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AGRICULTURAL CONSORTIUM AT A CROSSROADS: IS SURVIVAL AND SUSTAINABILITY POSSIBLE?

Madhumita Das and Ashish Sharma wrote this case solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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In early January 2026, Yogesh Dwivedi, chief executive officer of Madhya Bharat Consortium of Farmers Producer Company Limited (MBCFPCL), was about to host a board meeting that would define the strategic direction that the consortium would take in the next decade. MBCFPCL was established in 2014 as a federation of farmer producer organizations (FPOs) operating in the states of Madhya Pradesh and Chhattisgarh. It helped approximately 190 FPOs and more than 250,000 small and marginal farmers with input aggregation, training, and certification assistance,[1] as well as market linkages.

In recent years, the consortium had taken several steps to encourage farmers to adopt low-input and sustainable cultivation methods. Internal evaluation showed that these practices would be able to decrease reliance on chemical inputs and enhance net farm margins in the long run. Field trials and demonstration plots had promising results. However, adoption across member FPOs remained uneven, as many were still reluctant to embrace the new practices. Most of the farmers were still using the traditional input-intensive methods. Even a temporary lack of predictability regarding yields or price realization carried a lot of risk with the small landholdings and little financial buffer. Moreover, there was no guarantee that greater production would turn into greater income. In this context, the long-term advantages of adopting sustainable practices often clashed with the immediate cash flow needs of farmers' households.

Dwivedi faced a significant strategic dilemma. As he prepared to propose a road map for the next decade, he had to choose between two contrasting directions. One option was to intensify the consortium's push towards sustainability-focused transformation, even if some FPOs continued to lag. The other was to shift attention towards immediate service delivery like strengthening agri-input supply chains, building buyer partnerships, or expanding credit facilitation approaches that offered quicker relief but could slow long-term reforms. The central question before him was whether MBCFPCL could design a growth strategy that balanced long-term transformation with short-term survival, while also addressing the diverse expectations of farmers, banks, buyers, and the FPOs themselves.

ROLE OF FPOS IN INDIA'S AGRICULTURAL LANDSCAPE

Agriculture remained the backbone of the Indian economy, contributing approximately 18.2 per cent of the gross domestic product at current prices and employing over 42.3 per cent of the labour force in the country.[2] Madhya

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Pradesh was among the most agriculturally intensive states in India with 72 per cent of the population primarily living in the rural regions and living mostly on agriculture. In 2024–25, agriculture contributed 30.9 per cent to the state's overall agricultural output, and it registered an increase of 10.8 per cent at current prices.[3] The state was the largest producer of soybeans and gram (chickpeas), and it ranked among the top three in wheat, maize, and *moong* (mung beans).[4] The improved irrigation facilities, increased access to credit, and state investment in roads and input services contributed to the continued high agricultural performance.

Nevertheless, constraints such as small landholdings, rising input prices, distress sales below the minimum support price (MSP), delayed procurement, and slow insurance payouts increased the vulnerability of income. Nearly 86 per cent of farmers in the country were small and marginal, with average landholdings in the country less than 1.1 hectares.[5] These farmers faced high input costs, credit barriers, and weak market linkages.[6] Rising temperature, falling groundwater levels, and unpredictable monsoons added to their uncertainty.[7] The 2015–16 Agriculture Census reported 7.56 million small and marginal operational holdings in Madhya Pradesh, making the state one of the largest clusters of smallholder agriculture in the country.[8] Given the meagre average monthly farm incomes of ₹10,218,[9] farming households often faced difficulty in meeting their needs, leading to indebtedness, risk aversion, and low investment capacity.

Parallelly, the increase in input prices, especially for fertilizers and pesticides, had eaten into already thin margins (see Exhibit 1). India consumed about 601 Lakh Metric Tonnes (LMT) of fertilizer annually in 2023–2024, of which 503 LMT were generated locally and 177 LMT came from imports. This indicates that the nation imported about 25–30% of its essential fertilizers.[10]. What is worrying more, since 2021, there has been a rise in the geopolitical tension, production disturbances in the trade of fertilisers, which placed significant pressure on the cost of imported fertilisers..[11] Even small deviations in price greatly raised the total cost of cultivation for smallholders, making profitability an elusive thing. Delays in compensation, slow processing of insurance claims, and incomplete coverage under schemes like Pradhan Mantri Fasal Bima Yojana[12] increased the distress.[13] The National Crime Records Bureau reported that Madhya Pradesh accounted for 7.2 per cent of farming-sector suicides in India in 2023, with 777 farmer suicides recorded in the state alone.[14]

In this regard, FPOs had been developed as collective platforms that aggregated demand and supply, provided shared services, and improved the bargaining power of farmers through access to markets. With the introduction of the Central Sector Scheme for Formation and Promotion of 10,000 FPOs on February 29, 2020, with a budget outlay of ₹6,865 crore until 2027–2028, the government reached the target of 10,000 FPOs and connected approximately 30 lakh farmers with these collectives. This marked a significant improvement in institutional support for farmer collectivization.. .[15] FPOs could be registered either as producer companies or producer cooperatives or as other legal entities. By March 2025, more than 44,000 FPOs were registered in India, which showed remarkable growth in the collective farmer movement.[16] Madhya Pradesh became one of the most active states in term of FPOs.[17] Indeed, Madhya Pradesh was the first state to institute FPOs, as part of the 2002–2011 District Poverty Initiative Project,[18] which was supported by the World Bank.[19]

Institutions such as MBCFPCL aimed to scale the benefits of aggregation further by offering coordination, traceability, and market linkage services to their member FPOs.

MBCFPCL'S MODEL AND STRATEGIC PUSH

Formed with the aim of empowering farmers as agents of rural growth, MBCFPCL aimed to promote enhanced smallholder bargaining power through promoting and strengthening farmers collectives along with market linkages and sustainable agricultural practices. It linked marginal farmers to input suppliers and

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markets, as well as to credit institutions, by coordinating activities at the procurement, aggregation, primary processing, marketing, and capacity-building levels.[20] Over time, it had evolved into one of the largest farmer-owned businesses in India, combining economies of scale with social responsibility. Its programs were supported by the National Mission on Edible Oils and the National Food Security Mission.[21] [22]

The federated model of MBCFPCL worked on three major verticals, including business to business (B2B), business to consumer (B2C), and business to farmer (B2F), designed to improve the productivity at farm level, minimize input expenses, and establish market linkage at scale.

B2B: Aggregation and Commodity Marketing

The B2B vertical of MBCFPCL formed the commercial backbone, aggregating items for direct sale to processors and exporters. The consortium gathered multiple crops—wheat and gram, soybean, pigeon pea, lentil, cotton, maize, poultry-preferred maize, rice, small millets, niger, mustard, linseed, coriander, chilli, turmeric, onion, garlic, tomato, and ginger, to name a few—to be sold to institutional customers such as ITC Limited and Samunnati Agri Value Chain Solutions Private Limited. This model decreased intermediaries and increased transparency. Nevertheless, farmers still experienced logistical friction. One marginal farmer pointed out that even though the FPO had picked the produce, they were affected by the high cost of transportation to the distant procurement centre.

B2C: Madhya Bharat Seeds and Input Services

Under the B2C category, the consortium distributed certified seeds, biofertilizers, and compost through FPO-level dealers. Seed grading, packaging, and production were done by a processing facility in Sagar.[23] Advisory services on soil testing and market demand complemented the offerings. As one farmer pointed out, they had been trained by the FPO on the use of soil testing and fertilizers, and as a result, their production had improved.

B2F: Institutional Strengthening and Access to Credit

MBCFPCL played a critical role in providing its member FPOs financial literacy, operations training, and market access. It acted as a business correspondent, facilitating formal credit accessibility and insurance connections and supporting onboarding members to government schemes. For FPOs in the early stages, the consortium also managed bookkeeping, documentation, and buyer coordination.

Infrastructure and Digital Enablement

MBCFPCL provided access to shared equipment and real-time advisory platforms such as KhetiVyapar and Plantix. Custom hiring centres and common service centres provided access to shared equipment. MBCFPCL also collaborated with Skymet Weather Services for hyperlocal weather forecasts using the AgriDoot app.

The combination of these verticals undoubtedly helped marginal farmers, but how effective they were depended on how much farmers valued the model. To address this gap, MBCFPCL introduced Project Vasundhara in 2022.

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PROJECT VASUNDHARA: DRIVING SUSTAINABLE PRACTICES THROUGH CERTIFIED LOW-RESIDUAL AGRICULTURE

In 2022, MBCFPCL started Project Vasundhara with the objective of enhancing the income of FPO farmers by promoting low-residual certified agricultural produce and market integration. The initiative sought to advance climate-adaptive and resource-efficient farming systems through collaboration with the state's agriculture and farmer welfare departments. Its footprint extended across 144 villages in 11 administrative blocks of six districts in Madhya Pradesh. Launched as a limited pilot with 10,000 growers in two states, the program expanded significantly over the following few years. By 2025, it engaged more than 50,000 producers across 11 districts, supported by key partners that included the Samunnati Foundation and state-level agricultural institutions (see Exhibit 2).

The project aimed to address the twin challenges of ecological degradation and income volatility of smallholder farmers. It prioritized five goals: reduction in pesticide usage, lower cost of cultivation, improvement in soil carbon and health, yield enhancement through better agronomic techniques, and institutional strengthening of member FPOs. The highlight of this project was that each goal was given a benchmark. For example, the project aimed to significantly reduce the use of hazardous pesticides by targeting a 25–50 per cent decline through the promotion of safer and more efficient crop protection methods. It also sought to bring down the overall cost of cultivation by 25–30 per cent by encouraging farmers to adopt integrated nutrient management (INM) and integrated pest management (IPM).[24] Strengthening soil health remained a core priority, with focused efforts on improving soil carbon and long-term fertility. Another key objective was to increase crop productivity by 20–30 per cent through the dissemination of improved agronomic methods, including ridge-and-furrow planting and broad-bed furrow techniques. Strengthening institutional systems formed an additional focus area, with the project working to establish internal control systems (ICS) and build the managerial and operational capacities of FPOs.

The implementation systems showed a layered delivery model that included intensive farmer training, field experiments, ICS, and agronomic supervision by paraprofessionals (see Exhibit 3). ICS were established among all the villages in the region to organize farmers. Human resources were allocated, including district coordinators, ICS managers (one manager per block), and community resource persons (one for each 250 farmers, on average), supported by four program staff at the head office. Moreover, the program selected lead farmers (one per producer group) as early adopters and local demonstrators. The processes of record-keeping and digital registration were considered part of the operating activities. The report documents that 100 per cent of registered farmers had Farmer Field Books (Kisan Diaries) and that a significant proportion migrated to digital systems, signifying that the program prioritized data capture for traceability and monitoring.

Information, education, and communication (IEC) and training tools were built fully during both kharif and rabi crop seasons. The program designed a complete training calendar and six training modules as well as a package of practices on soybean and groundnut. IEC products were flex banners, calendars, brochures, and leaflets. Technical material dealt with vermicompost, old-fashioned organic preparations such as Panch Patti Ghol, Drav Jeevamrit, and Matka Khad;[25] seed treatment and sowing techniques; INM/IPM, weeds, the life cycle of pests, and diagnosing nutrient deficiency. Activities were scheduled to train the ICS managers, community resource persons, and lead farmers.

Early results were promising. Demonstration plots in districts showed significant yield improvements. Soybean productivity improved by an average of 33 per cent compared to control plots. Groundnut yields increased up to 34 per cent, while paddy yields increased by 23–33 per cent across various districts.[26] Additional efficiency and moisture retention were achieved by agronomic refinements, including broad bed furrow and ridge planting. A total of 7,572 farmers were enrolled for certification, with geographic information system mapping. The program also raised awareness about the disadvantages of hazardous pesticides.

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With Project Vasundhara, more farmers were seeing improvements from the transition to sustainable agriculture (see Exhibits 4 and 5). Plotting soybean, paddy, and groundnut recorded yields of 14.23, 49.55, and 24.29 quintals[27] per hectare (qtl/ha), respectively, while control farmers yield was 9.62 qtl/ha, 37.01 qtl/ha, and 17.54 qtl/ha of soybean, paddy, and groundnut, respectively. The savings at the input side by reduction in spending on commercial fertilizer, seed, and pesticides were as important. Project farmers saved ₹6,625 per hectare, ₹5,250/ha, and ₹8,275/ha in soybean, paddy, and groundnut crops, respectively, by reducing the usage of fertilizer, pesticides, and seeds. In 2025, project farmers reported additional income of ₹29,774/ha, ₹35,149/ha, and ₹39,683/ha in demonstration plots over control in soybean, paddy, and groundnut crops, respectively, by adopting sustainable agriculture practices.

Field interviews provided additional insight. Some of the farmers noted that a short-term benefit was the agrochemical savings. A farmer based in Raisen district said that they used to spend a lot of money on pesticides each season. Now that money was saved with natural inputs and training. They didn't have huge yields immediately, but the soil was getting better. Others spoke of decreased dependency on the market, particularly in the procurement of seeds, and improved soil health, which they thought would pay off in future cycles. It was a waiting game, as one Sagar district farmer observed, but they were paying less and were not so reliant on the market. This amount of savings meant a lot to small farmers. In most instances, the extra income was invested in education, durable goods, or increased irrigation. A farmer in the Chhatarpur district of the state said that chemical fertilizers provided short-term benefits, but when it came to soil health, the FPO showed them the need to look ahead. He added that today, he even taught his children about natural farming.

These descriptions indicated that although the returns from Project Vasundhara were not always consistent or direct, the transition to low-input, climate-resilient agriculture was the process that established both economic and ecological resilience in participating farmers. The two-sided story of factual success and prudent optimism highlighted the change that was occurring on a deeper level. The farmers who had gone through the program said that their fertilizer and pesticide costs had dropped by a significant amount and farmers could get premium buyers for the export of some of their crops, such as soybean, linseed, and paddy.

However, the implementation revealed challenging realities. Despite early adopters' success, the adoption rate among farmers was not promising. Only about half of the enrolled farmers adopted reduced pesticide usage, and fewer than a third fully implemented INM or IPM. To a lot of people, the sustainability advantages were overshadowed by the danger of disorganization of cash flow. A farmer in the Tikamgarh district expressed a sentiment prevalent in the area: Maybe sustainable farming was a good idea in the long term, but who would pay him if his wheat did not sell or the production dropped this year?

Infrastructural constraints continued to exist even in cases where FPOs were used to make procurement. Others complained of long journeys to aggregation centres, lack of regular access to weighing and grading services, and delayed payments. Such lived experiences highlighted the essence of the dilemma that MBCFPCL faced: how to scale a transformation agenda that held long-term payoffs when the realities of smallholders were dictated by volatility, debt, and slim margins every day. Project Vasundhara proved that the sustainable pathway was viable, but it also showed the behavioural and institutional challenges that awaited. In addition, many farmers found sustainable farming to be experimental and feared that there would be reduced yield in the short term or a decrease in returns. The hesitation was augmented with climate variability and pest risk.

MBCFPCL was trying to counter these issues by incentives linked to traceability and developing discrete market channels that would market sustainably produced crops. Nonetheless, during the internal adoption data analysis, Dwivedi noticed that the adoption was uneven among FPOs. Major success was achieved through FPOs that provided sustainability, an effective local leadership, and constant buyer linkages.

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This imbalance was at the core of the strategy problem. Although Project Vasundhara was a promising agenda of transformation for the future, it revealed a hidden behavioural paradox: Long-term benefit with short-term risk was always desirable, and many smallholders chose to be safe with old practices.

THE STRATEGIC CROSSROADS

As the rabi procurement cycle approached, Dwivedi found himself at a strategic crossroads. Six months of field research and stakeholder discussions had revealed a complex mosaic of farmer perspectives ranging from optimism and aspiration to anxiety and hesitation, spread unevenly across districts. A marginal farmer in the Satna district said the following: "The costs keep on increasing, but our land does not. We must have a means of living the next season through before we can think of anything new."

These sentiments were echoed in the Rewa and Maihar districts, where farmers admitted that support services had improved, but they were not completely convinced. The training of soil health, awareness drives concerning government schemes, and technical advice by MBCFPCL were embraced by many. And, as a farmer in the Raisen district pointed out, they have also learned more about fertilizers and their crops have been better. However, he added, they must have confidence on payment, price, and seed.

The farmers in various FPOs cited an inability to access markets and decision-making arenas. Whereas most of them valued training activities and sustainable agriculture under Project Vasundhara, some expressed difficulties with transport distance, price determination, and concentration of buyers. Transitions were the aspects that were the most contradictory. Other farmers applauded efforts by the Netherlands and MBCFPCL that resulted in direct premium payments of certified soybean or linseed.

However, at the same meeting still another participant interjected that farming without fertilizers was not safe. What if yield drops? They have loans and education fees to pay, he said. Who will they have to rely on to assist them in case of crop failure?

During years of good yields, returns were reduced by the price collapses. As one participant put it, they had a good moong crop, and the prices were so low that it did not count. Instead of a reward for doing well, it was like a punishment.

Nonetheless, success stories were also present. Farmers in the Sagar district were interviewed about the benefits of switching to ridge-and-furrow planting in terms of cost and producing better yields. Previously, water would be stagnant. Through the new way they conserved water, the crop was better looking, highlighted a small farmer.

During these discussions, Dwivedi came across a valuable theme. It was not just a question of identifying the right model, as he came to realize, but a question of ordering transformation and survival. He did not have an easy way out as he headed back to headquarters in the Bhopal district for the board meeting.

PIONEERING PATHWAYS

Dwivedi acknowledged the relevance of these multiple stakeholder points of view and realized that stakeholders expectations were rising. The buyers required greater quality and traceability. Banking institutions required predictability and sound governance structures. Farmers wanted higher price returns and less transaction delays. FPOs, which were operating under severe resource constraints, turned to the consortium for strategic guidance as well as capital injections.

A whiteboard in Dwivedi's office showed several strategic road maps (see Exhibit 6).

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The first recommendation highlighted the need to strengthen the agricultural input value chain by investing in biofertilizer centres and seed-processing units. This would reduce costs for farmers by using good quality seeds and local natural fertilizers. FPOs would have the potential to become self-reliant and manage profit by reducing the input costs. However, these projects would require substantial upfront capital investments, wider adoption, and technical management capacity, and involved operation risks.

The second recommendation was to expand the process of switching to low input, climate resilient agriculture by utilizing the initial achievements under Project Vasundhara and scaling-up certified agricultural produce avenues. Early field experience indicated reductions in input costs as well as increases in yield of selected crops such as groundnuts and soybeans. Also, improvement in soil health could benefit farmers in the long run. Although this pathway held the promise of long-term change and improved soil health, it also necessitated a great deal of support from FPOs and the consortium, the confidence of farmers to choose the long-term benefits over short-term loss, and their patience to bear loss during seasonal variability.

A third recommendations was to tie up with credit providers through making collective agreements with public and private institutions under the scope of the consortium such as the National Bank for Agriculture and Rural Development and the Samunnati Foundation. Improved access to capital could support farmers in investing in improved farming practices. This would help soften the liquidity constraints and strengthen risk avoidance, but it needed financial literacy education and a governance structure that would make FPOs accountable.

Another recommendation focused on gaining a deeper engagement by forming organized partnerships with bulk buyers and institutions. Some partners had already expressed an interest in high-value products that were free of residues, especially soybean and millet products. Formal relationships could provide farmers increased revenue and help them deal with price fluctuations during periods of excess supply and predict demand for their products. However, achieving adequate volume and continuity and managing certification, especially with small plots, were serious operational problems.

The technology team also championed enlarging the digital advisory platform to use technology such as the AgriDoot app, KhetiVyapar, and Plantix, which would provide artificial intelligence–based crop and weather advisories to member farmers by delivering specific crop and market advice. Wider adoption might improve planning efficiency and lower marginal cost. But these initiatives would require digital uptake, digital access, digital literacy, and data structure reliability.

Each of these propositions had their own potential advantages, but all of them required trust, upfront investment, and rational choices, as well as long-term devotion. Dwivedi knew that it would be unrealistic to support all avenues at the same time. The relevant question, therefore, became more focused on what was possible to achieve than what should be done immediately to ensure the compatibility of short-term survival and long-term sustainability. As he prepared his presentation to the board, the dilemma had become even more pronounced. Which strategic emphasis would allow MBCFPCL to maintain farmers' confidence in the near term while shaping its longer term institutional direction?

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EXHIBIT 1: TREND IN INTERNATIONAL PRICES OF FERTILIZERS

Month	Urea (FOB)	DAP (CFR)	MOP (CFR)	Phosphorous acid (CFR)	Rock phosphate (CFR)	Ammonia (CFR)	Sulphur (CFR)
November 2024	362	634	283	950	171	570	183
December 2024	362	633	283	950	171	570	185
January 2025	383	633	283	1060	175	524	186
February 2025	425	635	283	1060	175	490	193
March 2025	425	640	283	1060	175	454	263
April 2025	400	680	283	1055	173	435	302
May 2025	392	724	283	1055	173	415	304
June 2025	395	770	349	1055	173	398	288
July 2025	475	807	349	1153	193	431	280
August 2025	531	809	349	1153	192	500	290
September 2025	464	799	349	1153	193	540	329
October 2025	438	758	349	1258	192	602	379
November 2025	409	702	349	1258	192	650	474
Per cent change in November 2025 over November 2024	12.98 %	10.73%	23.32 %	32.42%	12.28%	14.04%	159.02 %

Note: All amounts are in US dollars per metric ton. FOB = free on board; CFR = cost and freight; DAP = diammonium phosphate; MOP = muriate of potash. FOB refers to the price of goods at the point of export, excluding shipping and insurance costs. The buyer paid for freight and insurance. CFR includes the cost of the goods and the cost of shipping to the destination port, but not insurance.
Source: Department of Fertilizers, Ministry of Chemicals and Fertilizers, Government of India, Monthly Bulletin for the Month of November 2025 (New Delhi: Government of India, 2025), [1], https://fert.gov.in/en/documents/reports/monthly-bulletin

EXHIBIT 2: OUTREACH OF PROJECT VASUNDHARA IN KHARIF AND RABI CROP SEASON UNDER NFSM AND NMEO

	KHARIF SEASON 2024–25			RABI SEASON 2024–25				
	District	Block	Number of villages covered	Total number of farmers registered	Land registered (in hectare)	Total number of farmers registered	Land registered (in hectare)	Total number of farmers
NFSM	6	13	173	13,113	21,998	13,574	22,770	26,687
NMEO	5	12	164	11,581	20,638	12,537	22,267	25,118
Total		25	337	24,694	42,636	26,111	45,038	51,805

Note: NFSM = National Food Security Mission; NMEO = National Mission on Edible Oils.
Source: Company documents.

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EXHIBIT 3: PROJECT VASUNDHARA STRATEGY AND IMPLEMENTATION FRAMEWORK

Phase	Key activities
Pre-preparatory phase	IEC/SOP development; manager/ community cadre deployment; MIS software development
Preparatory phase	Registration of farmers for adoption of sustainable agriculture; formation of producer groups; ToT for community cadres
Execution phase	Establishment of Kisan Pathshala to facilitate producers; demonstration of sustainable agriculture practices; training and capacity building of farmers on sustainable agriculture practices, by farmers
Certification phase	Certification of crop produce and trade

Note: IEC = information, education, and communication; SOP = standard operating procedure; MIS = management information system; ToT = training of trainers.
Source: Company documents.

EXHIBIT 4: COST OF SOYBEAN CULTIVATION PER ACRE

Parameters	Control plot	Amount (INR)	Demonstration plot	Amount (INR)
Seed rate	60 kg	4,500	40 kg	3,000
Seed treatment	No	0	Yes (Beejamrit and Trichoderma viride)	100
Sowing method	Broad casting	200	Line sowing and ridge and furrow method	700
Fertilizer application	Urea – 50 kg	250	No	0
	DAP – 100 kg	2,600	50 kg	1,300
Vermicompost	No	0	05 quintals	500
Drav Jeevamrit	No	0	2 sprays	500
Insect control (chemical	4–5 sprays	2,500	1 spray	500
Panch Patti ghol/ neem extract	No	0	2 sprays	500
Use of pheromone trap	No	0	8–10 traps	500
Yellow sticky trap	No	0	8–10 traps	200
Weed control	1 spray	1,000	Mechanical weeding	600

Note: kg = kilograms; DAP = diammonium phosphate. INR = Indian rupee. US$1 = INR 91.6710 on January 31, 2026.
Source: Company documents.

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EXHIBIT 5: COST OF GROUNDNUT CULTIVATION PER ACRE

Parameters	Control plot	Amount (INR)	Demonstration plot	Amount (INR)
Seed rate	60 kg	5,880	40 kg	3,920
Seed treatment	No	0	Yes (Beejamrit and Trichoderma viride)	100
Sowing method	Broadcasting	200	Line sowing and ridge and furrow method	700
Fertilizer application	SSP – 50 kg	350	No	0
	Urea – 50 kg	250		
	DAP – 75 kg	2,450	50 kg	1,300
Vermicompost	No	0	05 quintals	500
Drav Jeevamrit	No	0	2 sprays	500
Insect control (chemical)	2–3 sprays	1,500	1 spray	500
Panch Patti ghol/ neem extract	No	0	2 sprays	500
Use of pheromone trap	No	0	8–10 traps	500
Yellow sticky trap	No	0	8–10 traps	200
Weed control	1–2 sprays	2,000	Mechanical weeding	600

Note: kg = kilograms; SSP = single superphosphate; DAP = diammonium phosphate. INR = Indian rupee. US$1 = INR 91.6710 on January 31, 2026.
Source: Company documents.

EXHIBIT 6: ALTERNATIVE STRATEGIES

Option	Benefits	Risks	Resource need	Time horizon
Bio-input centres	Perceived as moderate; it cuts input cost, builds local infrastructure; quantity might increase	Upfront investment cost, low immediate return on investment, price uncertainty, uncertainty about premium market integration	Very high	3–5 years
Scale Project Vasundhara	Perceived as high; long-term benefits in yield and soil health, exports for certified products	Slow adoption, sacrifice short-term benefits	Moderate	5+ years
Credit ties	Perceived as moderate; short-term relief, farmer trust	Literacy gap, adoption risk, data reliability	Low	1–2 years
Buyer partnerships	Perceived as moderate for possibility of high revenue, visibility	Aggregation risk, long-term partnership	Moderate	1–3 years
Digital advisory	Perceived as low for digital literacy	Low uptake, data limits	Low	1–2 years

Source: Created by the authors.

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ENDNOTES

[1] As part of its broader sustainability agenda, MBCFPCL provided certification support to FPOs and farmers under programs such as Round Table on Responsible Soy, which focused on responsible, low-residue, and sustainable cultivation practices. This certification had nothing to do with organic transition.
[2] Government of India, *Economic Survey 2023–24*, vol. 2 (New Delhi: Ministry of Finance, Department of Economic Affairs, 2024), 319
[3] Directorate of Economics & Statistics, Madhya Pradesh, *Madhya Pradesh Economic Survey 2024–25* (Government of Madhya Pradesh, 2025), 5.
[4] Directorate of Farmer Welfare and Agriculture Development, Government of Madhya Pradesh, "About Us," *E-Vikas System (Distribution and Agricultural Fertilizer Supply Solution)*, accessed June 17, 2026, https://evikas.mpkrishi.mp.gov.in/Policy/About_Us
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[18] The District Poverty Initiative Project was a World Bank–funded, community-driven development project in India (notably Madhya Pradesh, Rajasthan, Andhra Pradesh, and Chhattisgarh) initiated around 2000–2001 to empower rural poor, women, and marginalized groups.
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[21] National Mission on Edible Oils aimed to strengthen India's oilseed ecosystem and achieve *atmanirbharta* (self-reliance) in edible oil production. The National Food Security Mission was a centrally sponsored scheme launched in

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October 2007 to enhance production of rice, wheat, and pulses through area expansion, productivity improvement, and restoring soil fertility in India.

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[23] Sagar was a district of Madhya Pradesh, India.

[24] INM optimized soil fertility by balancing chemical fertilizers, organic manures, and biofertilizers. IPM reduced chemical pesticide reliance by using cultural, biological, and mechanical controls, targeting pests only when they exceed economic thresholds.

[25] These were effective organic farming solutions prepared using indigenous cow products. They improved soil fertility, provided nutrients to crops, and protected against pests. They could be easily prepared at home to reduce the use of chemicals to zero.

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