



BUSINESS PLAN · INDIA

Medicinal and Aromatic Plants Farm

A farm that assays every lot and pays on the molecule, because the agronomy that adds kilograms subtracts milligrams

PLANTATION AND ESTATE AGRICULTURE

AISEVAK.IN · BY ABL DIGITAL TECHNOLOGIES

August 2026

This document is confidential and prepared for planning purposes. All financial figures are illustrative model assumptions for an Indian MSME context and must be validated against live quotes, local rates and professional advice before any investment or borrowing decision.

1. Executive Summary

This plan sets out a **Medicinal & Aromatic Plants Farm** in central India — **218 hectares of own cultivation** under ashwagandha, senna, isabgol, kalmegh and aromatic grasses, with drying and grading yards, an on-site distillation unit, a chemotype-selected nursery, an **HPLC assay laboratory**, and contract cultivation with about **980 farmers across 1,640 hectares**. By Year 3 it handles **490 tonnes of dry herb and 25 tonnes of essential oil at ₹16.00 crore**.

This plan is the ninth in vertical 55 and **inherits the ten anchor rules (a)-(j)** set by the tea and coffee estate plan.

Item	Detail	Year 3
What is sold	Assayed medicinal roots and herbs priced on marker-compound content, distilled essential oils, contract-farmer material aggregated and assayed, an assay and agronomy service, and chemotype-selected planting stock	₹16.00cr
Own area / contract area	122 ha of roots and herbs, 96 ha of aromatics; 980 contract farmers	218 ha; 1,640 ha
Material handled	112 t own dry herb, 378 t contract, 3,850 t green herbage distilled	490 t; 25 t oil
PAT / net margin	A high-value crop with a laboratory attached	₹1.02cr / 6.4%
ROCE on ₹10.00cr	Distillation, drying, assay laboratory, farm development and nursery	17.3%
Withanolide content of ashwagandha delivered	Against a trade average of 0.34% — the number this plan exists to raise and to get paid for	0.44% → 0.71%

□ THE UNIT OF TRADE IS THE KILOGRAM AND THE UNIT OF VALUE IS THE MILLIGRAM — AND THE AGRONOMY THAT ADDS KILOGRAMS SUBTRACTS MILLIGRAMS. Heavy nitrogen, long duration and generous irrigation all raise the weight of root a farmer sells and all DILUTE the withanolides a formulator is actually buying. THE FARMER IS NOT BEING CARELESS. HE IS OPTIMISING EXACTLY AS THE PRICE SIGNAL INSTRUCTS HIM, AND THE PRICE SIGNAL POINTS THE OPPOSITE WAY FROM THE VALUE.

The whole finding sits in two numbers. The trade pays roughly ₹190 a kilogram for ashwagandha root of any potency whatever. On a content-linked formula, a lot at the trade-average 0.34% is worth ₹153 and a lot at 0.71% is worth ₹320. THE SAME NAME, THE SAME APPEARANCE, THE SAME SACK — AND A DIFFERENCE OF ₹167 A KILOGRAM THAT NOBODY IN THE CHAIN IS CURRENTLY PAYING OR RECEIVING.

2. Business Description, Vision & Legal Structure

A private limited company holding the farm on a long lease, operating the drying yards, distillation unit, nursery and assay laboratory, and contracting cultivation with member farmers across the surrounding districts.

Element	Position
Legal form	Private limited company; farm on 25-year registered lease; National Medicinal Plants Board registration; GMP-adjacent quality systems for the drying and grading operation

Where the money is made	Assayed roots and oils carry the margin; contract aggregation carries volume at a thin margin; the laboratory and nursery are sold as services
What is different	Every lot is assayed for its marker compound, the farmer is paid on the result, and the result is given to him free
Vision	A district where a grower knows what is in his crop before he sells it, and is paid for it

Why this shape	Reasoning
Own laboratory rather than a contracted one	Assaying every lot at commercial rates would cost several times what the material earns. Owning the instrument is what turns a specification into a payment basis
Chemotype-selected nursery	Marker content is partly genetic and partly agronomic; supplying the planting material is the only way to fix the half that is genetic
Aromatics alongside roots	Distilled oil is a different buyer, a different price cycle and a crop that pays within the season, against roots that pay once a year
Contract cultivation at a thin margin	The plan's claim is that the farmer earns more; a fat aggregation margin would take back exactly what the assay premium delivers

3. Promoter & Ownership

Item	Position
Promoter	Agricultural scientist with a pharmacognosy background and eleven years in medicinal-plant supply; reads the chromatograms rather than receiving a summary of them
Promoter equity	₹3.60cr of the ₹10.00cr project cost (36%), unsecured and not withdrawable during the loan term
Ownership	Promoter family 74%; farmer producer company 16%; ESOP and key staff 10%
Governance	Sampling is done by an independent agency, a sealed counter-sample is retained for every lot, accredited outside laboratories are rotated against our own, and the lab-to-lab variance is published

That governance line exists because this plan creates its own attack surface and it is better to say so. The moment payment runs off a number, somebody will try to sell you the number — by cherry-picking the sample, by spiking the lot, or by shopping for a friendly laboratory. A payment basis is only as honest as its sampling protocol, and OURS IS DELIBERATELY OUT OF OUR OWN HANDS.

4. Market Analysis — India

Segment	What drives it	Position taken
Assayed ashwagandha root	Extractors and formulators who standardise to withanolide content and test on arrival; export nutraceutical demand	140 t at ₹320/kg
Other assayed roots and herbs	Senna (sennosides), isabgol (swelling volume), kalmegh (andrographolide), safed musli (saponins)	190 t at ₹185/kg

Essential oils, distilled on site	Mentha, lemongrass and palmarosa; menthol and citral content set the price, and both degrade with delay to still	25 t at ₹1,280/kg
Contract material aggregated and supplied	980 farmers with no drying yard, no laboratory and no route to a buyer who pays for content	160 t at ₹160/kg
Assay laboratory and agronomy service	A producing district with essentially no accessible HPLC capacity	₹1.28cr at 56% gross margin

Why the name carries no information

What the trade grades on	Correlates with potency?
Root diameter and length	Inversely, if anything
Colour and appearance	No
Moisture and foreign matter	Only as a dilution
Botanical name on the sack	Not at all
Marker compound assay	It is the potency

Demand is strong and growing — **Indian and export formulators want standardised material and increasingly specify it in their own purchase tests. What has not happened is the specification travelling back up the chain: the buyer tests on arrival, prices his own risk into what he offers, and the grower never learns what he delivered. SO THE MARKET ALREADY VALUES CONTENT. IT SIMPLY DOES NOT PAY FOR IT AT THE POINT WHERE CONTENT IS DECIDED.**

There is a second supply source this plan competes against and it deserves naming. A large share of India's herbal raw drug is still wild-collected, and in a sack the wild material and the cultivated material are indistinguishable. Wild material is often cheaper, sometimes higher in actives because the plants grew slowly under stress, and it is being permanently consumed — the collection is not replaced. **SO A CULTIVATED GROWER COMPETES AGAINST A SUPPLY WHOSE PRICE DOES NOT INCLUDE ITS OWN REPLACEMENT, which is a hard competitor to beat on cost and a temporary one to lose to. An assay basis does not solve that, but it is the only mechanism that lets cultivated material be distinguished from wild on something other than a claim.**

5. Competition & Position

Competitor type	What they do well	Where the gap is
Herbal raw-drug traders	Reach into remote collection and growing areas, cash, real logistics through a fragmented supply base	Buy and sell by weight under a botanical name; content is the buyer's problem after the sale
Extractors and formulators	Excellent analytical capability and genuine specifications	Test at their own gate and price their risk into the offer; the result never travels back to the grower
Contract-farming promoters	Organise cultivation at scale and bring agronomy where there was none	Contract on weight, which reproduces the same incentive in a tidier form
Farmer producer companies	Aggregation, trust, scheme access	Rarely own analytical capability, so they aggregate material nobody has measured

This business	Farm, nursery, drying, distillation and an HPLC laboratory in one entity	Positioned on the molecule rather than the kilogram, which is what the buyer was always paying for
----------------------	--	---

The competitive claim is narrow and worth stating exactly. This business does not grow a better plant than a skilled neighbour — the neighbour's ashwagandha may well assay higher on a good year. What it does is **KNOW**, before the sale, what is in the sack, and pay for it accordingly. In a trade where nobody knows and everybody guesses, knowing is the whole position.

6. Paid by the Kilogram, Valued by the Milligram

This is the finding, and it is about the unit the price is denominated in.

Ashwagandha root	Withanolides	Content-linked value	What the trade pays
Grown for biomass	0.34%	₹153/kg	₹190/kg
Reference basis	0.60%	₹270/kg	₹190/kg
Grown for content	0.71%	₹320/kg	₹190/kg
Spread the trade does not see	—	₹167/kg	Nil

A medicinal plant is bought for a molecule and sold by the sack. Withanolide content in ashwagandha root ranges across roughly an order of magnitude between one lot and another, and the range is driven by chemotype, agro-climate, harvest age, root diameter, drying temperature and storage — **NONE OF WHICH IS VISIBLE IN THE MATERIAL**. The trade therefore grades what it can see: diameter, colour, moisture, freedom from foreign matter. **THE BOTANICAL NAME ON THE SACK CARRIES NO POTENCY INFORMATION AT ALL, AND IT IS THE ONLY THING THE PRICE IS ATTACHED TO.**

What turns that from an inconvenience into a mechanism is the direction of the relationship. **THE AGRONOMY THAT MAXIMISES BIOMASS DILUTES THE ACTIVE CONSTITUENT**. Heavy nitrogen bulks the root and lowers the percentage; a longer duration adds weight faster than it adds withanolides; generous irrigation does both. So a farmer paid ₹190 a kilogram is being paid to do precisely the things that make the material weaker, **AND EVERY RUPEE HE EARNS BY DOING THEM COMES OUT OF WHAT THE FORMULATOR RECEIVES. HE IS NOT BEING CARELESS AND HE IS NOT BEING DISHONEST. HE IS OPTIMISING EXACTLY AS INSTRUCTED, AND THE INSTRUCTION IS WRONG.**

So assay the lot and pay on the molecule. **EVERY LOT IS ASSAYED BY HPLC FOR ITS MARKER COMPOUND — 100% by Year 3, 4,860 assays at ₹1,193 each — THE RESULT IS PUBLISHED WITH THE LOT AND GIVEN FREE TO THE FARMER WHO GREW IT, AND THE PRICE IS THE BASE RATE TIMES ASSAYED CONTENT OVER A PUBLISHED REFERENCE OF 0.60%.** Average delivered withanolide content rose 0.44% → 0.71% against a trade average of 0.34%, and ₹0.33 crore of assay premium was paid to contract farmers above what the flat trade price would have given them. The farmer learns which of his own practices raise the number, because he gets the number — **WHICH IS THE ENTIRE MECHANISM, AND IT IS UNAVAILABLE TO ANYBODY WHO DOES NOT OWN AN INSTRUMENT. GENERAL RULE: WHERE YOU PAY BY THE KILOGRAM FOR SOMETHING VALUED BY THE MILLIGRAM, EVERY GROWER WILL RATIONALLY DILUTE IT — SO ASSAY THE LOT AND PAY ON THE MOLECULE.**

It is worth saying plainly that the buyers are not the villains here either, because they are already doing the only thing available to them. A formulator receiving material of unknown potency tests it on arrival and adjusts his formula — uses more of a weak lot, less of a strong one — and prices an allowance for variability into what he offers. That is competent purchasing and it works. **WHAT IT ALSO DOES IS ABSORB THE ENTIRE PROBLEM SILENTLY AT THE FAR END OF THE CHAIN**, so that no signal whatever travels back to the field. The variability is not costing anybody enough to force a change — it is simply being paid for, in bulk, by everybody, as an allowance nobody names.

7. A Farmer Can Verify a Price but Not a Market

The second thread is what makes this crop different from every other one a farmer might plant.

If the crop cannot be sold	What it is worth
Wheat	Food, fodder, seed
Cotton	Stored and sold later
Tomato	Less, but something
Safed musli, stevia, kalmegh	Nothing at all

A farmer can verify a price. He cannot verify a market. He can be told ₹380 a kilogram and check that his neighbours got ₹380 a kilogram. What he cannot check is whether anybody will still be buying in eighteen months when his crop is ready — because demand for a medicinal crop is a handful of formulators' procurement plans, which are not public, not forecastable, and change. **SO THE ONE FACT THAT DETERMINES WHETHER HIS CROP IS WORTH ANYTHING AT ALL IS THE ONE FACT NOBODY PUBLISHES, INCLUDING THE PEOPLE WHO KNOW IT.**

And the consequence is more severe here than anywhere else in this vertical, because **THESE CROPS HAVE NO SALVAGE VALUE**. A failed wheat crop is fodder. A failed safed musli crop is a hole in the ground and a season gone. You cannot eat it, no mandi trades it, and there is no second class of buyer to fall back on. India's medicinal-plant sector has a long and well-documented history of promoter-driven planting booms that left farmers holding crops with literally no purchaser, and every one of them worked the same way: a price was quoted, a market was implied, and only the price was ever true.

So the offtake book is published. **Contracted volumes by buyer and by year go out BEFORE the planting window**, so a farmer knows how much of next season's crop is already spoken for before he commits land — 78% by Year 3. **And we do not recommend a crop we are not ourselves contracted to buy**, which is a harder rule than it sounds, because the most profitable advice a promoter can give is always about a crop with a shortage.

8. Operations Plan (select, grow, dry, assay)

- **Select.** Chemotype-selected mother stock in the nursery; planting material issued with its expected marker range, so the genetic half of content is settled before anything is sown.
- **Grow.** Agronomy written for content rather than tonnage — nitrogen capped, duration set by marker development rather than by root bulking, irrigation scheduled to the same end.

- **Dry.** Shade and controlled-temperature drying, because marker compounds degrade above a threshold and a fast hot dry buys weight loss at the cost of the product.
- **Distil.** Aromatics to still within hours of cutting; oil recovery about 0.65% of green herbage across cuts.
- **Assay.** Independent sampling, HPLC against reference standards, sealed counter-sample retained, rotating accredited outside laboratories, and the result published with the lot and returned free to the grower.

Step	What is recorded	Who sees it
Planting material	Chemotype, mother block, expected marker range	Issued with the stock
Agronomy	Nitrogen applied, duration, irrigation schedule	Field record
Sampling	By an independent agency, not by us	Sealed counter-sample retained
Assay	Marker compound percentage against the 0.60% reference	The grower, free; published with the lot
Payment	Base rate × assayed content ÷ reference	On the slip, reproducible

The operational hinge is a 22-tonne lot of contract ashwagandha that assays at 0.21% withanolides — below the pharmacopoeial floor — from 34 farmers who followed our agronomy and had a poor season. It looks exactly like good root. It would sell at ₹190 a kilogram to any of a dozen buyers who do not test, and nobody would ever know, including the people who eventually swallowed it. Ours: it is bought at its assayed value, diverted to a non-medicinal extractive use, and the 34 farmers are told why, with their own assay results attached. ₹29.5 lakh of gross profit off one lot, and 38 tonnes and ₹0.51 crore across the year.

9. Medicinal Plants Board, Drug Rules & Labour Compliance (India)

Area	Requirement
Medicinal plants	National Medicinal Plants Board registration and scheme conditions; state medicinal-plants board coordination; good agricultural and collection practices guidance
Quality standards	Ayurvedic Pharmacopoeia of India monographs set identity, purity and assay limits for raw drugs. THE STANDARDS EXIST AND ARE GOOD; WHAT IS ABSENT IS ANY REQUIREMENT THAT MATERIAL BE ASSAYED BEFORE IT IS TRADED
Drugs and Cosmetics	Drugs and Cosmetics Act and Rules where material enters licensed ASU manufacture; GMP obligations sit with the manufacturer, not the grower
Biological diversity	Biological Diversity Act and access-and-benefit-sharing obligations; state biodiversity board notifications for listed species
Wild collection	Forest and wildlife protections for species collected from the wild; CITES for listed species in export
Export	Shellac and Forest Products Export Promotion Council and APEDA registrations as applicable; destination-country residue and heavy-metal limits
Labour and tax	State agricultural labour rules, EPF, ESI, Minimum Wages; section 10(1) for cultivation income against business income on distillation, assay services, trading and nursery; GST on oils, services and traded material

What the law reaches	What it does not
What a finished ASU medicine must contain	What the raw material sold to make it contained
Identity and purity monographs	Any obligation to assay before trading

Heavy metals and residue in export consignments	Marker content in a domestic sack
Access and benefit sharing on listed species	Whether a grower is ever told what he grew

The pharmacopoeial standards in this sector are genuinely good and the analytical methods are well established. The gap is at the other end: the obligation attaches to the manufacturer of a finished medicine, WHO TESTS WHAT HE BOUGHT AND ADJUSTS HIS FORMULA — so the entire burden of variability is absorbed downstream, quietly, by using more of a weaker input. Nothing anywhere requires the number to exist at the moment the material changes hands, which is the only moment at which it could change anybody's behaviour.

10. Organisation & Manpower Plan

Function	Yr 1	Yr 3	Note
Managing director	1	1	Reads the chromatograms
Farm workers	206	251	Derived, not assumed: 218 ha × 1.15 per hectare
Harvest, drying, cleaning and grading	48	68	Controlled-temperature drying
Distillation unit	26	34	3,850 t of green herbage
Assay laboratory	8	14	4,860 assays a year
Contract agronomy and offtake desk	15	22	980 farmers; offtake book published
Nursery	13	18	Chemotype-selected stock
Welfare	4	5	—
Sales, admin and accounts	11	15	—
Total	332	428	490 t dry herb; 25 t oil; 980 farmers

The 14 people in the assay laboratory are the commitment made flesh. Their salaries are ₹0.42 crore — ₹3.00 lakh average CTC across 14, which is what analysts cost — and ₹0.16 crore covers reference standards, columns, solvents and accreditation. That is ₹1,193 per assay across 4,860 assays. The whole apparatus of assaying, paying on content and publishing the offtake book is ₹1.34 crore, or ₹27,347 per tonne of dry herb and 8.4% of revenue.

Where the content gain came from	Points	Mechanism
Chemotype-selected planting material	+0.11	The genetic half, settled before anything is sown and unavailable to anyone buying seed off a trader
Nitrogen capped and duration set by marker development	+0.09	Directly reverses the dilution incentive; costs yield per hectare
Controlled-temperature drying	+0.05	Markers degrade above a threshold; a fast hot dry buys weight loss at the cost of the product
Harvest at marker maturity rather than root bulk	+0.02	Small, and the hardest to persuade a farmer of
Total gain	+0.27	0.44% → 0.71%, against a trade average of 0.34%

Two of those four cost the farmer yield and two do not. The planting material and the drying discipline are free improvements he simply had no access to; the nitrogen cap and the harvest date cost him kilograms. **WHICH IS EXACTLY WHY THE ASSAY PREMIUM HAS TO BE REAL MONEY RATHER THAN ENCOURAGEMENT — ₹0.33 crore across the contract book — because two of the four changes are things no rational grower does unless he is paid for them.**

11. Implementation Timeline & Milestones

Phase	Months	Milestone
Registrations and finance	0–4	NMPB registration, scheme sanction, term loan, lease registered
Assay laboratory	2–9	HPLC commissioned, reference standards procured, accreditation obtained BEFORE the first contract season
Nursery and chemotype selection	3–14	Mother blocks established; planting stock issued with expected marker range
Drying and distillation	5–15	Controlled-temperature dryers and field stills commissioned
Contract enrolment	6–26	460 → 980 farmers; assay results returned free from the first season
Offtake book	10–18	Contracted volumes by buyer and year published ahead of the planting window

Milestone that must not slip	Why
Laboratory before the first contract season	A season bought on weight is a season of farmers taught that weight is what pays, and that lesson takes years to unteach
Independent sampling protocol before the first payment	A payment basis introduced without it invites exactly the manipulation the basis was meant to remove
Chemotype stock before enrolment scales	Asking farmers to raise content with material that cannot reach it is a promise the agronomy cannot keep
Offtake book before the planting window	Published after planting it is a report; published before, it is a decision input

12. Financial Plan (Illustrative)

All figures are illustrative model assumptions in Indian rupees, not forecasts or guarantees. Drivers are shown so every number can be changed.

12.1 Revenue build (₹ lakh)

Stream	Yr 1	Yr 2	Yr 3	Share	GM
Assayed ashwagandha root, priced on withanolide content	254	352	448	28.0%	44.0%
Other assayed roots and herbs: senna, isabgol, kalmegh, musli	208	282	352	22.0%	40.0%
Essential oils: mentha, lemongrass, palmarosa	196	260	320	20.0%	38.0%
Contract material aggregated, assayed and supplied	148	204	256	16.0%	18.0%
Assay laboratory and agronomy service	76	102	128	8.0%	56.0%

Chemotype-selected planting material	58	80	96	6.0%	58.0%
Total	940	1,280	1,600	100%	39.6%

The laboratory line is worth reading twice. The instrument was bought to make our own payment basis possible; having bought it, selling capacity to a district with no accessible HPLC earns ₹1.28 crore at 56% gross margin. The same pattern appears in three plans in this vertical: THE APPARATUS BUILT TO KEEP A COMMITMENT TURNS OUT TO BE SALEABLE, BECAUSE NOBODY ELSE HAS ONE.

12.2 What is committed, and what it is measured on

Commitment	Yr 1	Yr 3
Lots assayed for marker compound / result published and given free to the grower	61% / partial	100% / 100%
Withanolide content delivered / trade-average comparator	0.44% / 0.34%	0.71% / 0.34%
Contract material paid on assayed content / premium paid above the flat trade price	48% / ₹0.14cr	100% / ₹0.33cr
Material below the pharmacopoeial floor, diverted from medicinal use / gross profit forgone	14 t / ₹0.19cr	38 t / ₹0.51cr
Offtake book published before the planting window / next season contracted	no / —	yes / 78%
Independent sampling, sealed counter-sample, lab-to-lab variance published	no	yes, 3.2%

Row two is the only row a formulator would ever notice and row three is what produced it. Content did not rise because the plants changed — it rose because ₹0.33 crore of assay premium made raising it the profitable thing for a farmer to do. And row six is the row that keeps the other five honest: a payment basis with no published variance is a number the paying party controls.

12.3 Profit & loss (₹ lakh)

Line	Yr 1	Yr 2	Yr 3
Revenue	940	1,280	1,600
Cost of goods (contract purchase, inputs, harvest, drying, distillation)	(568)	(773)	(967)
Gross profit	372	507	633
Assay laboratory: testing every lot and returning the result free	(34)	(46)	(58)
Content-linked payment and the sampling-integrity protocol	(26)	(36)	(46)
Offtake book and crop-recommendation discipline	(18)	(24)	(30)
Selling and distribution	(34)	(46)	(58)
Farm, distillation and welfare overhead	(82)	(100)	(118)
Administration	(32)	(38)	(44)
EBITDA	146	217	279
Depreciation and amortisation	(78)	(92)	(106)
Finance cost	(52)	(58)	(62)

Other income (spent herbage, scheme incentives, misc)	8	12	16
PBT	24	79	127
Tax (cultivation exempt, processing and services taxed, ~20% effective)	(5)	(16)	(25)
PAT	19	63	102
Net margin	2.0%	4.9%	6.4%
ROCE on ₹10.00cr	6.8%	12.5%	17.3%

12.4 Project cost & funding (₹ lakh)

Use of funds	₹L	%	Source of funds	₹L
Distillation: field stills, condensers, oil separation and storage	280	28%	Promoter equity	360
Drying yards, solar dryers, cleaning, grading and storage	200	20%	Term loan (NABARD-refinanced)	400
HPLC assay laboratory: instruments, standards, accreditation	150	15%	NMPB / MIDH subsidy	140
Farm development, irrigation and drip on 218 ha	130	13%	Working capital limit	100
Nursery: chemotype selection, mother blocks, propagation	110	11%	—	—
Worker housing and welfare	70	7%	—	—
Working capital margin and pre-operative	60	6%	—	—
Total	1,000	100%	Total	1,000

12.5 Sensitivities (₹ crore PAT, Year 3)

Scenario	What changes	PAT
Base case as planned	As above	₹1.02cr
Trade-standard practice instead	Grow for biomass and sell everything flat by weight (+34% tonnage at ₹190/kg), buy contract material by weight rather than on assay (+₹0.33cr), sell the 38 t of sub-floor material as medicinal grade (+₹0.51cr), dry fast and hot (+₹0.28cr), close the laboratory, the sampling protocol and the offtake book (+₹1.34cr): revenue FALLS to ₹15.65cr at 46.6% gross margin	₹2.89cr
The assayed market fails to develop and buyers keep paying flat	Ashwagandha realisation falls ₹320 → ₹230 and the service line halves: ₹1.62cr. This is the risk that decides whether this plan is right	(₹0.28cr)
Contract-farmer default on 40% of area	₹1.04cr including spot purchase at a premium to fill the book	₹0.18cr
Aromatic oil price –25%	₹0.80cr; mentha and citral prices move on things nobody here controls	₹0.38cr
Wage, energy and lab consumables +12%	₹0.44cr	₹0.66cr

The second row has a feature no other trade-standard row in this vertical has: **REVENUE GOES DOWN AND PROFIT GOES UP**. The trade-standard business is bigger in tonnes, smaller in rupees of revenue and larger in profit — it sells more kilograms of weaker material at a lower price, gives up the laboratory service entirely, and still earns ₹2.89 crore against ₹1.02 crore. **THAT IS THE CLEAREST POSSIBLE STATEMENT OF THE FINDING: IN A MARKET DENOMINATED IN KILOGRAMS, DILUTION IS A BUSINESS MODEL.**

12.6 Volumes and unit economics (Year 3)

Physical driver	Volume	Realisation	Revenue
Assayed ashwagandha root at 0.71% withanolides	140 t	₹320/kg	₹448L
Other assayed roots and herbs	190 t	₹185/kg	₹352L
Essential oil from 3,850 t of green herbage at 0.65%	25 t	₹1,280/kg	₹320L
Contract material aggregated and supplied	160 t	₹160/kg	₹256L
Assay service and planting material	980 farmers	—	₹224L
Total dry herb handled	490 t	—	₹1,600L

Derived figure	Working	Result
The pricing formula	Base ₹270/kg × assayed content ÷ 0.60% reference	0.71% → ₹320/kg
What a trade-average lot would earn on it	0.34% ÷ 0.60% × ₹270	₹153/kg, against ₹190 flat
Cost per assay	₹0.58cr over 4,860 assays	₹1,193
Commitment per tonne of dry herb	₹1.34cr over 490 t	₹27,347, or 8.4% of revenue
Own material	112 t dry herb from 122 ha; 3,850 t herbage from 96 ha	0.92 and 40 t/ha
Farm workers	218 ha × 1.15 per hectare	251

The second row is the uncomfortable one and it belongs in the plan. A trade-average lot is worth ₹153 a kilogram on a content basis and the trade pays ₹190 for it — **SO THE WEAK MATERIAL IS OVERPAID AND THE STRONG MATERIAL IS UNDERPAID, WHICH IS EXACTLY THE SUBSIDY THAT KEEPS DILUTION PROFITABLE**. Any grower who improves his content under the present system is transferring value to a buyer who did not ask for it and will not pay for it.

Where the ₹1.85 crore of commitments goes	₹cr	Does it pay for itself?
Assay laboratory: testing every lot, result returned free	0.58	Yes, twice over — it also earns ₹1.28cr of service revenue
Gross profit forgone on sub-floor material diverted	0.51	No. Pure transfer to whoever would have swallowed it
Content-linked payment and the sampling-integrity protocol	0.46	Only if buyers pay the differential; that is the plan's bet
Offtake book and crop-recommendation discipline	0.30	Indirectly, through contract retention

The laboratory is the only line here that is unambiguously an investment, and it is also the cheapest way to be right if the rest of the plan is wrong. If buyers never pay a content differential, the instrument still earns ₹1.28 crore testing other people's material in a district that has no other access to one. That is a deliberate structural choice: THE APPARATUS THAT MAKES THE COMMITMENT POSSIBLE WAS SELECTED SO THAT IT ALSO SURVIVES THE COMMITMENT FAILING.

13. Funding Requirement & Bankability

Item	Position
Requirement	₹10.00cr: ₹3.60cr promoter equity, ₹4.00cr term loan, ₹1.40cr NMPB/MIDH subsidy, ₹1.00cr working capital limit
Security	Leasehold improvements, distillation unit, drying yards and laboratory; hypothecation of stock and receivables; personal guarantee of the promoter
Debt service	Year 3 EBITDA ₹2.79cr against interest ₹0.62cr and scheduled repayment; DSCR above 1.8x from Year 3
The single question that decides this plan	Whether buyers will pay for assayed content. They already test for it; the plan assumes they will pay a differential for arriving material that meets specification without their rework. If they will not, PAT is (₹0.28cr) and the laboratory is a cost centre — a lender should test that assumption first and everything else second
Subsidy risk	₹1.40cr reimbursed against completed and inspected assets; a 12-month lag is assumed on the working capital limit
What a lender should test	Not the crop plan — the lab-to-lab variance report. A content-linked payment basis whose variance is unpublished is a payment basis the buyer controls, and this business is the buyer

Year	EBITDA	Interest	Repayment	DSCR
Year 1	₹1.46cr	₹0.52cr	Moratorium	—
Year 2	₹2.17cr	₹0.58cr	₹0.52cr	1.97x
Year 3	₹2.79cr	₹0.62cr	₹0.80cr	1.96x

14. Risk Analysis & Mitigation

Risk	Impact	Mitigation
------	--------	------------

Paid by the kilogram, valued by the milligram	Marker content ranges across roughly an order of magnitude between lots, driven by chemotype, agro-climate, harvest age, drying and storage — none of it visible in the material, so the trade grades what it can see and THE BOTANICAL NAME ON THE SACK CARRIES NO POTENCY INFORMATION AT ALL. And the relationship runs the wrong way: THE AGRONOMY THAT MAXIMISES BIOMASS DILUTES THE ACTIVE CONSTITUENT. A farmer paid ₹190/kg is paid to do exactly what makes the material weaker. HE IS NOT CARELESS AND NOT DISHONEST — HE IS OPTIMISING EXACTLY AS INSTRUCTED, AND THE INSTRUCTION IS WRONG	ASSAY THE LOT AND PAY ON THE MOLECULE. Every lot assayed by HPLC — 4,860 assays at ₹1,193 — the result PUBLISHED WITH THE LOT AND RETURNED FREE TO THE GROWER, and price set as $\text{base} \times \text{assayed content} \div \text{a published 0.60\% reference}$. Delivered content 0.44% → 0.71% against a trade average of 0.34%, with ₹0.33cr of assay premium paid above the flat trade price. THE FARMER LEARNS WHICH OF HIS OWN PRACTICES RAISE THE NUMBER BECAUSE HE GETS THE NUMBER — which is the entire mechanism and is unavailable to anyone who does not own an instrument. GENERAL RULE: WHERE YOU PAY BY THE KILOGRAM FOR SOMETHING VALUED BY THE MILLIGRAM, EVERY GROWER WILL RATIONALLY DILUTE IT — SO ASSAY THE LOT AND PAY ON THE MOLECULE
A farmer can verify a price but not a market	He can check that others got ₹380/kg; he cannot check whether anybody will still be buying in eighteen months, because demand is a handful of formulators' procurement plans which are not public, not forecastable and change. THE ONE FACT THAT DECIDES WHETHER HIS CROP IS WORTH ANYTHING IS THE ONE FACT NOBODY PUBLISHES. And these crops have NO SALVAGE VALUE: a failed wheat crop is fodder, a failed safed musli crop is a hole in the ground	The offtake book published BEFORE the planting window — contracted volumes by buyer and by year, 78% of next season spoken for — so a farmer commits land knowing what is already sold. AND NO CROP IS RECOMMENDED THAT WE ARE NOT OURSELVES CONTRACTED TO BUY, which is harder than it sounds because the most profitable advice a promoter can give is always about a crop with a shortage
The assayed market fails to develop	The plan's central bet. Buyers already test; if they will not pay a differential for material that arrives on specification, ashwagandha realisation falls ₹320 → ₹230, the service line halves, and PAT is (₹0.28cr) with a laboratory that has become a cost centre	Export nutraceutical buyers specify content contractually and are the first target; the laboratory earns ₹1.28cr selling capacity regardless of whether our own premium holds; oils and other roots are unaffected; the content data itself becomes the sales argument to formulators who currently price in a rework allowance
Assay integrity	The remedy creates its own attack surface: once payment runs off a number, somebody will try to sell you the number — cherry-picked sampling, spiked lots, laboratory shopping	Sampling by an independent agency rather than by us; sealed counter-sample retained on every lot; accredited outside laboratories rotated against our own; lab-to-lab variance published at 3.2%. A payment basis is only as honest as its sampling protocol, and ours is deliberately out of our own hands
Contract-farmer default and side-selling	A 40% default is ₹1.04cr including spot purchase to fill the book; a trader offering cash on the day will always beat a payment that waits for an assay	Assay results returned free from the first season are the retention argument; interim payment on delivery with the content balance on assay; chemotype stock supplied only to contracted area
Aromatic oil price volatility	Mentha and citral prices move on global supply; a 25% fall is ₹0.80cr	Three oils on different cycles; roots unaffected; distillation capacity sold as a service in a weak year

Crop failure and weather	Root crops on a single season; a poor year hits both content and tonnage	Species and district spread across own and contract area; irrigation at 13% of project cost; the offtake book sized to contracted rather than hoped-for volume
--------------------------	--	--

15. SWOT Analysis

Strengths	Weaknesses
Farm, nursery, drying, distillation and an HPLC laboratory in one entity, which is the only configuration in which content can be measured and then paid for; chemotype-selected stock that fixes the genetic half of potency before sowing; a sampling protocol deliberately held outside the company; a laboratory that earns ₹1.28cr selling capacity a district cannot otherwise reach	The plan rests on buyers paying a differential they do not yet pay; 6.4% net margin leaves little room; contract farmers can side-sell to anyone offering cash today; ₹1.40cr of subsidy carried as a receivable; crops with no salvage value if an offtake fails
Opportunities	Threats
Export nutraceutical buyers already specify content and would pay to stop reworking; no competitor in the district publishes an assay basis; the laboratory is a platform asset; content data over several seasons is genuinely proprietary agronomic knowledge	Buyers continuing to absorb variability quietly by using more of a weaker input, which costs them less than paying a premium; wild-collected material undercutting cultivated supply; oil price cycles; and a competitor publishing an unverified assay basis that looks identical and costs less

The honest reading is that this plan is a bet on a specific behaviour by a specific set of buyers. Everything else in it — the farm, the stills, the nursery, the drying — is a competent ordinary business. The laboratory and the payment basis are the wager, and \$12.5 prices the losing side of it at (₹0.28cr) rather than burying it.

16. Recommended AiSevak Tools for This Business

- **Business plan and project report generator** — for the NMPB and MIDH scheme file and the term loan appraisal.
- **Compliance calendar** — NMPB returns, biodiversity board filings, laboratory accreditation renewal, EPF, ESI and labour registers.
- **Cost and pricing calculator** — cost per kilogram by crop and block, the content-linked price formula, oil recovery and distillation cost per tonne of herbage.
- **GST and invoicing helper** — cultivation versus business income split, oils and services, contract purchase vouchers, reverse charge.
- **Labour and payroll toolkit** — farm and harvest muster rolls, direct engagement records, welfare registers.
- **Loan and subsidy application helper** — milestone-based NMPB and MIDH claims and a working capital assessment across a single-harvest crop year.
- **Contract and terms drafting helper** — the contract-cultivation agreement with the content-linked payment formula, the sampling protocol, and the offtake-book undertaking.

Every tool above is **free to use on AiSevak and needs no signup to explore**. The toolkit link at the end of this plan opens the whole plantation set.

17. Key Assumptions & Notes

- **All financials are illustrative model assumptions, not forecasts, projections or guarantees.** Revenue, area, yields, marker content, prices and the assay premium are editable inputs; outcomes depend on buyer behaviour, weather, contract retention and oil price cycles. Figures are in Indian rupees. **This plan is the ninth in vertical 55 and inherits its ten anchor rules (a)-(j).**
- **The central finding is that the unit of trade is the kilogram and the unit of value is the milligram — and the agronomy that adds kilograms subtracts milligrams.** Heavy nitrogen, long duration and generous irrigation all raise the weight sold and dilute the constituent bought. **The farmer is not careless and not dishonest: he is optimising exactly as the price signal instructs him, and the price signal points the opposite way from the value.**
- **The finding sits in two numbers.** The trade pays roughly ₹190/kg for ashwagandha root of any potency; on a content basis a 0.34% lot is worth ₹153 and a 0.71% lot is worth ₹320. **The weak material is overpaid and the strong material is underpaid, which is precisely the subsidy that keeps dilution profitable. GENERAL RULE: WHERE YOU PAY BY THE KILOGRAM FOR SOMETHING VALUED BY THE MILLIGRAM, EVERY GROWER WILL RATIONALLY DILUTE IT — SO ASSAY THE LOT AND PAY ON THE MOLECULE.**
- **The remedy creates its own attack surface and the plan says so.** Once payment runs off a number, somebody will try to sell you the number. **Sampling is done by an independent agency, a sealed counter-sample is retained on every lot, accredited outside laboratories are rotated against our own, and the lab-to-lab variance is published at 3.2%.** A payment basis is only as honest as its sampling protocol.
- **The second thread is that a farmer can verify a price but not a market.** Demand is a handful of formulators' procurement plans — not public, not forecastable, and changeable — **so the one fact that decides whether his crop is worth anything is the one fact nobody publishes.** And unlike every other crop in this vertical, **these have no salvage value: a failed wheat crop is fodder, a failed safed musli crop is a hole in the ground.** The offtake book is published before the planting window, and no crop is recommended that we are not ourselves contracted to buy.
- **Volumes and unit economics.** 490 t of dry herb and 25 t of oil: 140 t assayed ashwagandha at ₹320/kg, 190 t other roots at ₹185/kg, 25 t of oil from 3,850 t of green herbage at 0.65% recovery, 160 t of contract material at ₹160/kg. 4,860 assays at ₹1,193 each. The commitment costs ₹27,347 per tonne of dry herb, or 8.4% of revenue. Farm headcount is derived, not assumed: 218 ha × 1.15 = 251.
- **The trade-standard comparison has a feature no other in this vertical has: revenue goes down and profit goes up.** The trade-standard business is bigger in tonnes, smaller in rupees of revenue and larger in profit — ₹2.89cr against ₹1.02cr on ₹15.65cr of revenue rather than ₹16.00cr. **In a market dominated in kilograms, dilution is a business model.**
- **Compliance and professional advice.** National Medicinal Plants Board registration and scheme conditions and good agricultural and collection practice guidance; **Ayurvedic Pharmacopoeia of India monographs, which set identity, purity and assay limits — the standards exist and are good, and what is absent is any requirement that material be assayed before it is traded;** the Drugs and Cosmetics Act where material enters licensed ASU manufacture, under which GMP obligations sit with the manufacturer rather than the grower; the Biological Diversity Act and access-and-benefit-sharing obligations, and state biodiversity board notifications; forest and wildlife protections and CITES for wild-collected and listed species; export registrations and destination residue and heavy-metal limits; state agricultural labour rules, EPF, ESI and Minimum Wages; section 10(1) for cultivation income against business income on distillation, assay services, trading and nursery; GST on oils, services and traded material. Professional advice should be taken on access-and-benefit-sharing for listed species, the cultivation-versus-business income split, laboratory accreditation scope, and the contractual standing of a content-linked payment formula operated by the buyer.

► **Use these tools now — free on AiSevak**

Every tool referenced in this plan is available on aisevak.in. Open the [Plantation and Estate Agriculture toolkit](#) to browse and use them all at <https://aisevak.in/verticals/plantation> — or go straight to any specific tool at <https://aisevak.in/service/<tool-name>>. No signup needed to explore; each tool guides you step by step.

Prepared by AiSevak.in — a product of ABL Digital Technologies. AI-powered business services for India. This is AI-assisted guidance; figures are illustrative and not a guarantee of results. Verify all numbers, licences and regulatory requirements with a qualified professional before relying on this plan for binding decisions. © 2026 ABL Digital Technologies Private Limited.