujjain.

² Sagar and Ujjain.

³ Indore, Sagar and Ujjain.

Department did not ensure availability of land before according the administrative sanction and Markfed also did not ensure the land availability before inviting tender and issuing work order due to which the construction works got delayed.

Required equipment was not purchased due to delayed finalization (December 2022) of specification of equipment. Besides, sanction for creation of post required for functioning of the lab was pending at Government level. Director stated (February 2023) that tender process for procurement of equipment was under progress at JNKVV level.

Despite GoI's permission regarding extension of project up to 2021-22, the project sanctioned in the year 2020-21 could not be operationalised (February 2023).

Department stated (January and February 2024) that the establishment of bio-fertilizer lab at Bhopal and Ujjain is under process.

6.1.2 Establishment of new fertilizers quality testing laboratories

Department sanctioned (December 2012) ₹ 10 crore for establishment of six⁴ division level fertilizer quality control testing laboratories. In addition, Department also sanctioned eleven posts of different cadres for each laboratory. Department sent (August 2016, November 2016 and January 2017) proposal for notification of three out of six laboratories, *i.e.* Ujjain, Sagar, Hoshangabad (Narmadapuram) to Director, Central Fertilizer Laboratory, Faridabad with reference to letter (March 2015) of Central Lab.

After inspection of three laboratories by the Director, Central Fertilizer Laboratory, Faridabad the State Government notified (July 2018) the operation of laboratories at Sagar and Ujjain with GoI approval (June 2018). While the lab at Hoshangabad required improvement as per inspection report.

Again, the State Government sent (between December 2019 and January 2021) the proposal of laboratory Hoshangabad and Rewa to Director, Central Fertilizer Laboratory, Faridabad for notification which was pending despite issue of reminder (February 2022 and October 2023) by Director FW&ADD. The proposal for the lab at Shahdol was sent (October 2023) to GoI and proposal for lab at Morena (Chambal division) was not sent due to on-going investigation for irregularities in procurement of machines and equipment (as of December 2023).

Despite lapse of more than 10 years (sanctioned in 2012), the remaining four laboratories were not operated.

Director stated (December 2023) that proposal for notification of labs at Hoshangabad, Rewa and Shahdol has been sent to GoI.

6.2 Inadequate Testing Capacities of Approved Laboratories

Despite the increase in number of labs, capacity remains woefully short of testing even the bare minimum number of samples.

⁴ Chambal, Hoshangabad (Narmadapuram), Rewa, Sagar, Shahdol and Ujjain.

A sample of 60,652 was analysed during the period 2017-22, while 281 LMT fertilizers were consumed in the State during the above period. As per the criteria of FCO, for covering maximum 100 MT fertilizer in one sample, 2.81 lakh samples were required to be analysed during 2017-22. Analysis of sample was inadequate in comparison to consumption of fertilizers due to less capacity of laboratories and shortage of 57 *per cent* Fertilizer Inspectors in the State. The State was required to have 18 labs⁵ as per consumption of fertilizer during 2017-22.

Department stated (January and February 2024) that the number of sample analysis capacity would be increased after operation of three labs at Hoshangabad, Rewa and Shahdol. Further, for increasing the analysis capacity of labs, strengthening of labs and establishment of new labs are being done.

The fact remains that existing capacity for testing was far less than the required capacity as per consumption of fertilizers in the State.

6.2.1 Short utilization of Capacity of Laboratories

The yearly target fixed by Director was limited to the annual testing capacity of laboratories. The capacity of laboratories was also not fully utilized. The status of annual analytical capacity and the number of samples analysed against target is given in the **Table 6.1**.

Year	Number of Lab	Annual capacity to analyse samples	Target for analysis	No. of samples analysed	Percentage of capacity utilized
2017-18	4	8,000	7,410	6,841	86
2018-19	6	10,200	9,610	7,861	77
2019-20	6	12,000	12,000	12,117	101
2020-21	6	15,000	19,525	17,286	115
2021-22	6	18,000	17,000	16,547	92
Total		63,200	65,545	60,652	96

(Source: Departmental records/zonal conference inputs)

During 2017-22, 60,652 samples (96 *per cent*) were analysed against analytical capacity of 63,200. Target for the year 2019-21 was equal to or more than the annual capacity and in the remaining years less than the capacity. The capacity of laboratories was fully utilised in 2019-21 and percentage of under utilisation of their capacity was eight to 23 during the remaining years because targets fixed were less than the capacity of laboratories except in 2019-21.

Department stated (January and February 2024) that less use of capacity of labs seems to be due to less receipt of samples. The samples analysed with the limited manpower was satisfactory. However, the analysis work would be increased by strengthening the existing labs and establishment of new labs.

⁵ Sample of nearly 56,000 (2.81 lakh sample in five year) was required to be tested in one year. However, the total capacity of existing six testing labs in State is 18,000 per year. Therefore, three times labs are required for testing as per consumption of fertilizer.

The reply is not acceptable as the capacity of the existing labs was not fully utilized due to targets fixed being less than the capacity of the labs during above period.

6.3 Deficiencies in training and Manpower

According to Clause 27AA/29AA of the FCO, it is mandatory for the fertilizer inspectors and lab analyst to attend the training programmes after every three years conducted by the Central Fertilizer Quality Control and Training Institute, (Faridabad) or any regional Fertilizer Quality Control laboratory⁶. Director, FW&ADD issued orders during 2017-22 for training of 26 Fertilizer Inspectors (24 SADOs and two Assistant Directors) and 10 Lab Assistant/Assistant Chemist in central fertilizer lab Faridabad. But the information on the number of persons trained was not available in Directorate.

Audit noticed that 59 out of 126 Inspectors (83 SADO/ADO and 43 ADAs) did not attend the periodical training in the test checked districts. Further, in FQCTL Bhopal, we found that two out of three Fertilizer Analysts working in the lab did not get the periodical training. This indicates that Department did not ensure compliance of its own orders and FCO.

Audit further noticed that:

- 27 (40 *per cent*) posts against the sanctioned 67 posts in different cadres were vacant in six laboratories.
- Against sanctioned post of 24 Analysts, 14 were working (58 *per cent*). In Sagar district there was no Analyst and in Ujjain and Indore district there were one to two Analyst against requirement of four.
- 12 Lab Attendant/Assistant posts were vacant against sanctioned 14 posts in five laboratories except FQCTL Bhopal. Lack of manpower and training affected the analysis work as discussed in **paragraph 6.5**.

Department stated (January and February 2024) that the Lab Analysts and Fertilizer Inspectors are being trained in FQCTL, Faridabad. The shortage of staff in labs could be recouped through departmental staff.

The reply is not acceptable as recoupment of vacancies from the departmental staff is not feasible. Further, qualified and technical staff are required to carry out the quality testing of fertilizers in the laboratories which cannot be done by the staff of the department.

6.4 Target and Achievement of sample analysis

Director, FW&ADD fixed district-wise target for analysis of fertilizer samples for each season except 2021-22. As per instructions of Director (01 April 2017), samples were to be taken from rake points and godowns. Samples were to be taken in advance period and peak period of the season and not to draw more samples at the end of season which would cause delay in analysis in lab and sample should be drawn every month regularly. Samples should be drawn in each season from the manufacturing units and inspection of manufacturing units was to be made twice in a year. Separate Inspector would be appointed to draw samples from manufacturing units. Samples of SSP and mixtures should be given priority due to

⁶ Mumbai, Kalyani or Chennai.

more deficiency in their quality and not to adjust their target against the target of Urea, DAP and Complex.

In test checked districts, we found that out of three⁷ districts where there were manufacturing units, only Bhopal district reported about appointment of separate Fertilizer Inspector for taking samples from manufacturing unit. We found that three DDAs Bhopal, Chhindwara and Dhar had drawn 86 samples from manufacturers. Samples were not drawn from rake points as directed.

In test checked districts, out of 11,261 samples drawn during 2017-22, 724 (six *per cent*) samples were drawn in advance period, 6,766 samples (60 *per cent*) were drawn in peak period and 158 samples (one *per cent*) were drawn at the end of year and the remaining 3,613 were drawn in remaining period of the year.

The number of samples (except City Compost, Organic/bio-fertilizer) analyzed against the target and result of analysis in the State during 2017-22 are given in the **Table 6.2**.

Table-6.2: Number of samples (except city compost, organic/bio-fertilizer) analyzed against the target and result of analysis during 2017-22					
Year	Target for analysis	Number of samples analysed	Shortfall in analysis (percentage)	Standard	Non- standard
2017-18	7,410	6,841	569 (8)	6,073	768
2018-19	9,610	7,861	1,749 (18)	7,079	782
2019-20	12,000	12,117	0	11,131	986
2020-21	19,525	17,286	2,239 (11)	15,609	1,677
2021-22	17,000	16,547	453 (3)	14,923	1,624
Total	65,545	60,652	5,010 (8)	54,815	5,837

(Source: Departmental records)

From the above table it could be seen that:

- The shortfall in analysis against target ranged between three and 18 *per cent* during 2017-22 and overall shortfall was eight *per cent*. The reason for shortfall in achievements against targets was mainly shortage of 57 *per cent* Fertilizer Inspector in the State.
- Out of 60,652 sample tested, 54,815 (90.38 *per cent*) were declared as standard and 5,837 (9.62 *per cent*) as non-standard during 2017-22. FQCTL-wise samples received and analysed are given in **Appendix-6.1**. Approximately 97 *per cent* of the non-standard samples were found to be nutrient deficient or termed as ‘adulterated’ after testing. Only three *per cent* were classified as sub-standard on account of technical or physical deficiencies. The highest percentage of samples with nutrient deficiency were found in DAP (35 *per cent*) followed by SSP (33 *per cent*). The highest percentage of physical deficiency were found in Urea and complex (30 *per cent*) followed by DAP (24 *per cent*).

⁷ Bhopal, Chhindwara and Dhar.

- In test checked districts we found that 11,156 samples were analysed against 11,261 samples drawn during 2017-22, in which 1,182 samples were non-standard and 9,974 were standard.
- Out of 11,261 samples drawn, 4,531 samples (40 *per cent*) were related to private sector and 6,730 samples (60 *per cent*) were related to co-operative sector. Though Director did not fix target for private and co-operative sector separately, the DDAs did not follow any standard drawing samples from co-operative and private sector. We found that only 40 *per cent* of total samples were drawn from private sector during five years while the private dealers were around 77 *per cent* of total retailers/wholesalers in the test checked districts.

Less coverage of samples in private sector indicates that distribution of qualitative fertilizer was not ensured in private sector.

In survey, we found that fertilizer samples were not taken from nine out of 41 selected PACS and MS during the last five years. Further, Samples were not taken from five surveyed private wholesalers/retailers and from three Markfed and MP Agro godown.

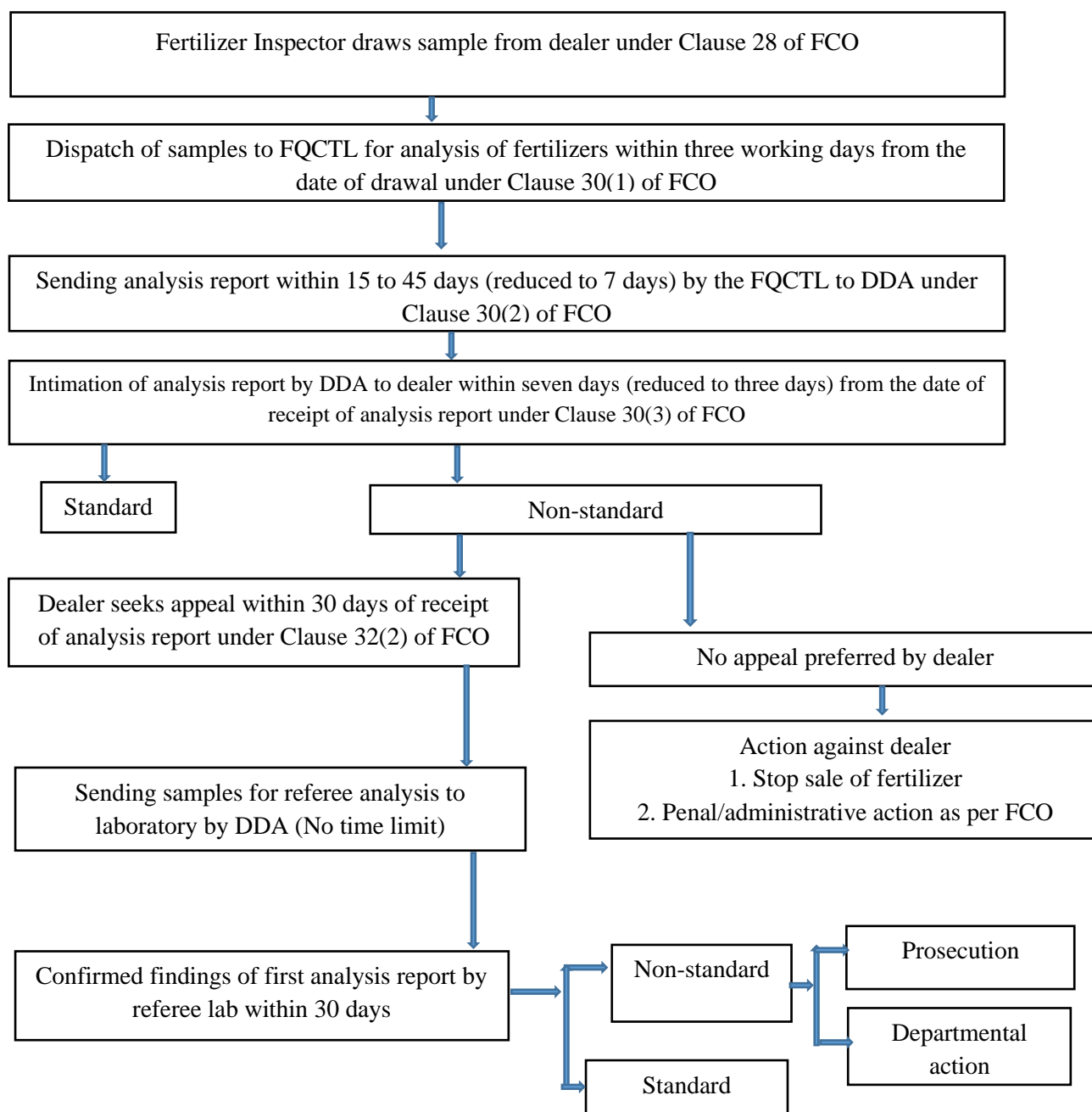
Department stated (January and February 2024) that the reason for not taking samples from rack point is possibly due to more time taken in unloading of rake. More samples were drawn in co-operative sector due to more distribution. Further, analysis of samples can be made in proportion to fertilizer supplied to co-operative and private sector.

The fact remains that departmental instructions were not followed by the District Authorities. Further, there was no criteria fixed, i.e. percentage of samples from private and co-operative sector was not fixed.

6.5 Non-compliance to analysis mechanism

The FCO provides for prohibition on manufacture/import and sale of non-standard/spurious/adulterated fertilizers. A multi stage system works behind the quality testing of the fertilizer samples. The main role is played by the fertilizer inspectors followed by the analysts who examine the samples in the laboratories.

The provision of clauses 30(1) (2) and (3) of FCO provides the time limit for sending samples to lab, their analysis in lab and intimating the result to dealers. But Director, reduced (during *Kharif* 2017 and 2020) the time period as prescribed in FCO and directed that samples drawn should be sent within three days to the lab and the lab should analyse within seven days of receipt in lab. The analysis report should be sent to the dealers within three days of receipt of report. In *Rabi* 2020-21, Director directed to follow the timeline of FCO. The mechanism can be better understood with the help of the following flow **Chart – 6.1**.

Flow Chart 6.1: Sampling and Testing Practice

The deficiencies we noticed against the above practices are discussed below:

(i) Delay in sending samples to the quality control laboratory

In test checked DDAs, we found that 5,045 out of 11,261 samples were sent to quality control testing laboratories with delays ranging between one and 345 days during 2017-22.

Department stated (January and February 2024) that Agriculture input quality control portal is being developed through which delay in sending samples would be reviewed on real time basis.

(ii) Delay in analysis of sample in Quality Control Testing Laboratory

In test checked nine⁸ out of 10 DDAs we found that 399 out of 10,871 samples were analysed in different laboratories with delays ranging between one and 17 days. Further, in test checked FQCTL Bhopal, we found that the samples received were not analysed in prescribed time period of seven days from the date of receipt in lab and 505 samples were analysed with delays ranging from one to 21 days during 2017-20. The main reason for delay in analysis was shortage of lab analyst/attendant.

Department stated (January and February 2024) that Agriculture input quality control portal is being developed through which delay in analysis of samples would be reviewed on real time basis.

(iii) Delay in intimation of analysis report to dealer

In test checked DDAs, we found that DDAs sent the result of analysis report only in case of samples found non-standard to the dealers and did not send the analysis report in case of samples found standard. In survey, out of 88 test checked PACS/godown/private dealers, 20 intimated that the Fertilizer Inspectors did not provide them the copy of sample report (prescribed in J form), 18 intimated that results were communicated only when samples were found non-standard and 46 intimated non-communication of result by DDAs.

Audit further noticed that six out of 10 test checked DDAs communicated the result of analysis report (non-standard) to the dealers with delays ranging from one to 43 days⁹ in 192 cases¹⁰ during 2017-22. Had the dealer been intimated timely, the sale of non-standard fertilizer could have been avoided.

Department stated (January and February 2024) that Agriculture input quality control portal is being developed through which delay in intimation to dealers would be reviewed on real time basis.

(iv) Action against the dealers without giving opportunity

FCO provides that the dealer can appeal within 30 days of receipt of analysis report from the first lab in case the sample is found non-standard. We found that the DDAs of five districts had taken action (between one and 30 days from the date of stop for sale order) in 60 cases¹¹ (authorization letter suspended in 38 cases and cancelled in 22 cases) without giving adequate opportunity to the dealers.

Further, we noticed that there was no mechanism in the districts to ensure the receipt of result by the dealers. There was no remark mentioned in the dispatch register maintained at DDA level regarding receipt of letter by the dealers like sending letter through 'Acknowledgement Due' or monitoring the dispatch online. In the absence of any

⁸ Alirajpur (37, one to three days), Balaghat (18, two to 14 days), Bhopal (51, one to eight days), Chhindwara (56, one to 13 days), Dhar (39, one to 17 days) Hoshangabad (107, three to seven days) Sidhi (eight, one to six days), Seoni (54, one to 16 days) and Tikamgarh (29, one to 10 days).

⁹ Leaving one day i.e. the day of receipt of result.

¹⁰ Alirajpur (38, one to 18 days) Balaghat (31, two to 43 days), Bhopal (19, one to 29 days), Dhar (76, one to 28 days) Hoshangabad (11, one to 17 days) and Seoni (17, four to 11 days).

¹¹ Alirajpur (15), Bhopal (three), Dhar (34) Hoshangabad (six), and Sidhi (two).

mechanism the DDA could not ensure 30 days time line after which they could take action in case the dealer did not prefer appeal.

Department stated (January and February 2024) that Agriculture input quality control module is being started through which the concerned could receive result of testing of samples through e-mail.

(v) Delay in disposal of appeals

There is no timeline prescribed in FCO for taking decision by Appellate authority sending samples for retesting. While filing of appeal is time bound, its disposal is open ended. This leaves room for the suppliers and dealers to continue fertilizer business as usual without fear of any punishment.

In test check of records of directorate, we found that the Appellate authority (Director) passed order of appeal in 19 out of 23 cases for sending samples for retesting to referral lab between 46 to 414 days from the date of appeal. Decision was not taken in remaining four cases in which the appeal date was between January 2021 and January 2022. The reason for giving further hearing date was mainly due to non-presence of representative of DDA on the appeal date.

Audit further noticed that in eight¹² out of 10 test checked DDAs, the Appellate authority passed order of appeal in 317 cases between 20 and 962 days from the date of appeal.

Department attributed (January and February 2024) the reason for time taken in disposal of appeal to absence of the representative of either supplier companies or DDA.

Thus, delay in disposals of appeal gave opportunity to the suppliers to continue their business in case their samples are found non-standard in second lab also.

(vi) Low prosecutions and causes thereof

The penal provision under the EC Act, 1955 for violation of quality standards includes prosecution of offenders and sentence, if convicted, up to seven years imprisonment besides cancellation of authorization certificate and other administrative action.

In 5,837 non-standard cases, we noticed that FIR was lodged in 32 cases only and there were no convictions in any case during 2017-22 in the State. Further, in most of the cases only administrative action was taken against the offenders *i.e.* show cause and stop for sale notices issued in 5,837 cases, authorization letter was suspended in 1,058 cases and cancelled in 283 cases.

In test checked districts, we found that out of 1,182¹³ samples found non-standard, show cause notice and stop for sale order was issued in 1,160 cases, authorization letter was

¹² Alirajpur (37 cases, between 39 and 280 days), Balaghat (19 cases, between 87 and 354 days), Bhopal (nine cases, between 57 and 261 days), Dhar (158 cases, between 20 and 347 days), Hoshangabad (15 cases, between 52 and 329 days), Sidhi (18 cases, between 59 and 193 days), Seoni (49 cases, between 41 and 962 days) and Tikamgarh (12 cases, between 33 and 184 days).

¹³ Co-operative Sector- 724 samples and Private sector 458 samples.

cancelled in 55 cases, suspended in 139 cases. No dealer was prosecuted and FIR was lodged only in one case (Chhindwara).

In the district Hoshangabad we found that the authorization letter of one private retailer *Krishakotsava*, Farmer Producer Company Ltd. *Banada, Seoni Malwa* was cancelled on 12 January 2021 and the cancellation order revoked on 24 August 2021. The retailer continued business during the cancellation period (purchased fertilizer 414.60 MT from Markfed and sold 125.875 MT). This was against the order of Notified Authority (DDA). The DMO Markfed did not ensure compliance of cancellation orders of the competent authority.

Department stated (January and February 2024) that action is taken as per provision of FCO and EC Act. Further, FIR and prosecution in every case does not appear to be essential. Directions have been issued for investigating and taking legal action in the matter related to *Krishakotsava* in Hoshangabad district. However, Department did not provide the copy of directions issued to audit.

6.6 Sale of non-standard fertilizers

We found that districts did not have information/records showing batch/lot number wise receipt of fertilizer¹⁴. MD Markfed did not intimate audit about batch/lot number-wise supply of fertilizer by companies and issuing directions to suppliers to provide information on batch/lot number-wise supply. Further, MD Markfed also did not issue any instructions to districts in this regard.

In the absence of batch/lot number, only the non-standard quantity shown in the lot was prohibited for sale in the godown/institution from where sample was taken and not in any other parts of district/State. MD Markfed did not report the reason for which sale was not stopped in other parts of the district/State. Similarly, NFL the lead fertilizer supplier in the State reported that batch number was not there in case of supply of Urea and also for other imported fertilizers.

DDAs of Alirajpur, Bhopal, Hoshangabad, Dhar, Tikamgarh and Umaria stated that the stop for sale order was issued to prohibit the fertilizer quantity shown in the lot from where fertilizer sample was taken. DDA Sidhi stated that stop for sale order was issued to prohibit sale in the concerned godown as well as in the entire district. While DDA Balaghat and Seoni stated that prohibited orders were issued to all districts.

The stop for sale order issued by DDAs for entire district/all districts was faulty because in the absence of batch number, a particular fertilizer could not be identified and hence could not be prohibited in the entire district.

Further, the supplier companies were not entitled to receive subsidy for sub-standard fertilizer sold through PoS device. In the absence of batch/lot number it could not be assessed as to how much quantity was actually required to be prohibited.

¹⁴ Batch number is available on the bag of SSP.

Further, we found that two test checked Markfed/PACS godowns¹⁵ in two districts sold 27.65 MT (₹ 2.87 lakh) non-standard fertilizers to farmers even after issue of stop for sale order violating the conditions of FCO.

Department stated (January and February 2024) that the supply of chemical fertilizers is ensured through imported and domestic fertilizers. In case of imported fertilizers, the fertilizers is received by suppliers in loose quantity due to which the lot/batch number is not mentioned in packing. Similarly, in case of domestic fertilizers, there was continuous production of fertilizers due to which the batch/lot number is not mentioned in packing. Further, samples were taken at the time of loading of fertilizer in the ship in case of imported fertilizer and in case of domestic fertilizers, samples were taken regularly at the time of production. The packing and distribution of fertilizers is done only after found standard. Transportation and storage could also affect the quality and action is taken only on the quantity covered in the lot.

Further, there is no provision for mentioning batch number in the containers of straight fertilizers and complex fertilizers (except SSP) as per Appendix-2 of FCO 1985 (dated 09 November 1987). The order to prohibit sale issued by the DDA was effective in the entire district. Further, directions would be issued to head of organisation and DDAs to investigate and take action on sale of non-standard fertilizer after issue of stop for sale order.

The reply is not convincing as FCO provides for taking samples from godowns for analysis of quality in lab even if the quality had been checked earlier in loading/production. In the absence of any identification (lot/ batch number), the sale of fertilizer received from a particular company which is found non-standard in the district cannot be restricted in district/State.

Further, the reply of Department on prohibiting sale of non-standard fertilizer in the entire district was not acceptable as seven DDAs stated that sale of only the quantity covered in the lot of the concerned godown from where sample taken was prohibited.

6.6.1 Non-standard fertilizer fund

GoMP created (November 2002) non-standard fertilizer fund to deposit the amount deducted from supplier companies' payment for supply of non-standard fertilizer. The cost of non-standard fertilizer was to be refunded to the farmers who used these fertilizers for which, Markfed was required to advertise in the newspaper at least twice in a year to receive the claim from farmers/societies. If the supplier does not claim the deducted amount before any court within one year and the buyer farmers/societies to whom the non-standard fertilizer was sold, do not claim within two years, the amount deducted would be deposited in the fertilizer fund.

This fund is managed by Registrar, Co-operative Societies, Bhopal¹⁶. The amount deposited in the fund was to be utilized for welfare of farmers, viz. (i) providing assistance for

¹⁵ Bhopal (PACS, Misrod-SSP, 13 MT, and NPK12:32:16, 0.65 MT), Hoshangabad (Markfed Godown Itarsi MOP-14 MT).

¹⁶ All the prescribed accounts and records are to be maintained regularly on the directions of Registrar.

agricultural implements to PACS (ii) purchasing testing kit for quick testing of phosphatic fertilizer (iii) providing off-season rebate to farmers etc.

Cost of sold/unsold non-standard fertilizers are deducted from suppliers bill/adjusted against EMD. After the expiry of stipulated claim period, the unsold non-standard fertilizers are transferred to suppliers company and the amount deducted for sold non-standard fertilizer is transferred to non-standard fertilizer fund.

Audit noticed that 2,561 MT out of 8,885 MT non-standard fertilizers were sold to farmers and 6,324 MT were unsold fertilizers in 2017-22. We further found that MD, Markfed deducted ₹10.74 crore (cost of sold ₹0.27 crore and unsold ₹ 10.47 crore) out of withheld amount of ₹13.10 crore from the payment of suppliers during 2017-22.

Out of ₹ 1.36 crore payable to non-standard fertilizer fund including ₹1.09 crore prior to 2017-18, Markfed paid ₹ 1.26 crore¹⁷ during 2017-23 to non-standard fertilizer fund and remaining amount ₹ 0.10 crore was outstanding as on December 2023. We found that no claim was received from farmers during that period.

Further, we found that MD Markfed published advertisement in newspaper only once in 2017-18, 2019-20 and 2020-21 which was inadequate and did not publish advertisement in 2018-19 and 2021-22.

In the test checked district we found that the cost of non-standard sample fertilizer sold to farmers was not paid to any farmers during 2017-22. The advertisement published by MD, Markfed was not in the notice of district authorities.

Further, the Fertilizer Inspectors did not mark the lot covered in the sample in surveyed 46 out of 88 PACS/MS/ Markfed and MP Agro godowns/Private dealers. Besides, the test checked 72 out of 74 Markfed and MP Agro godowns/PACS/private retailers, did not keep separate record of the fertilizer lot which was covered in the sample and sold to farmers. In the absence of separate records it was not feasible to identify the farmers to whom non-standard fertilizers were sold and assess the quantity of fertilizers sold to them. Further, in the absence of farmers records, MD Markfed did not publish the name of farmers in advertisement due to which farmers failed to claim and were deprived of getting the cost of non-standard fertilizers.

Further, Registrar, Co-operative Societies, Bhopal did not utilize the fund for the desired purposes. As of March 2022, ₹ 0.48 lakh was kept in saving bank accounts meant for the non-standard fertilizer fund and ₹ 6.38 crore was kept as Fixed Deposit Receipt. The above facts indicate that adequate efforts were not made at Markfed level for refunding the cost of non-standard fertilizer to farmers or for welfare of farmers.

The Department did not furnish (January and February 2024) reply. However, in the exit conference, ACS stated that the matter will be examined.

¹⁷ ₹ 1.06 crore paid during 2017-22 and ₹0.20 crore paid in May 2023.

6.7 Testing facility for city compost, bio/organic fertilizer analysis

GoI directed in Zonal Conference¹⁸ to promote the use of city compost by the farmers in the State. Further, GoI directed for tagging of the soil testing lab with city compost unit and to ensure testing of at least one sample in each season from city compost unit. Further, GoI directed to fix the separate target for testing of city compost samples and sending the samples for analysis to National Centre of Organic and Natural Farming, Ghaziabad or its regional centres if the facility of testing is not available in the State.

Micronutrient quality testing facility is available in three out of six State owned Fertilizer Quality Control Testing Laboratories in the State. Testing facility for bio-fertilizer and city compost fertilizer was not available in State owned labs. We found that separate target was set for drawing city compost sample during 2017-22 and five city compost samples drawn during 2017-22 in three test checked districts were sent to GoI fertilizer lab, Jabalpur. There were no city compost manufacturing units in test checked districts other than those running under municipal corporations/municipalities. Samples were not taken from these units. Further, tagging of soil testing lab with city compost unit was also not done.

The status of targets of analysis for micronutrient, city compost, vermi compost, bio-fertilizer and organic fertilizer and samples analysed against the targets in the State and test checked districts during 2017-22 is given in the **Table 6.3**.

Table-6.3: Status of target of analysis for micronutrient, city compost, vermi compost, bio-fertilizer and organic fertilizer and samples analysed against the target during 2017-22					
In the State				In test checked districts	
Sl. No.	Name of fertilizer	No. of sample target	No. of samples analysed (<i>per cent</i>)	No. of sample target	No. of samples analysed (<i>per cent</i>)
1	Micro nutrient/ Micronutrient mixture	5,300	1,393 (26)	870	370 (43)
2	City compost	990	43 (4)	214	9 (4)
3	Vermi compost/ organic fertilizer	1,790	404 (23)	352	103 (29)
4	Bio-fertilizer	2,400	136 (6)	521	34 (7)

(Source: Departmental records)

Analysis of meagre sample of micronutrient, city compost, vermi compost, bio-fertilizer and organic fertilizer against the targets indicates inadequate efforts of the Department towards ensuring quality assurance in respect of these fertilizers.

Director stated that bio fertilizer/city compost samples were sent to other laboratories out of State and GoI laboratories. But the details of laboratories where the samples were sent, were not available at directorate level. Director, FW&ADD did not provide the status of micronutrient deficiencies in soil in the State and stated that the information was available at district level.

In audited districts, the soil deficiency in Boron and Manganese increased in four to six districts and soil deficiency in Zinc, Iron and copper decreased in four to seven districts during 2017-18 and 2021-22.

Department stated (January and February 2024) that tagging of soil testing lab with city compost unit was not done due to non-availability of equipment and Analyst in soil testing

¹⁸ Rabi 2017-18, 2018-19 and Kharif 2019

labs. The reply is not acceptable as adequate action was not taken by the Department to ensure quality assurance in respect of above fertilizers in compliance of GoI instructions.

6.8 Soil testing Lab facilities

The objectives of soil testing are evaluation of nutrient status of the soil and identification of the problems like alkalinity, salinity and acidity in the soil. It provides a scientific basis for the adoption of recommended doses of fertilizers and crops. The recommendations are based on the soil conditions and the fertility of the soil.

There are 57 soil testing/soil survey laboratories (50 static and seven mobile) functioning under the control of Director, FW&ADD with annual analysis capacity of 5.35 lakh samples and 31 including three mobile laboratories are functioning under the control of State Universities with annual capacity of 1.55 lakh samples in 47 districts in MP (up to December 2020-21).

6.8.1 Non-functioning of new soil testing lab

We found that 265 new soil testing laboratories sanctioned in the year 2015-16 in the State were constructed (at a cost of ₹ 95.40 crore) but they were not brought into use due to non-sanction of manpower required for the laboratories. Director, FW&ADD stated that action is being taken to operate these laboratories with redeployment of existing staff. Redeployment is not practicable as there was already huge vacancy in the post of Soil Conservation Survey Officer (67 per cent), Lab Assistant (73 per cent) who operate the soil lab in addition to other staff in the cadre 3 and 4¹⁹ (47 per cent) in the State (as of June 2022).

In 10 test checked districts, 62 laboratories sanctioned were constructed and handed over to Department, but they were non-functional due to non-availability of staff and equipment.

Department stated (January and February 2024) that proposal has been sent to Government to operate these labs through outsourcing (PPP mode) staff. Action has been taken to fill up the vacancy in cadre 02²⁰ and 03 and appointment made against 31 posts of Assistant Director through Public Service Commission. Posting of 77 Lab Assistants and seven SADOs is under process.

Reply had to be seen in light of the fact that the above labs remained non-functional for want of staff and staff stated to be appointed were also not adequate to run above 265 labs.

¹⁹ Cadre-3 (Superintendent, Assistant Superintendent, Divisional Accountant, Head clerk/Assistant Grade-1, Accountant/Auditor, Senior Personal Assistant, Personal Assistant, Assistant Grade-3 (Agriculture Engineering), Stenographer Grade-3, Assistant Grade-2/Sub Auditor, Assistant Grade -3, Steno-typist, Driver, Junior Accounts Officer. Press Compositor (*Saankhyetar*), Cinema Operator (*Saankhyetar*), Research Assistant (*Saankhyetar*), Photographer (*Saankhyetar*), Artist (*Saankhyetar*), Press Operator (*Saankhyetar*), Pump Operator, Driver (contingency)

Cadre-4 (Supervisor, Daftari/Zamadar, Peon/Chaukidar/Chainman/Others, Peon (Agriculture Engineering), Chaukidar (Agriculture Engineering) and Peon (Contingency))

²⁰ Cadre-2 (Assistant Director Agriculture (Area and Extension)/Deputy Director Project, Assistant Director Agriculture Statistics, Assistant Director Agriculture Accounts/Establishment CIET).

6.8.2 Target and achievement of analysis of soil sample

During 2017-19, soil samples were drawn and analyzed under soil health card (SHC) scheme and in remaining years as per target of Department. The soil health card scheme was implemented in 2015-16 by GoI to provide information to farmers on nutrient status in the soil and suggest them to use appropriate quantity of fertilizer and required improvement in the soil status, so that soil health could be maintained for long period.

A report card containing result of soil analysis on 12 parameter of macro-nutrients, secondary nutrient, micro-nutrients and physical parameters is to be issued to farmers for soil testing on every holding. Recommendation on the basis of result of soil testing is to be reported in the card. Further, the card will be issued after every three years which will support change in soil health in upcoming years.

Under the scheme, soil sample was to be taken on the basis of grid (in irrigated area 2.5 ha and in rain-fed area 10 ha taken as one grid). The soil sample was taken in two phases *i.e.* 2015-17 and 2017-19. Against the target to take 46.35 lakh grid samples, 48.02 lakh grid samples were covered and 179.88 lakh soil health cards were issued under the scheme in the State during 2015-19.

Analysis of records of test checked soil testing laboratories revealed the following-

- (i) During 2017-19, 4.86 lakh soil samples were analysed against target 4.78 lakh under soil health card scheme and 0.73 lakh samples were analysed during 2019-22 against target 0.86 lakh²¹ in nine districts (other than scheme). Soil samples were not analysed in two districts Umaria (2019-20 and 2021-22) and Balaghat (2021-22). In ten selected districts 19.12 lakh soil health cards were issued during 2017-22.
- (ii) In nine districts (except Alirajpur)²², as on 31 March 2022, 43 (51 *per cent*) out of 85 sanctioned posts were vacant in which the posts of nine Lab Assistants were vacant against 14 sanctioned posts. Out of 184 equipment in testing laboratory, 118 were in working condition and 66 (36 *per cent*) equipment were not in working condition.
- (iii) During farmers survey it was revealed that, soil samples were not taken from surveyed 44 *per cent* farmers fields. Soil samples were taken once during five years from 48 *per cent* farmers and more than two times from eight *per cent* farmers.

Department stated (January and February 2024) that free soil health cards were provided to farmers since 2015-16 and in phase-1 and phase-2, soil cards were prepared by analyzing soil samples more than the annual capacity of labs.

The reply is not acceptable as the subsequent testing of soil samples for SHCs issued could not be done after three years as per the scheme guidelines due to shortage of staff in soil testing labs.

²¹ Target of soil samples were not provided by district Bhopal for 2019-22 and district Seoni and Alirajpur for the year 2021-22.

²² Non establishment of soil testing unit.

Recommendations:

- *GoMP should strengthen testing infrastructure facilities to cover more samples in testing keeping in view the distribution of fertilizer. Department should strengthen the sampling mechanism at district and State level.*
- *GoMP should review organic/bio-fertilizers and micronutrient fertilizers used by farmers from different sources and availability of these fertilizers should be ensured according to their requirement as per soil status of the districts.*
- *GoMP should ensure adequate publicity to enable farmers to claim the refund of cost of non-standard fertilizers. Further, proper records should be maintained for fertilizer lot covered in sample and sold to farmers at retail sale points, so that Department could publish the name of farmers in advertisement to whom non-standard fertilizers were sold.*



Chapter-7

Monitoring and Supervision

Chapter – 7

Monitoring and Supervision

7.1 Monitoring through portal

In the State the supply and distribution of fertilizers was monitored through following portals:

(i) Integrated Fertilizer Management System (iFMS) portal

iFMS portal was launched (June 2016) by GoI for online monitoring of various aspects of management of fertilizer. The portal mainly displays the district-wise list of wholesaler/retailers, requirement of district/State, district/State supply plan, movement order of GoI, sales details by company/wholesaler/retailers, stock as on today, nil stock with wholesaler/retailers and receipt by State etc.

(ii) Integrated Fertilizer Storage Software (IFSS) Portal

For internal management of fertilizer, Markfed had developed IFSS portal in 2018, a software for management of receipt of stock and payment to supplier. The portal was developed for various purposes *i.e.* procurement, payment to suppliers, sales and distribution, physical verification etc. Through the portal, Markfed carried out various activities *viz.* issue of Delivery Indents, purchase of fertilizer against the Delivery Indents and payment to suppliers etc.

7.2 Issue of Certificates of manufacture/authorization letter for fertilizer business

The FCO provides restrictions on doing fertilizer business without having certificate of manufacture (for manufacturers) and authorization letters (for purchase and sale). The provisions of FCO and instructions (September 2020) of Department provide procedure and documents (application, fees, O certificate¹, self-attested map of shop/godown and qualification proof etc.) required for applying for authorization letter/certificates for fresh and renewal cases.

GoI revised (September 2019) the validity period² of renewal from three to five years. The FCO provides that every holder of certificate of manufacture/authorization letter is required to apply for renewal before the date of such expiry, but if the application for renewal is not made before expiry of period of validity and is made within one month from the date of such expiry, such renewal can be made on payment of additional fees as prescribed.

We found that the Department provided online facility for applying/issuing of authorization letter/certificate of manufacture. However, there was no online mechanism developed by Department to monitor the validity of certificates of manufacture/authorization letters issued at State/district level.

¹ A certificate of source for carrying on the business of selling fertilizers in Wholesale/Retail/Industrial use.

² As per GoI order (December 2020), the validity of authorization letter would be continued which had been expired or likely to be expired between 20 February 2020 and 31 January 2021 due to Covid -19.

There were 18 manufacturers of NPK, 18 for SSP, one for Urea and one manufacturer of DAP working in the State. During 2017-22, 463 certificates/authorization letters were issued and seven were cancelled/debarred in the State. However, Director, FW&ADD did not have year-wise information of certificate of manufacture/authorization letter due for renewal and renewed during 2017-22.

Scrutiny of register of certificates maintained at directorate level revealed that the entries for renewal of certificates after the expiry of validity period were not updated. We found that certificates in 20 out of 77 cases were issued between December 2012 and May 2019 but the renewal of certificates after validity period (June 2021 and May 2022) were not found in records. Thus, Director did not monitor if the manufacturer/dealers stopped their business or were doing business without valid certificates/authorization letter after expiry of validity period.

In test-checked districts, the DDAs issued authorization letters during 2017-22 violating the provisions of FCO and Departmental instructions as given below-

- (i) In four cases, the private retailers did not fulfil the required educational qualification *i.e.* Bachelor in Agriculture/Chemistry or Diploma in Agriculture Science or 15 days certificate course in Bhopal district.
- (ii) In Bhopal district map of godown/shop was not attached with 12 out of 61 applications.
- (iii) Further, the authorization letters were not timely applied before expiry date in 437 out of 1,360 test-checked cases in nine districts except Umaria. In 260 out of 437 cases, the applications were received after 30 days with delay ranging from two days to six years and five months. Issue of authorization letters in these cases was invalid as the FCO does not permit acceptance of applications submitted after 30 days from the date of expiry.

Further, additional fees in late applied cases were not taken in 261 cases in seven test checked districts. The district-wise details of applications received within/after 30 days and non-collection of additional fees are given in **Appendix-7.1**.

Department stated (January and February 2024) that MP Lok Sewa Guarantee Department would be requested to provide online monitoring facility for monitoring the renewal of authorization letters. Further, directions have been issued to investigate and take action on the above issues.

7.3 Shortage of enforcement authorities

The State Government is responsible for implementing the provisions of the FCO through the enforcement authorities notified namely the Joint Director, DDA/ADA and SADO/ADO etc.

The FCO prescribed duties/responsibilities of different enforcement authorities to regulate the price, quality and distribution of fertilizer. We found that the manpower with enforcement authorities was not adequate in the State to regulate the control order and monitor the fertilizer business. The overall status of sanctioned and men-in position with

different enforcement authorities in the State and test checked districts is given in the **Table 7.1.**

Table 7.1: Status of sanctioned and men-in-position of enforcement authorities						
Name of enforcement authority	At State level			In test checked districts		
	Sanctioned post	Men-in-Position (As of February 2023)	Shortage (percentage)	Sanctioned post	Men-in-Position (As of February 2023)	Shortage (percentage)
Joint Director	21	5	16 (76)	-	-	-
Deputy Director Agriculture	143	83	60 (42)	10	6	4 (40)
Asst. Director Agriculture	736	387	349 (47)	71	43	28 (39)
SADO	759	459	300 (40)	126	32	94 (75)
ADO	1,253	340	913 (73)	245	51	194 (79)
Lab Assistant	98	26	72 (73)	7	1	6 (86)

(Source: Departmental records)

It can be seen from the table that 40 to 76 *per cent* of sanctioned post in different cadres were vacant in the State and 39 to 86 *per cent* post were vacant in test checked districts which affected the duties and responsibilities viz. testing of fertilizers samples and inspection and monitoring etc. assigned to the authorities in the FCO.

Department stated (January and February 2024) that action to fill up the vacant post is being regularly taken. The reply is not acceptable as there were huge vacancies in the department which adversely affected the enforcement of FCO order/EC Act.

7.4 Inspection and search/seizure

According to instructions issued (October 2010) by GoMP, the Fertilizer Inspectors were required to conduct inspection of each manufacturer, distributor once in each season and the inspection of godown and records of wholesalers/retailers, PACS and dealers in every two months.

As per instructions (October 2018 and September 2019) of MD Markfed, the DMO was required to conduct quarterly inspection of each Markfed godown in the district. The FCO provides for search/seizure of premises/godown and books of accounts and punishment under EC Act was also to be imposed in case of violation of FCO.

The details of inspections conducted by Fertilizer Inspectors, search/seizure of premises and books of accounts of dealer and amount of fertilizer confiscated during inspection were not available with Director, FW&ADD. This indicates that though the Director issued instructions to districts, but failed to monitor the business activities of licensee units to ensure compliance of FCO provisions.

In test checked districts we found that:

- In three districts Bhopal, Chhindwara and Dhar, there were 18 manufacturing units but inspection of these units was not done.

- Inspection of 1,621³ (23 per cent) out of 7,081 private sale points and 645⁴ (21 per cent) out of 3,024 co-operative sale points were conducted in seven out of nine districts during 2017-22. Remaining two districts (Bhopal and Chhindwara) did not provide status of sale points. The main reason for not conducting inspection of 78 per cent sale point was due to shortage of Fertilizer Inspectors. We found that in test-checked districts 316 (71 per cent) post of Fertilizer Inspectors were vacant against sanctioned 442 posts.
- Under Markfed, nine out of 10 DMOs were required to conduct 900 inspections during 2017-22 as per norms (quarterly inspection of each godown), against which they conducted 566⁵ (63 per cent) inspections of 46 godowns. DMO, Hoshangabad did not provide number of inspections conducted during 2017-22.
- Search of premises was conducted in 336 cases in six districts⁶ in which fertilizers around 331.521 MT were seized and confiscated in four districts⁷.
- In six⁸ out of 10 districts FIR was lodged in 59 cases for violation of the FCO during 2017-22. These were mainly related to illegal transportation of fertilizer and selling of fertilizer at more than the prescribed rate. These cases were under judicial consideration. Punishment under EC Act was not found in any of the test-checked districts.

The DDAs/DMOs did not fix targets for inspections to ensure monitoring of the activities of wholesalers/retailers. Lack of inspections required as per norms led to purchase and sale of fertilizer by private retailer during the period authorization letter stood cancelled as discussed in **Para 6.5 (vi)**. Director, FW&ADD and MD Markfed stated (December 2023) that the required inspections were not conducted due to shortage of manpower and rush of work at district level.

Department stated (January and February 2024) that instructions were issued to DDAs from time to time for compliance of the departmental order. Markfed also issued (September 2019) instructions for inspection/physical verification of godowns.

Fact remains that adequate number of inspections were not conducted to ensure monitoring of fertilizer whole sellers/ retailers.

³ Alirajpur (247 out of 793), Balaghat (93 out of 1,277), Dhar (575 out of 1,918), Hoshangabad (422 out of 1,011), Tikamgarh (71 out of 541), Sidhi (40 out of 207) and Seoni (173 out of 1,334).

⁴ Alirajpur (31 out of 130), Balaghat (163 out of 710), Dhar (175 out of 655), Hoshangabad (191 out of 540), Tikamgarh (35 out of 379), Sidhi (0 out of 270) and Seoni (50 out of 340).

⁵ Alirajpur (two godowns-40 inspections), Balaghat (seven godowns-55 inspections), Bhopal (four godowns-48 inspections), Chhindwara (seven godowns-162 inspections), Dhar (6-7 godowns-104 inspections), Tikamgarh (six godowns-98 inspections), Sidhi (three godowns-20 inspections), Seoni (6-7 godowns-22 inspections) and Umari (three godowns-17 inspections)

⁶ Balaghat (three), Chhindwara (200), Dhar (23), Seoni (six), Tikamgarh (102) and Umari (two)

⁷ Balaghat (6.15 MT), Dhar (230.271 MT), Seoni (67.85 MT), and Umari (27.250 MT).

⁸ Balaghat (three), Chhindwara (13), Dhar (24), Hoshangabad (nine), Tikamgarh (two) and Seoni (eight).

7.5 Monitoring of supply and distribution of fertilizer

7.5.1 Monitoring of co-operative sector

Monitoring at Agriculture Department level

Audit noticed that supply and distribution of fertilizer was being monitored by analyzing the real time data available in iFMS portal and organizing video conference with State level authorities and divisional/district level officials.

Monitoring at Co-operation Department level

Registrar, Co-operation Department issued (September 2002) instructions for inspection of sub-ordinate PACS to ensure proper management and distribution of fertilizers during the crop seasons. Deputy Registrar of Co-operative Societies (DRCS) was the member of committee constituted at district level for monitoring the availability and distribution of fertilizers for advance storage.

Audit noticed that DRCS of three districts⁹ did not monitor the distribution of fertilizer by PACS while the other seven¹⁰ DRCS monitored the distribution through sub-ordinate/field staff *i.e.* Assistant Inspector and Co-operation Extension Officer. But they did not maintain any such records relating to supervision and monitoring. The districts (except Sidhi) did not prepare any plan for field visit to supervise the PACS. Ineffective supervision and monitoring of PACS led to manipulation of stock at PACS level as discussed in **Para 5.3.5(i)** and **5.3.5 (ii)**.

The reply of the department is awaited (November 2024).

The above facts indicate that in three districts, Co-operation Department did not ensure monitoring of supply and distribution of fertilizers.

7.6 Outcome of consumption of fertilizer

7.6.1 Non-distribution of Soil health card

A suitable management of nutrients is required to increase crop production. In MP, 179.88 lakh soil health cards were issued to farmers under soil health card scheme so that the farmers could know about the soil conditions of their own farms. They could use right quantity and combination of fertilizers recommended in soil health cards for crop production and maintain soil fertility.

In test checked districts, 19.12 lakh soil health cards were issued during 2017-22. Further we found that the DDAs and Soil testing units did not ensure distribution of soil health cards to farmers. During survey of 250 farmers we found that soil cards were issued to 190 farmers by soil testing units. Out of 190 farmers, soil cards were available with 89 farmers and 101 farmers did not have cards. We found that though cards were issued by soil testing units, but the cards issued were not provided to the farmers by the SADO/Rural Agriculture Extension Officer (RAEO) under DDA.

⁹ Chhindwara, Dhar and Umariya.

¹⁰ Alirajpur, Bhopal, Balaghat, Hoshangabad, Seoni, Sidhi and Tikamgarh.

In the district Umaria we found 230 cards issued in 2018-19 were dumped in *Kisan Mitras* house, Bharhut (block-Manpur) and on being pointed out the DDA stated that notice would be issued to RAEs for non-distribution.

In the absence of soil health cards, the soil deficiency, recommended crops and fertilizer/ their doses could not be brought to the notice of farmers. The objective to use balanced fertilizer through soil health card could not be achieved.

In case of surveyed farmers, we found that 65 *per cent* farmers who had soil health cards, had knowledge about the deficiencies in their soil and remaining farmers had no knowledge about the soil deficiencies. 48 *per cent* farmers (those who have cards) applied the recommended dose of fertilizer and remaining farmers did not apply the recommended dose.

The DDAs in test checked districts did not ensure application of the recommended doses by farmers as mentioned in soil health cards.

Department stated (January and February 2024) that farmers were always encouraged to use balanced fertilizer as per soil health cards. Farmers were trained through different activities *i.e. kishan mela*, workshop and farmers training carried out under different schemes.

The reply is not acceptable as no reasons were given for non-distribution of soil health cards to the farmers which defeated the objectives of the scheme.

• ***Recommended fertilizers not applied***

We found that out of 31 surveyed farmers to whom soil health cards were issued, 27 farmers did not apply the recommended fertilizer (combination of fertilizer) especially the MOP. The details of crop-wise non-application of fertilizer by the surveyed farmers is given in the **Table 7.2.**

Table 7.2: Non-application of fertilizer by surveyed farmers						
Sl. No.	Name of crop	Combination of fertilizer	No. of district	Total No. of farmer	Fertilizer used (no. of farmer)	Fertilizer not used
1	Wheat	Urea, DAP, MOP	5	29	Urea, DAP (29), MOP (four)	MOP (25)
2	Paddy	Urea, DAP, MOP	4	22	Urea, DAP (22), MOP (one)	MOP (21)
		Urea, MOP, SSP	One (Hoshangabad)	Three	Urea, SSP (three)	MOP (three)
3	Maize	Urea, DAP, MOP	One	One	Urea, DAP	MOP
4	Gram	Urea, MOP, SSP/ MOP, DAP	One	Four	Urea, DAP (four)	MOP ¹¹ (four)
5	Green Gram	MOP, DAP	One	One	SSP	DAP, MOP

(Source: Soil Health cards and reply furnished by surveyed farmers)

¹¹ SSP is replaced by DAP if DAP is used, SSP is not required.

- ***Recommended fertilizer doses were not applied***

Further, the 31 surveyed farmers did not apply the recommended doses of fertilizers¹² prescribed for recommended crops in the soil health cards. Details are given in **Appendix-7.2 (A)** and **Appendix 7.2 (B)**.

The deviation in application of doses implies that there was lack of motivation among farmers by department and lack of awareness in farmers as we found in survey.

Department stated (January and February 2024) that the recommendation in soil health card is not reliable and farmers used fertilizer which were made available to them.

The reply is not acceptable as the recommendations in soil cards were issued based on soil tests conducted in labs which were according to the soil samples collected from field.

7.6.2 Action taken for use of balanced fertilizer

We found that Director issued instructions (June 2021 and September 2021) to DDAs in *Kharif* 2021 and *Rabi* 2021-22 regarding use of balanced fertilizer. Further, instructions (October 2021) were issued for use of more potash in the soil in comparison to use of Urea and DAP.

Director stated that the districts displayed banner on use of balanced fertilizer in offices, *Krishi Upaj Mandi* which were reported in whatsapp group and progress reports on action taken at district level were not required. Director did not produce any records/reports in support of the fact. This indicates that Director did not ensure compliance of the instructions issued by him.

In reply to audit query on promoting use of balanced fertilizer, Director stated that awareness among farmers to use balanced fertilizer was created through organising training programmes, distributing literatures etc. Further, IEC activities were carried out educating the farmers to use improved agriculture technique through various activities *i.e.* *kishan seminar*, training programmes, crop demonstration etc. Director did not provide any evidence/records in support of the fact. Follow up of action taken by Department was not conducted to assess the result of activities.

DDAs of nine out of 10 districts (except Alirajpur) stated that IEC activities like *Kishan Mela*, *Krishak Sangosti* organised and pamphlets, poster, literature distributed. But evidence in support of the facts were not produced.

During survey of 250 farmers, we found that 83 *per cent* farmers did not get any advice from Agriculture Department regarding use of fertilizer. 91 *per cent* farmers did not get training for use of balanced fertilizer according to their soil and crop. 91 *per cent* farmers did not attend any seminar for balanced use of fertilizer. This indicates that the department did not strengthen the awareness programme for application of balanced fertilizers and plant nutrients.

¹² Urea (Two to 17 farmers applied excess dose and one to 19 farmers applied less dose), DAP (one to 16 farmers applied excess dose and one to 11 farmers applied less dose), MOP (one farmer applied excess dose and one to two farmers applied less dose and one to 25 farmers did not apply MOP).

Department stated (January and February 2024) that providing information to farmers on improved crop method in production is a continuous process, though not documented. Training programmes for farmers were arranged as per budget available. Further, Department provided benefit to farmers through different schemes.

Department did not provide evidence/documents in support of reply for verification by audit.

7.6.3 Change in N P K

There are three types of fertilizers, primary fertilizer, secondary fertilizers and micronutrient fertilizers. Primary fertilizers is popularly called chemical fertilizers containing Nitrogen, Phosphorous and Potassium (NPK). Secondary fertilizers contain Sulphur, Calcium and Magnesium and Micronutrient fertilizer provides Zinc, Boron, Copper, Iron, Manganese etc. primary fertilizer is used in larger quantity and other fertilizers are used in smaller quantity. Deficiency of micronutrient affects food grain/yield.

Urea provides 46 *per cent* Nitrogen and DAP provides 18 *per cent* Nitrogen while SSP and DAP provide 16 *per cent* and 46 *per cent* of Phosphorous respectively. MOP provides 60 *per cent* Potash. Nitrogen and Phosphorous were received extensively by excessive use of Urea, DAP and SSP. Excessive use of Nitrogen led to deficiency in Zinc and excessive use of Phosphorous caused deficiency of both Zinc and Copper.

Consumption of fertilizer was broadly based on the availability of fertilizers rather than being in line with the assessed requirement of fertilizer. The fertilizers should be used as per requirement of the soil and crops to be grown. Scrutiny of year-wise consumption of major fertilizers revealed increase in consumption year after year as given in **Table 7.3**.

Table 7.3: Fertilizer consumption in MP						
Year	Urea (percentage)	DAP (percentage)	MOP (percentage)	SSP (percentage)	Complex (percentage)	Total (Qty. in LMT)
2017-18	22.48 (53)	10.81 (26)	1.11 (2)	5.41 (13)	2.45 (6)	42.26
2018-19	29.50 (51)	12.63 (22)	1.09 (1)	11.07 (19)	3.88 (7)	58.17
2019-20	29.99 (51)	13.46 (23)	1.13 (2)	10.49 (18)	3.74 (6)	58.81
2020-21	30.18 (49)	16.07 (26)	1.50 (2)	10.45 (17)	3.99 (6)	62.19
2021-22	29.08 (49)	12.00 (20)	1.18 (2)	12.26 (21)	4.95 (8)	59.47
Total	141.23 (50)	64.97 (23)	6.01 (2)	49.68 (18)	19.01 (7)	280.90

(Source: Departmental records)

It may be seen from above Table that the overall consumption of fertilizers increased by 41 *per cent* i.e. 42.26 LMT in 2017-18 to 59.47 LMT in 2021-22. Further, the consumption of Urea and DAP increased during 2017-21 and consumption of SSP and Complex also increased during 2017-22. The year after year increase in consumption of fertilizer without assessing the actual requirement of fertilizer as per soil need may adversely affect the soil health. Audit found that assessment of requirement of fertilizer was not as per soil status as discussed in **Chapter 2**. Use of fertilizer increased over five years according to their availability. Fertilizer was not used as per soil status. More use of nitrogen and phosphetic fertilizer (Urea, DAP, SSP) and other fertilizers affected the soil health. The status of deficiency in micronutrient in soil over five years in selected districts is mentioned in **Para 5.6.1**.

7.6.3.1 Trend in consumption of NPK

The assessment of the fertilizer was not done as per soil status which is discussed in **Chapter-2**. The Department could not provide fertilizer as per soil status of the State. The farmers used fertilizers which was made available to them by State. As a result, the nutrients of fertilizers in terms of NPK remained unchanged. The State could not achieve the optimum ratio of NPK 4:2:1.

The trend in consumption of NPK (LMT/ percentage) and kg per hectare in MP during 2017-22 is given in **Table 7.4**.

Table 7.4: Trend in consumption of NPK (LMT/ percentage) in MP													
Year	Value in LMT					In terms of percentage				Kg per hectare			
	N	P	K	Total	N:P:K	N	P	K	Total	N	P	K	Total
2017-18	12.63	6.55	0.98	20.16	13:7:1	63	32	5	100	51.37	26.63	3.99	81.99
2018-19	16.38	8.69	1.14	26.21	14:8:1	63	33	4	100	64.73	34.33	4.52	103.58
2019-20	16.73	8.94	1.16	26.83	14:8:1	63	33	4	100	58.02	31.02	4.02	93.06
2020-21	17.33	10.21	1.40	28.94	12:7:1	60	35	5	100	57.73	34.00	4.67	96.40
2021-22	16.29	8.90	1.33	26.52	12:7:1	61	34	5	100	57.87	31.79	4.86	94.52
Average consumption	15.87	8.66	1.20	25.73						57.94	31.55	4.41	93.90

(Source: Economics and Statistics division (DoACFW) GoI and FW&ADD, GoMP)

From above table it is evident that:

- Nitrogen accounts for two thirds of share in fertilizer consumption by the farmers. The remaining P and K accounts for one third of share in fertilizer consumption. The average consumption of N, P, K was 15.87, 8.66 and 1.20 LMT respectively during 2017-18 to 2021-22. It implies that the farmers were regularly using the same pattern of fertilizers of N, P, K during the last five years.
- The annual average consumption of fertilizer was 94 kg/ha during last five years. The average consumption of fertilizers among the farmers suddenly increased from 82 kg/ha in 2017-18 to 95 kg/ha in 2021-22. But there were fluctuations in the consumption pattern. The average consumption of N was 57.94 kg/ha, P was 31.55 kg/he and K was 4.41 kg/ha.
- Audit noticed that the nutrient ratio (N:P:K) was more or less same in 2021-22 in comparison to 2017-18 in the State which was far away from the optimum ratio of 4:2:1. The Department had no target to improve the nutrient ratio to optimum ratio. This could be reduced to some extent by using the organic manure/bio-fertilizer.

Department stated (January and February 2024) that the use of fertilizer by farmers depend on the price of fertilizer as well as in usage of fertilizer and farmers used excess Urea due to low price.

The reply is not acceptable as the assessment and supply of fertilizer in State was done on basis of past consumption and farmers used fertilizers as per availability of fertilizers not as per the soil requirement.

7.6.4 Cropped area and consumption of fertilizers

Projected requirement of fertilizer was assessed as per proposed crop area to be covered under different crops. The crop-wise assessment of different districts was not made on the basis of required applicable doses of fertilizer as the same was not available with Director, FW&ADD. Further, the crop-wise/ area-wise fertilizer used was also not available with Director. Director stated that reporting of actual quantity used in different crops was not practically possible and applicable doses of NPK were available at district level but not at State level. The DDAs of test checked districts did not maintain data for quantity of different fertilizers used in different crops and their area.

The average use of chemical fertilizers (except AS) in the State according to area¹³ under crops is given in the **Table 7.5**.

Year	Area under crops (in lakh ha)	Chemical fertilizer consumed (in LMT)	Average use (kg/ha)
2017-18	248.80	42.26	170
2018-19	261.32	58.17	223
2019-20	285.61	58.81	206
2020-21	294.27	62.19	211
2021-22	293.33	59.47	203

(Source- Data of Department)

The area under crops in MP increased from 248.80 lakh ha in 2017-18 to 294.27 lakh ha in 2020-21 and declined to 293.33 lakh ha in 2021-22. The fertilizer consumption also increased in the same line from 42.26 LMT to 62.19 LMT and after that it declined to 59.47 LMT in the same period. The use of fertilizer increased by 41 *per cent* from 2017-18 to 2021-22 while cropped area increased by 18 *per cent*. The overall increase in consumption of fertilizer was disproportionate to the increase in cropped areas during 2017-22 which was mainly due to excessive use of fertilizer.

Department stated (January and February 2024) that the use of fertilizer depends on the increase in irrigation and types of crops taken. Further, NPK ratio was high due to more use of nitrogen and phosphatic based fertilizers and less use of potassic fertilizer as nitrogen was low in 35 districts and phosphorous was low in 12 districts. Farmers used more Urea due to its low price.

The reply is not convincing as the Department could not provide fertilizer as per the soil status of the State and did not give priority to use of bio/organic fertilizers as a replacement of chemical fertilizers. This was due to non-use of balanced fertilizer in the State. Further, the requirement of fertilizer was not assessed taking into consideration the irrigation status.

¹³ The area of summer season (*Jayad*) included in area under *Kharif* and *Rabi* season.

Recommendations:

- *Efforts should be made to fill up the vacant posts of enforcement authorities for effective implementation of FCO.*
- *GoMP should consider online monitoring of certificates of manufacture and authorization letters issued to manufacturers, wholesalers and retailers for carrying out fertilizer business in the State.*
- *GoMP may explore the possibility of imparting training on balanced use of fertilisers through podcasts and videos, which may be easily shared on social media.*
- *The distribution mechanism of soil health cards to farmers by DDA and soil testing units should be improved for effective communication of results of soil testing.*



Chapter-8

Conclusions


Chapter – 8

Conclusions

- i. Department did not adequately assess fertilizer requirement for each crop season as per GoI directives and assessed the requirement without getting inputs from districts. Resultantly, the requirement was not need based.
- ii. Assessment of fertilizer requirement was not based on the soil status of the districts. This led to imbalanced use of fertilizers which would affect the soil health.
- iii. The benefit of rebate provided by suppliers (on DAP and MOP) was not given to farmers which put extra burden of ₹10.50 crore on the farmers as fertilizer was sold at higher rate in *Kharif* 2019.
- iv. Director, FW&ADD and MD, Markfed did not prepare the district-wise monthly supply plan of fertilizers as per demand of districts to ensure timely supply of required quantities of fertilizers in the districts.
- v. There was 4,790 MT fertilizer lying in godowns of Markfed as non-salable fertilizer, yet no action was taken to dispose off this quantity since one to thirty-four years. There was mismatch of stock between physical stock and iFMS stock balance at district level.
- vi. Director assessed month-wise distribution target for the State without getting requirement from districts and did not fix month-wise/ district-wise bifurcation of such target due to which Urea and DAP were excessively distributed in certain districts and less distributed in other districts.
- vii. There was no separate target fixed for distribution of organic/bio-fertilizer and micronutrient based fertilizer in the State during 2017-22. Besides, the Department was yet to put in place an effective plan for use of organic/bio fertilizer to reduce the use of chemical fertilizer. Markfed did not ensure supply of MNFs as per deficiency, while deficiency in MNFs increased over the five years.
- viii. Despite inadequate fertilizer quality testing capacities and facilities in the State, two bio-fertilizer labs sanctioned in 2020-21 and four division level labs sanctioned in 2012-13 were not operated.
- ix. In the absence of batch/lot number of fertilizer, only the non-standard quantity in the lot selected in the godown for sampling was prohibited for sale and the same fertilizer of the same supplier distributed in other areas of the district/State was not prohibited. The cost of non-standard fertilizer sold to farmers was not refunded to any farmer during 2017-22 due to lack of adequate publicity and proper records of farmers to whom non-standard fertilizers were sold.
- x. Online mechanism was not developed by the Department to monitor the renewal of certificates of manufacture/authorization letters for fertilizer business issued at State/district level. DDAs renewed authorization letters violating the provisions of FCO and departmental order.


- xi. Forty to 76 *per cent* of sanctioned posts of enforcement authorities were vacant in the State which affected the enforcement of provisions of FCO/EC Act.
- xii. There were instances of soil health cards issued but not having been distributed to the farmers. The NPK ratio in the state was far below the ideal NPK ratio 4:2:1 and it was 12:7:1 in 2021-22. The increase in consumption of fertilizers was not in proportion with increase in cropped area because usage of fertilizers was not as per soil requirement.

Bhopal
The 04 April 2025


(PRIYA PARIKH)
Accountant General (Audit-II)
Madhya Pradesh

Countersigned

New Delhi
The 08 April 2025


(K. SANJAY MURTHY)
Comptroller and Auditor General of India

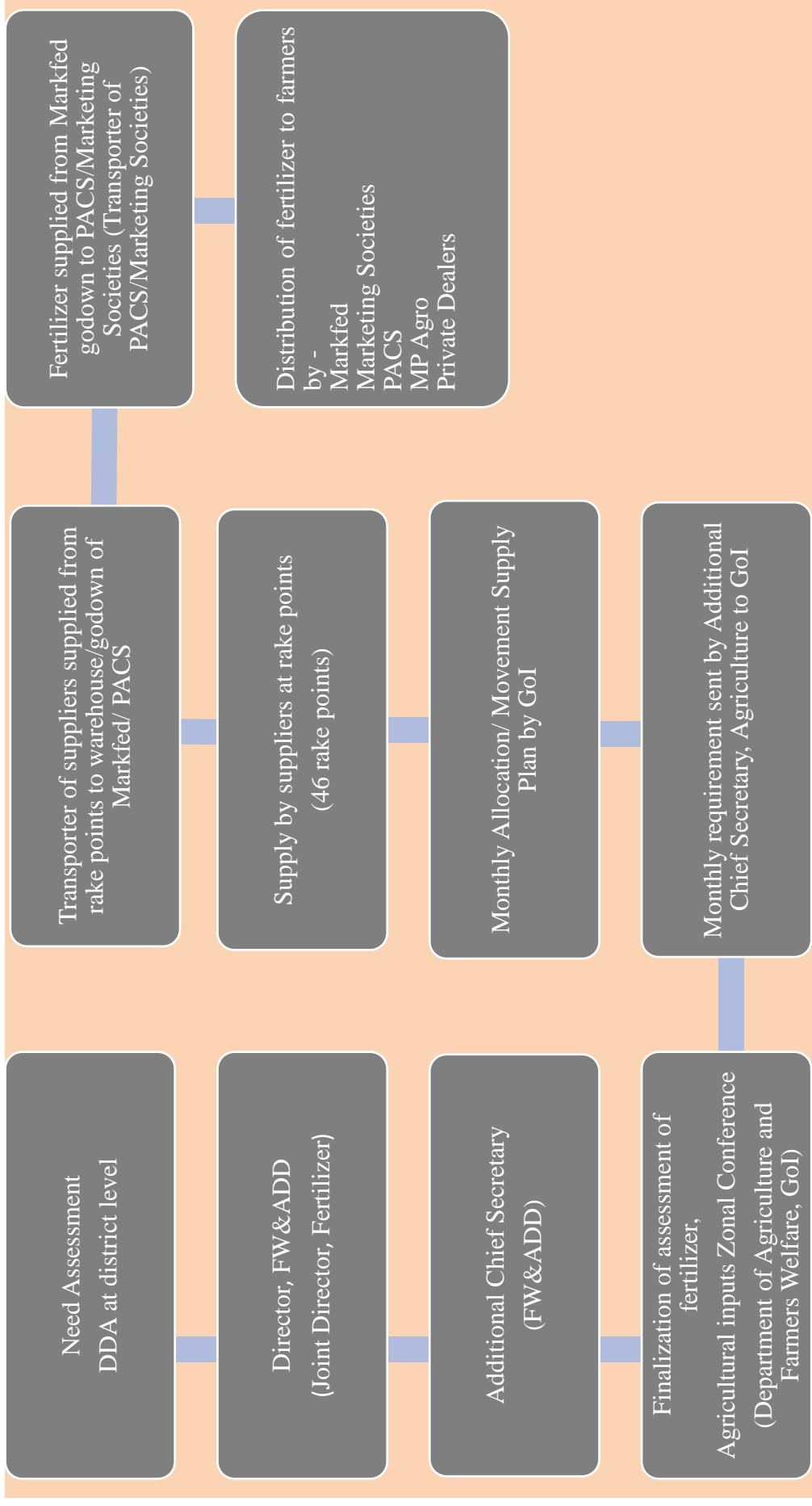


Appendices

Appendix-1.1

(Reference: Paragraph No. 1.1, Page No. 2)

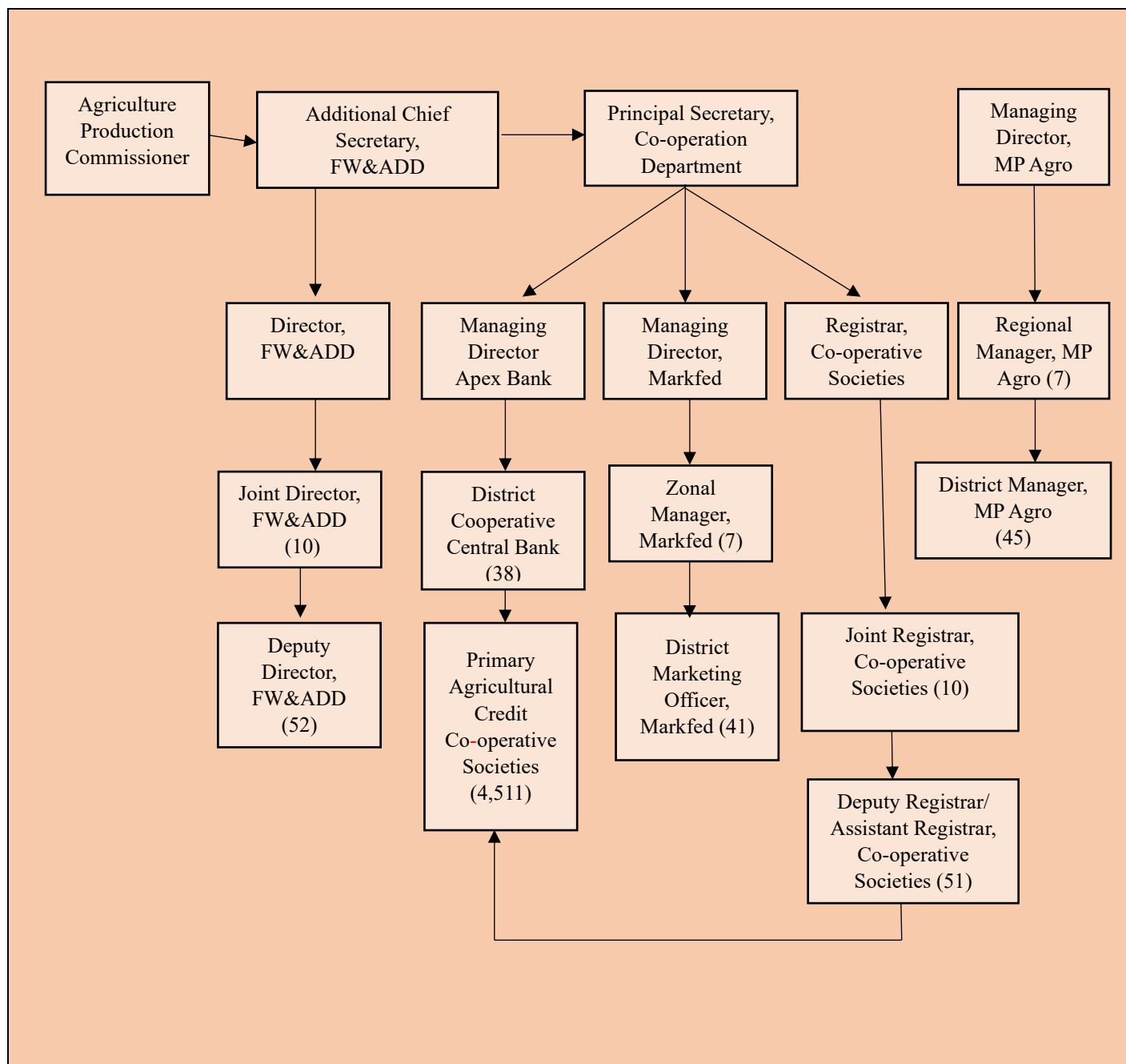
Process of Assessment of requirement to distribution of Fertilizer



Appendix-1.2

(Reference: Paragraph No. 1.2, Page No. 2)

State/District level Agencies



Appendix-3.1

(Reference: Paragraph No. 3.1.1 (i), Page No. 12)

Details of targeted quantity, assessment and procurement of complex fertilizers

Category	Season	Name of fertilizer	Targeted quantity (in MT)	Assessment (in MT)	Procured quantity (in MT)
Procurement against target	<i>Kharif</i> 2019, 2021 and <i>Rabi</i> 2019-22	NPK 20:20:0	1,10,075	12,000	4,110.65
	<i>Kharif</i> 2019, 2021 and <i>Rabi</i> 2019-21	NPK 14:28:14	1,350	10,500	0
		NPK 14:35:14	7,925	13,000	06
Total			1,19,350	35,500	4,116.65
Non-procurement against target	<i>Kharif</i> 2019 and <i>Kharif</i> 2021	NPK 15:15:15	1,875	0	0
		NPK 16:20:00	675	0	0
		NPK 13:33:06	675	0	0
		NPK 28:28:0	1,075	0	0
	<i>Kharif</i> 2019	NPK 16:16:16	400	0	0
	<i>Kharif</i> 2021	NPK 14:28:14	275	0	0
	Total			4,975	0
Short/ Non-procurement against target	<i>Rabi</i> 2019-20 and <i>Rabi</i> 2020-21	NPK 15:15:15	2,025	0	0
		NPK 16:20:00	1350	0	0
		NPK 13:33:06	675	0	0
		NPK 16:16:16	1075	0	0
		NPK 24:24:0	1075	0	0
	<i>Rabi</i> 2019-20 to 2021-22	NPK 28:28:0	2,575	0	0
	<i>Rabi</i> 2020-21	NPK 20:20:0	16,131	0	94
Total			24,906	0	94

Appendix-5.1

(Reference: Paragraph No. 5.3.2, Page No. 35)

Status of fertilizer-wise shortfall in distribution against target in different months during 2017-22

Sl. No.	Name of fertiliser	Season	Year							
			2017-18		2018-19		2019-20		2020-21	
			Month	Percentage of shortfall	Month	Percentage of shortfall	Month	Percentage of shortfall	Month	Percentage of shortfall
1	DAP	Kharif	April, May	82-99	April, May	73-93	April, May, June, August and September	13-93	April, May, September	14-95
		Rabi	October and January to March	26-70	October, February, March	11-21	October, March	11-36	January, February	16-52
2	MOP	Kharif	April, May	84-99	April, May, June	40-93	April, May, June, August and September	20-94	April, May, August, September	33-96
		Rabi	October and December January to February	1-70	October, December, January, February	7-46	October, February, March	12-46	-	-
3	Complex	Kharif	April, May, August	27-100	April, May	53-93	April, May, June, August and September	48-90	April, May, August	42-96
		Rabi	October and December	23-69	February, March	59	October, February, March	10-50	January	24
									January to March	13-57

Sl. No.	Name of fertiliser	Season	Year									
			2017-18		2018-19		2019-20		2020-21		2021-22	
			Month	Percentage of shortfall	Month	Percentage of shortfall	Month	Percentage of shortfall	Month	Percentage of shortfall	Month	Percentage of shortfall
			January to February									
4	Urea	<i>Khariif</i>	April, may July	10-93	April, May	33-80	April, May, June, September	2-80	April, May	45-88	April, May, September	24-91
		<i>Rabi</i>	October, December	1-60	October, November	3-40	October	49	October to December	6-30	October to December	3-38
5	SSP	<i>Khariif</i>	April to June and August, September	40-97	April, May	56-82	April, May, September	49-66	April, May, September	15-87	April, May, September	18-75
		<i>Rabi</i>	October to January	45-95	October to March	16-62	January to March	17-83	December to February	13-22	October to December	9-38

Appendix-5.2

(Reference: Paragraph No. 5.3.4.2(i), Page No. 38)

Statement showing DAP, NPK sold to farmers at higher rate

(Qty in MT and amount in ₹)

Sl. No.	Name of District	Name of Centre/ godown	Period	Name of Fertilizer	Sale Qty	Actual Sale rate	Govt. Sale rate	Difference	Difference in Sale value
1	Chhindwara	PACS, Ghoti	11.10.2019 to February 2020	DAP	12.400	27,000	24,000	3,000	37,200
		PACS, Chhindi (Patalkot)	11.10.2019 to February 2020	DAP	52.600	26,900	24,000	2,900	152,540
		PACS Jamsanwli	11.10.2019 to February 2020	DAP	9.250	27,000	24,000	3,000	27,750
		3			74.250				2,17,490
2	Seoni	PACS, Dharna	11.10.2019 to February 2020	DAP	18.350	26,900	24,000	2,900	53,215
				DAP	25.900	24,440	24,000	440	11,396
		PACS, Banki	11.10.2019 to February 2020	NPK 12:32:16	0.200	29,625	23,700	5,925	1,185
		2			44.450				65,796
3	Balaghat	PACS, Kochewahi	11.10.2019 to February 2020	DAP	27.850	24,440	24,000	440	12,254
		PACS, Sihora	11.10.2019 to February 2020	DAP	13.200	24,440	24,000	440	5,808
				NPK 12:32:16	14.050	25,200	23,700	1,500	21,075
				NPK 12:32:16	3.800	24,200	23,700	500	1,900
				NPK 12:32:16	1.300	24,738	23,700	1,038	1,349
				NPK 12:32:16	0.550	24,745	23,700	1,045	575

Sl. No.	Name of District	Name of Centre/ godown	Period	Name of Fertilizer	Sale Qty	Actual Sale rate	Govt. Sale rate	Difference	Difference in Sale value
4	Dhar	2	11.10.2019 to February 2020	NPK 12:32:16	1.600	24,450	23,700	750	1,200
				NPK 12:32:16	0.650	24,815	23,700	1,115	725
				NPK 12:32:16	0.450	24,978	23,700	1,278	575
					63.450				45,461
				DAP	19.750	24,440	24,000	440	8,690
				NPK 12:32:16	127.700	24,200	23,700	500	63,850
				DAP	17.050	26,860	24,000	2,860	48,763
				NPK 12:32:16	8.350	27,500	23,700	3,800	31,730
					32.900	24,200	23,700	500	16,450
				DAP	0.400	24,440	24,000	440	176
				NPK 12:32:16	57.450	24,200	23,700	500	28,725
				DAP	187.400	24,440	24,000	440	82,456
				NPK 12:32:16	97.800	24,200	23,700	500	48,900
				DAP	2.800	24,425	24,000	425	1,190
5	Umaria	7	11.10.2019 to February 2020	NPK 12:32:16	1.250	24,200	23,700	500	625
				DAP	0.750	24,424	24,000	424	318
				NPK 12:32:16	1.400	24,200	23,700	500	700
				DAP	3.750	24,425	24,000	425	1,594
				NPK 12:32:16	3.350	24,200	23,700	500	1,675
					562.100				3,35,842.00
				DAP	10.000	24,425	24,000	425	4,250
					10.000				4,250

Sl. No.	Name of District	Name of Centre/ godown	Period	Name of Fertilizer	Sale Qty	Actual Sale rate	Govt. Sale rate	Difference	Difference in Sale value
6	Bhopal	PACS, Misrod	11.10.2019 to February 2020	DAP	219.550	24,440	24,000	440	96,602
				NPK 12:32:16	0.250	24,200	23,700	500	125
		PACS, Amravat Kalan	11.10.2019 to February 2020	DAP	180.950	24,440	24,000	440	79,618
	Total	2			400.750				1,76,345
Grand Total		17			1,155.000				8,45,184.00

Appendix – 5.3

(Reference: Paragraph 5.3.4.2 (ii), Page No. 38)

Statement showing variation in sale rate

(Qty. in MT and amount in ₹)

Sl. No.	Name of District	No. of Centre/ Godown	DAP						UREA				MOP				NPK 12:32:16											
			Sold at higher rate			Sold at lower rate			Period	Sold at higher rate				Sold at lower rate		Period	Sold at higher rate			Sold at lower rate								
			Sale Qty.	Diff. of rate (per MT)	Sale Value	Sale Qty.	Diff. of rate (per MT)	Sale Value		Sale Qty.	Diff. of rate (per MT)	Sale Value	Sale Qty.	Diff. of rate (per MT)	Sale Value		Sale Qty.	Diff. of rate (per MT)	Sale Value	Sale Qty.	Diff. of rate (per MT)	Sale Value						
1	Balaghat	1	-	-	-	0.95	2100	1,995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Bhopal	2	-	-	-	-	-	-	1,771,485	40	70,860	-	0.25	630	158	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Chhindwara	3	-	-	-	-	-	82,665	750	61,999	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			-	-	-	-	-	747,585	80	59,807	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Seoni	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	Umaria	1	-	-	-	15.95	1000	15950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		9				16.90		17,945		2,601,735		1,92,666		1.55		977		-							299.35			1,71,901

Appendix 5.4

(Reference: Paragraph No. 5.3.5 (i), Page No. 39)

Details of stock manipulated by Manager, PACS

Sl. No.	Name of Fertilizer	Brief of audit observations
1.	DAP	<p>During 2018-22, the PACS received 1,382.700 MT DAP from Markfed godown. However, the Manager has taken 1,357.700 MT into stock and kept 25 MT (received on 22 November 2019) out of stock. We noticed that after two years the Manager inflated (on 01 April 2021) the opening stock to 30.950 MT by adding 25 MT to the closing stock of 5.95 MT as on 31 March 2021. The Manager manipulated the closing stock and reduced (26 April 2021) the closing stock by 20.700 MT and 4.30 MT on 04 October 2021 totalling to 25 MT without any sale on these dates to adjust the fake entry made in opening stock on 01 April 2021. We further noticed that the Manager again inflated the closing stock on 26 October 2021 from 12.800 MT to 37.800 MT by fake addition of 25 MT in the closing stock and shown sale on 27.10.2021 in the name of two employees 35.850 MT (25 MT -Assistant and 10.850 MT Manager) in the stock register and shown outstanding sales proceeds against them in cash book and audit report. The details of sale by the employees to farmers were not produced and this was done to adjust the fake addition of 25 MT on 26 October 2021.</p> <p>Further, we noticed that as per stock register, the PACS received 1388.150 MT DAP (including opening stock of 2018-19 5.450 MT and 25 MT not taken in stock) during 2018-22. The sale as per sale register was 1,418.100 MT during 2018-22 resulting in negative closing balance by 29.950 MT. The negative balance was due to manipulation in stock by the Manager. Thus, the Manager manipulated 35.850 MT fertilizer, the sale value of which was ₹8.60 lakh. Further, the society did not produce bill book/receipt book in support of sale of 52 MT as shown in stock register during 2018-20.</p>
2.	Urea	<p>During 2018-22, the society received 2,231.010 MT Urea. However, the Manager has taken 2,145.885 MT into stock and kept 85.125 MT out of stock. We noticed that the Manager inflated the opening stock on 01 April 2021 by adding 59.94 MT in the closing stock of 4.545 MT as on 31 March 2021. Further, the Manager manipulated the closing stock and reduced the closing stock by 36.96 MT on 24 May 2021 to adjust the fake entry made on 01 April 2021. Again, the Manager added 59.94 MT on 26 October 2021 in the closing stock of 18.630 MT and inflated the stock to 78.570 MT. Manager mentioned sale of 77.310 MT in his own name on 27 October 2021 in the stock register and outstanding sales proceeds in cash book. The amount was also shown in the audit report of society as outstanding sales. Further, the details of sales to farmers by him was not available. Thus, the manager made fake addition of 119.88 MT in closing stock and reduced the closing stock by 114.27 MT, which created extra 5.610 MT of closing stock. After addition of closing stock 12.800 MT as on 31 March 2018 to the receipt of 2,145.885 MT as per stock register, the total available stock would be 2,158.685 MT as on 31 March 2022. The total sale was 2,246.410 MT which was 87.725 MT more than the available stock while the stock was nil as per stock register.</p>

Sl. No.	Name of Fertilizer	Brief of audit observations
		The Manager manipulated stock of 85.125 MT which has sales value ₹5.04 lakh. Further, the society did not produce bill book/receipt book in support of sale of 141.92 MT Urea as shown in stock register during 2018-20.
3.	SSP	During 2018-22, the society received 230.00 MT SSP and the balance stock as on 31 March 2018 was 44.400 MT. Against the available stock of 274.400 MT, the sale was 250.850 MT and the balance as on 31 March 2022 was 23.550 MT while the actual balance of stock was 19.100 MT. This resulted in shortage of stock 4.450 MT with sale value of ₹ 0.27 lakh. Further, the society did not produce the bill/receipt book in support of sale of 11.650 MT during 2018-20.
4.	Zinc Sulphate	The Manager of society recorded sale of 1.555 MT Zinc on 27 October 2021 in the name of Assistant in daily sale register and in cash book as outstanding sales proceeds. The details of sale to farmers by the society was not available. Hence, the sale of 1.555 MT with sales value ₹ 0.54 lakh was doubtful. Further, the balance stock of Zinc as on March 2022 was 3.300 MT which was doubtful as on deducting the sales from the stock the balance as on March 2022 should be 3.015 MT. Further, the society did not produce bill book/receipt book in support of sale of 0.070 MT in 2019-20.

Appendix-5.5
(Reference: Paragraph No. 5.3.5 (ii), Page No. 39)

Details of PACS who manipulated the stock

Sl. No.	Name of PACS	Sales more than stock	Shortage in stock	Stock inflated
1	Ghatli, Hoshangabad	<p>DAP: As on 23 October 2021 the closing stock was 3.400 MT and sale on 25 October 2021 was 3.500 MT, which resulted excess sale of one quintal than the available stock. There was no sale between 26 October 2021 and 01 November 2021. The excess sale was not adjusted in the next receipt 20 MT on 01 November 2021.</p>	<p>DAP: The balance stock of Loharia centre was 2.250 MT as on 30 August 2017 including opening balance 0.850 MT on 10 April 2017. The balance of Ghatli centre was 2.650 MT. The balance stock of both centre was 4.900 MT, while the Manager had taken opening stock of the both the centre as 4.850 MT as on 01 October 2017. Hence, 50 kg was less taken in stock.</p> <p>Urea: 1. The closing stock was 15.420 MT as on 27 September 2019. There was no sale between 28 September 2019 to 21 November 2019. The Manager reduced the next sale from closing stock 15.320 MT on 22 November 2019. Hence, one quintal stock was taken less. 2. The closing stock as on 13 December 2019 was 2.360 MT and after sale of 2.340 MT on 18 December 2019 the stock should be 0.020 MT. The closing stock 20 kg was not added in the next receipt 27 MT on 26 December 2019. 3. The balance stock of Loharia Centre was 0.600 MT as on 30 August 2017 and Ghatli Centre was 0.200 MT (01 October 2017). The total stock of both centre</p>	--

Sl. No.	Name of PACS	Sales more than stock	Shortage in stock	Stock inflated
			<p>was 0.800 MT, while, the Manager carried forward stock 0.600 MT as opening balance (01 October 2017), which resulted less carry forward of stock by 0.200 MT.</p> <p>The total shortage in above cases was three quintal 20 kg.</p> <p>Zinc:</p> <p>1. The available balance as per stock register before 12 June 2017 was 4.120 MT and sale on 12 June 2017 was 0.150 MT, thus, the next stock balance was to be 3.970 MT while the closing stock was taken 3.950 MT reducing the stock by 20 kg.</p> <p>2. The closing stock was 2.700 MT as on 21 August 2017. But the opening balance was taken on 01 April 2018 as 2.450 MT. Thus, less stock 0.250 MT was taken.</p> <p>Therefore, total 0.270 MT was taken less in above two cases.</p>	
2	Sirwad, Hoshangabad	--	<p>SSP:</p> <p>The closing stock 0.250 MT as on 28 October 2017 was not included in the next receipt 20 MT as on 17 May 2018. This resulted short carry forward of closing stock 0.250 MT.</p> <p>Urea</p> <p>1. The closing stock was 6.550 MT as on 10 December 2018, the manager added 5.800 MT in</p>	--

Sl. No.	Name of PACS	Sales more than stock	Shortage in stock	Stock inflated
			<p>next receipt on 05 June 2019, hence the less stock carry forward was 0.750 MT.</p> <p>2. The closing stock was 18.680 MT as on 26 June 2019 and after sale of 12.33 MT on 28 June 2019 and 29 June 2019, the closing stock should be 6.350 MT while the Manager shown the closing stock 6.345 MT, hence less stock 0.005 MT taken.</p> <p>3. Further, the receipt 25.200 MT on 09 October 2020 from Markfed godown, was not taken in stock.</p> <p>Total shortage was 26.205 MT in above cases.</p>	
3	Anchalkheda, Hoshangabad	<p>DAP</p> <p>The available stock as on 05 November 2018 was 8.550 MT and sales was 9.850 MT. So, the sale more than the available stock was 1.300 MT.</p> <p>Urea</p> <p>1. As on 03 November 2018, the available stock was 26.800 MT and sales was 26.950 MT, so, excess sale than the available stock was 0.150 MT.</p> <p>2. As on 06 August 2021, the available stock was 3.860 MT and the sales was 4.520 MT, so excess sales was 0.660 MT.</p> <p>So total sales more than stock in urea was 0.810 MT.</p> <p>Zinc</p>	<p>Urea</p> <p>The Manager reduced the carry forward closing stock 22.190 MT irregularly in five occasions (23 December 2017, 22 June 2018, 25 June 2018, 28 December 2018 and 09 November 2020) and increased the closing stock in two occasions (15 June 2018 and 14 June 2021 to 29 July 2021) by 1.210 MT. As a result, the closing stock reduced by 20.980 MT.</p> <p>Zinc</p> <p>After reducing the sales 0.700 MT (0.300 MT on 21 August 2019 and 0.400 MT on 26 June 2018) from balance stock 19.370 MT, the stock should be 18.670 MT while the manager had shown stock 18.530 MT. Thus, stock reduced by 0.140 MT.</p>	<p>SSP</p> <p>The Manager increased the closing stock from 43.800 MT to 44.850 MT (on 25 June 2018 and 02 November 2018 by 0.050 MT and one MT respectively).</p>

Sl. No.	Name of PACS	Sales more than stock	Shortage in stock	Stock inflated
		During the period 20 July 2020 to 30 July 2020 sales was 1.680 MT, while stock was 0.310 MT on 10 July 2020, so sales more than the stock was 1.370 MT.		
4	Banki, Seoni	--	<p>SSP</p> <p>1. The closing balance as on 21 December 2017 was 16.300 MT. But the Manager had taken opening balance 3.600 MT as on 01 April 2018. So, the stock reduced by 12.700 MT.</p> <p>2. The available stock on 28 July 2020 was 120.750 MT. After sale of 2.200 MT, the balance stock should be 118.550 MT but Manager shown balance 106.550 MT. So, the stock was reduced by 12 MT.</p> <p>In total 24.700 MT was less taken in above two cases.</p> <p>The net effect was that the stock was increased by 15.300 MT.</p>	<p>SSP</p> <p>The Manager had taken 221.600 MT as opening balance on 01 April 2021 instead of taking 181.600 MT the closing balance as on 28 March 2021. So, the stock inflated by 40 MT.</p>
5	Sukhtawa, Hoshangabad	--	<p>SSP</p> <p>The closing stock 0.750 MT as on 08 June 2020, was neither carry forward nor added in opening stock.</p> <p>DAP</p> <p>The closing balance 11.700 MT as on 23 July 2020 was taken as opening balance 11.600 MT on 28 July 2020. So, stock reduced by 0.100 MT.</p>	--

Sl. No.	Name of PACS	Sales more than stock	Shortage in stock	Stock inflated
6	Misrod, Bhopal	--	<p>SSP- (Granular)</p> <p>1. The closing balance as on 31 December 2019 was 13.250 MT, the Manager reduced the next sale on 10 February 2020 from the closing stock 13.00 MT. So, stock reduced by 0.250 MT.</p> <p>2. As on 04 March 2020, the closing balance of SSP (Powder) was 11.450 MT but Manager had taken stock 11.400 MT on 01 April 2020. So, stock reduced by 0.050 MT.</p> <p>The total stock in both cases reduced by 0.300MT.</p> <p>Urea:</p> <p>1. The closing balance on 20 February 2018 was 7.95 MT. The Manager did not reduce the next sale 0.200 MT on 27 March 2018 from stock 7.95 MT but from 7.70 MT. So stock was reduced by 0.250 MT.</p> <p>2. The closing stock as on 14 December 2020 was 97.920 MT. After reducing sale 2.655 MT on 23 December 2020 and 22.545 MT on 15 June 2021, the stock should be 72.720 MT, while the Manager had shown closing stock 55.980 MT as on 15 June 2021. So, the Manager reduced the stock by 16.74 MT.</p> <p>3. The closing stock as on 25 January 2022 was 22.905 MT. While the Manager had shown stock 16.200 MT as on 31 March 2022. The stock reduced by 6.705 MT.</p> <p>The total stock of urea reduced by 23.695 MT.</p>	<p>Urea:</p> <p>1. The closing stock as on 31 January 2019 was 5.615 MT. The Manager had shown the opening stock 35.740 MT as on 01 April 2019. The stock was inflated by 30.125 MT.</p> <p>2. The closing stock as on 05 October 2019 was 41.070 MT and the receipt on 12 October 2019 was 20.250 MT. The total stock should be 61.320 MT But the Manager had shown closing stock 61.335 MT. So, the stock inflated by 0.015 MT.</p> <p>3. The closing balance as on 10 January 2020 was 10.125 MT. But the Manager did not reduce the next sale 6.525 MT on 05 February 2020 from 10.125 MT but from 11.210 MT. So stock was inflated by 1.085 MT.</p> <p>4. The Manager had taken 0.360 MT as opening stock as on 01 April 2020 instead of taking the closing stock 0.315 MT as on 03 March 2020. So, the stock was inflated by 0.045 MT.</p> <p>5. The closing stock as on 05 November 2021 was 39.735 MT and after addition of receipt 25.200 MT on</p>

Sl. No.	Name of PACS	Sales more than stock	Shortage in stock	Stock inflated
				06 November 2021 the stock should be 64.935 MT. but the manager had shown stock 65.935 MT. So stock was inflated by 1.00 MT. So, the total stock was inflated by 32.270 MT.
			The net effect was that the stock was increased by 8.275 MT.	
7	Dadraudi, Umaria	<p>DAP Scrutiny of records of PACS, Dadraudi, Umaria revealed that the available stock of DAP as on 10 September 2018 was 5.60 MT against which the society sold 8.10 MT in credit and mentioned excess sale of 2.50 MT in stock register.</p> <p>SSP Similarly, the balance stock of SSP as on 10 September 2018 was 3.950 MT against which the society sold 4.60 MT and mentioned excess sale of 0.650 MT in stock register. The society did not provide the details of stock 3.150 MT (2.50 MT+0.650 MT) sold to farmers and the bill.</p>	--	--

Appendix-5.6

(Reference: Paragraph No. 5.5.1, Page No. 43)

Status of requirement, offered quantity, Delivery Indents issued and quantity purchased/sold against required quantity during 2017-22

Year	Name of fertiliser	Estimated quantity (in MT)	Offered quantity (in MT)	Quantity of indent placed (in MT)	Quantity procured (in MT)	Quantity sold (in MT)	Quantity not procured against requirement (in MT) (percentage)
2017-18	Organic manure	20,000	1,21,000	Not available	792	792	19,208 (96)
	Phosphatic rich organic manure	20,000	1,94,375	Not available	4,869	4,869	15,131 (76)
	Vermi compost	20,000	52,000	Not available	314	314	19,686 (98)
	City compost	20,000	61,500	Not available	0	0	20,000 (100)
	Total	80,000	4,28,875	Not available	5,975	5,975	74,025 (93)
2018-19	Organic manure	20,000	2,56,000	14,707	3,108	3,104	16,892 (84)
	Phosphatic rich organic manure	20,000	3,79,500	64,807	14,233	14,076	5,767 (29)
	Vermi compost	20,000	1,60,000	6,948	310	310	19,690 (98)
	City compost	20,000	94,000	0	0	0	20,000 (100)
	Total	80,000	8,89,500	86,462	17,651	17,490	62,349 (78)
2019-20	Organic manure	10,000	1,59,500	9,508	710	788	9,290 (93)
	Phosphatic rich organic manure	20,000	2,57,900	48,373	12,306	12,569	7,694 (38)
	Vermi compost	20,000	1,51,400	7,594	528	528	19,472 (97)
	City compost	20,000	35,200	0	0	0	20,000 (100)
	Total	70,000	6,04,000	65,475	13,544	13,885	56,456 (81)
2020-21	Organic manure	10,000	80,000	13,462	1202	1,202	8,798 (88)
	Phosphatic rich organic manure	20,000	1,93,000	74,222	14,775	14,871	5,225 (26)
	Vermi compost	20,000	77,700	13,178	153	153	19,847 (99)
	City compost	20,000	7,000	2,550	0	0	20,000 (100)
	Total	70,000	3,57,700	1,03,412	16,130	16,226	53,870 (77)
2021-22	Organic manure	10,000	65,000	10,520	1,260	1,260	8,740 (87)
	Phosphatic rich organic manure	20,000	2,24,700	51,397	20,448	20,907	(+) 448
	Vermi compost	20,000	66,600	5,100	297	297	19,703 (99)
	City compost	20,000	24,000	0	0	0	20,000 (100)
	Total	70,000	3,80,300	67,017	22,005	22,464	47,995 (69)

Appendix-6.1
(Reference: Paragraph No. 6.4, Page No. 51)
Status of FQCTL-wise samples received and analysed during 2017-22

Name of FQCTL	2017-18			2018-19			2019-20			2020-21			2021-22		
	No. of samples received	No. of samples analysed	No. of non-standard	No. of samples received	No. of samples analysed	No. of non-standard	No. of samples received	No. of samples analysed	No. of non-standard	No. of samples received	No. of samples analysed	No. of non-standard	No. of samples received	No. of samples analysed	No. of non-standard
Bhopal	1,801	1,799	189	1,518	1,518	163	2,321	2,318	165	3,238	3,237	292	2,617	2,614	263
Gwalior	1,736	1,732	175	1,966	1,961	115	2,018	2,017	246	2,800	2,794	387	2,392	2,389	304
Jabalpur	1,955	1,955	239	1,635	1,633	190	2,293	2,289	178	2,324	2,324	242	2,081	2,081	171
Indore	1,358	1,355	165	1,543	1,541	173	1,986	1,983	131	3,307	3,306	302	3,473	3,472	357
Sagar	00	00	0	519	519	75	1,753	1,753	168	3,101	3,096	301	3,192	3,184	271
Ujjain	00	00	0	689	689	66	1,761	1,757	98	2,531	2,529	153	2,823	2,807	258
Total	6,850	6,841	768	7,870	7,861	782	12,132	12,117	986	17,301	17,286	1,677	16,578	16,547	1,624

Appendix-7.1

(Reference: Paragraph No. 7.2, Page No. 64)

Details of applications received within/after 30 days and non-collection of additional fees

Sl. No.	Name of district	Total no. of cases test checked	Applied within 30 days		Applied after 30 days		No. of cases in which additional fees was not taken
			No. of cases	Delayed applied period	No. of cases	Delayed applied period	
1	Alirajpur	77	9	2 to 28 days	6	22 to 140 days	12
2	Balaghat	46	2	8 to 27 days	2	34 to 54 days	Nil
3	Bhopal	24	3	10 to 16 days	5	09 to 493 days	8
4	Chhindwara	841	114	2 to 30 days	212	2 to 2,341 days	199
5	Dhar	45	10	4 to 30 days	5	8 to 43 days	2
6	Hoshangabad	83	16	2 to 28 days	14	5 to 275 days	23
7	Sidhi	35	4	12 to 30 days	1	30 days	1
8	Seoni	36	4	3 to 22 days	3	22 to 264 days	Nil
9	Tikamgarh	165	15	3 to 30 days	12	8 to 367 days	16
10	Umaria	8	Nil	Nil	Nil	Nil	Nil
	Total	1,360	177	2 to 30 days	260	2 to 2,341 days	261

Appendix-7.2 (A)

(Reference: Paragraph No. 7.6.1, Page No. 69)

Recommended dose of fertilizer excess applied

(Quantity in Kg per Hectare)

Name of crops	No. of farmer sown (Districts)	Recommended fertilizer combination as per soil health card	Applied combination by farmers	No. of districts	No. of farmer applied combination	Fertilizers used					
						Excess Urea		Excess DAP		Excess SSP	
						Quantity (Range)	No.	Quantity (Range)	No.	Quantity (Range)	No.
Wheat	29 out of 31 checked cases (Bhopal, Hoshangabad, Balaghat, Seoni, Umariya). two farmers of Balaghat and Seoni districts did not sow wheat.	Urea, DAP, MOP/ Urea, SSP, MOP	Urea, DAP, MOP	5	26	9 to 209	17	3 to 143	16	Not Applicable	Not Applicable
						Nil	Nil	Nil	Nil	Nil	Nil
Paddy	24 out of 31 checked cases (Hoshangabad, Balaghat, Seoni, Umariya). Paddy was not recommended in case of 7	Urea, DAP, MOP/ Urea, SSP, MOP	Urea, DAP, MOP	4	21	7 to 140	2	3 to 199	10	Not Applicable	Not Applicable
						0	0	0	0	0	0

Name of crops	No. of farmer sown (Districts)	Recommended fertilizer combination as per soil health card	Applied combination by farmers	No. of districts	No. of farmer applied combination	Fertilizers used					
						Excess Urea		Excess DAP		Excess SSP	
						Quantity (Range)	No.	Quantity (Range)	No.	Quantity (Range)	No.
	farmers of Bhopal District.		Urea, DAP, SSP ²	1	1	Nil	Nil	Nil	Nil	Nil	0
Maize	Seoni	Urea, DAP, MOP/ Urea, SSP, MOP	Urea, DAP, MOP	1	1	0	0	Not Applicable	Not Applicable	0	0
Gram	Balaghat	DAP, MOP/ Urea, SSP, MOP	Urea, DAP, MOP	1	4	11 to 111	42	Not Applicable	Not Applicable	0	0
Green Gram	Hoshangabad	DAP, MOP	SSP ³	1	1	0	0	0	0	0	0

1. Farmers did not follow either of the fertilizer combination, so excess/less doses of Urea, DAP or SSP cannot be determined.

2. Farmer did not follow either of the fertilizer combination, so excess/less doses of Urea, DAP or SSP cannot be determined.

3. Farmer did not follow recommended combination

Appendix 7.2 (B)

(Reference: Paragraph No. 7.6.1, Page No. 69)

Recommended dose of fertilizer less/not applied

(Quantity in Kg per Hectare)

Name of crops	No. of farmer sown (Districts)	Recommended fertilizer combination as per soil health card	Applied combination by farmers	No. of districts	No. of farmer applied combination	Fertilizers used									
						Less Urea		Less DAP		Less SSP		Less MOP		MOP not applied	
						No.		No.		No.		No.		No.	
						Quantity (Range)	Quantity (Range)	Quantity (Range)	Quantity (Range)	Quantity (Range)	Quantity (Range)	Quantity - Doses to be applied as per Soil Health Card. (Range)	No.		
Wheat	29 out of 31 checked cases (Bhopal, Hoshangabad, Balaghat, Seoni, Umaria). Two farmers of Balaghat and Seoni districts did not sow wheat.	Urea, DAP, MOP/ Urea, SSP, MOP	Urea, DAP, MOP	5	26	14 to 193	9	3 to 106	10	Not Applicable	Not Applicable	30	1	12 to 83	25
			Urea, DAP, SSP, MOP ¹	1	3	Nil	Nil	Nil	Nil	17 to 42	2	0	0		
Paddy	24 out of 31 checked cases (Hoshangabad, Balaghat, Seoni, Umaria). Paddy was not recommended in case of 7	Urea, DAP, MOP/ Urea, SSP, MOP	Urea, DAP, MOP	4	21	19 to 185	19	18 to 191	11	Not Applicable	Not Applicable	0	0	25 to 67	21
			Urea, SSP, MOP	1	2	121 to 159	2	0	0	69 to 158	2	0	0	28 to 66	2

Name of crops	No. of farmer sown (Districts)	Recommended fertilizer combination as per soil health card	Applied combination by farmers	No. of districts	No. of farmer applied combination	Fertilizers used							
						Less Urea		Less DAP		Less SSP		Less MOP	
						Quantity (Range)	No.	Quantity (Range)	No.	Quantity (Range)	No.	Quantity (Range)	No.
	farmers of Bhopal District.		Urea, DAP, SSP ₂	1	1	Nil	Nil	Nil	Nil	Nil	0	0	50
Maize	Seoni	Urea, DAP, MOP/ Urea, SSP, MOP	Urea, DAP, MOP	1	1	270	1	111	1	Not Applicable	Not Applicable	0	50
Gram	Balaghat	DAP, MOP/ Urea, SSP, MOP	Urea, DAP, MOP	1	4	0	0	70 to 112	3	Not Applicable	Not Applicable	0	22 to 42
Green Gram	Hoshangabad	DAP, MOP	SSP ³	1	1	0	0	0	0	0	0	0	33
													1

1. Farmers did not follow either of the fertilizer combination, so excess/less doses of Urea, DAP or SSP cannot be determined.
2. Farmer did not follow either of the fertilizer combination, so excess/less doses of Urea, DAP or SSP cannot be determined.
3. Farmer did not follow recommended combination

Glossary of Abbreviations	
Abbreviation	Full Form
ACS	Additional Chief Secretary
ADO	Agriculture Development Officer
APC	Agriculture Production Commissioner
CEO	Chief Executive Officer
DAP	Di-ammonium Phosphate
DCCB	District Co-operative Central Bank
DD	Demand Draft
DDA	Deputy Director Agriculture
DI	Delivery Indent
DMO	District Marketing Officer
DoAFW	Department of Agriculture and Farmers Welfare
DRCS	Deputy Registrar Co-operative Societies
EC Act	Essential Commodities Act
EMD	Earnest Money Deposit
FCC	Fertilizer Co-ordination Committee
FCO	Fertilizer (Control) Order
FQCTL	Fertilizer Quality Control Testing Laboratories
FW&ADD	Farmer Welfare and Agriculture Development Department
GoI	Government of India
GoMP	Government of Madhya Pradesh
iFMS	Integrated Fertilizer Management System
IFSS	Integrated Fertilizer Storage Software
JD	Joint Director
JNKVV	Jawahar Lal Nehru Krishi Vishwavidyalaya
LMT	Lakh Metric Ton
Markfed	MP State Co-operative Marketing Federation Limited
MD	Managing Director
MOP	Muriate of Potash
MP Agro	Madhya Pradesh Agro Industries Development Corporation
MS	Marketing Societies
PACSS	Primary Agricultural Credit co-operative Societies
PoS	Point of sale

Glossary of Abbreviations	
Abbreviation	Full Form
PROM	Phosphate Rich Organic Manure
RO	Release Order
SADO	Senior Agriculture Development Officer
SDO	Sub-Divisional Officer
SHC	Soil Health Card
SRSWOR	Simple Random Sampling Without Replacement
SSP	Single Super Phosphate
WHR	Ware House Receipt
ZM	Zonal Manager

© COMPTROLLER AND
AUDITOR GENERAL OF INDIA
www.cag.gov.in

<https://cag.gov.in/ag2/madhya-pradesh/en>