

LIMA SMART FARM ENTERPRISE STARTER PACK

From Enterprise Planning to Market: A Complete Farmer Learning Guide & Commercial Service Catalog

Section / Stage	Core Operational Focus
Stage 1	Enterprise Idea & Site Feasibility
Stage 2	Business Planning & Financial Readiness
Stage 3	Resource & Infrastructure Preparation
Stage 4	Production Planning & Input Sourcing
Stage 5	Workforce & Operational Management
Stage 6	Operational Monitoring & Record Keeping
Stage 7	Crop Protection, Health & Extension
Stage 8	Harvest, Post-Harvest & Quality Control
Stage 9	Marketing, Off-Take & Sales Strategy
Stage 10	Financial Control & Risk Management
Stage 11	Continuous Improvement & Post-Season Review
Roadmap & Survey	30-Day Execution Roadmap & Online Survey

Foreword: Welcome to Commercial Agribusiness Mastery

Welcome to the Lima Smart Farm Enterprise Starter Pack—your roadmap for transforming agricultural potential into a high-yielding, commercially viable agribusiness enterprise. Across Kenya and East Africa, thousands of farmers invest hard-earned capital into primary crop production every season, only to suffer preventable losses caused by poor site selection, unverified market assumptions, uncalibrated fertilization, and unrecorded cash leakages. Farming without a structured enterprise system is not agribusiness; it is a high-risk biological gamble.

This workbook is specifically engineered by Horti Grid Limited and Agritude Academy to de-risk your agricultural journey. Divided into 11 sequential operational stages, this guide bridges the gap between field-level agronomic execution and institutional business management. In each section, you will find four vital components:

- **Structured Technical Frameworks & Checklists:** Clear, step-by-step operational parameters governing site selection, gross margin budgeting, irrigation setup, workforce management, and harvest handling.
- **Fillable Working Templates & Scorecards:** Practical diagnostic tables designed to capture your farm's real-time baseline metrics, cost structures, and operational records.
- **🧑🌾 Farmer Learning Notes:** Actionable field insights highlighting the 'so what' behind each business stage—giving you immediate practical rules of thumb to protect your soil, water, labor, and cash flow.
- **📁 Horti Grid & Lima Smart Commercial Solutions:** Direct access to our professional technical advisory, soil diagnostics, turnkey irrigation engineering, workforce staffing, and verified off-taker market linkages.

Whether you are establishing a new 2-acre commercial horticulture block or optimizing an existing commercial farm enterprise, treat this document as your daily operational companion. Work through the checklists, complete the fillable working templates, and engage Horti Grid's specialist team to build an enterprise that is resilient, profitable, and ready for institutional market off-take.

STAGE 1: ENTERPRISE IDEA AND FEASIBILITY

Operational Scope:

Before committing capital to land preparation or seed acquisition, conduct a rigorous preliminary site visit and market analysis to verify enterprise viability.

FARMER LEARNING NOTE: Market-Driven Enterprise Selection

Never plant a crop simply because a neighbor made money from it last season. Enterprise selection must be driven by three non-negotiable factors:

- 1) Verified soil pH and nutrient balance
- 2) Off-season water security
- 3) Confirmed off-taker buyer specifications.

Conducting a preliminary site visit de-risks your investment before you spend a single shilling on tilling.

Readiness Checklist

Feasibility Metric	Status	Action / Findings
Preliminary Site Visit & Audit		Assess land/site and topography, drainage, soil type, and micro-climate
Soil Laboratory Testing		Collect composite samples; test pH, EC, NPK, and organic matter
Off-Season Water Source Audit		Measure flow rate / capacity of river, borehole, well, or dam
Market Off-Take Verification		Identify target buyers, quality standards, and price history

Working Template: Site & Enterprise Log

Parameter	Farm Baseline Data	Risk / Mitigation Strategy
Farm Name & GPS Location		
Acreage & Topography		
Soil pH & Laboratory Code		
Water Source & Pumping Plan		
Target Crop Enterprise		

The LIMA SMART Solution: Preliminary Site Visit & Feasibility Report

Stop guessing your farm's potential!

Horti Grid's Lima Smart team delivers professional **on-farm diagnostic visits** across Kenya.

Our production economist and agronomists execute a **site visit, farm topography maps, collect soil samples, and issue a Site & Enterprise Feasibility Report** with custom corrective fertilizer recommendations.

STAGE 2: BUSINESS PLANNING AND FINANCIAL READINESS

Operational Scope:

Transform your agronomic ideas into a structured financial model. Calculate precise gross margins, capital expenditure requirements, and break-even production volumes.

FARMER LEARNING NOTE: Calculate Your Break-Even Yield

Gross margin is the true indicator of farm profitability (Total Revenue minus Direct Variable Costs). Before planting, calculate your break-even yield = Total Direct Costs / Expected Market Price per Kg. If your target field cannot realistically produce above this volume, abort or adjust the enterprise model immediately.

Readiness Checklist

Financial Parameter	Status	Notes / Targets
Gross Margin Budget Prepared	Pending / Done	Detail seed, fertilizer, chemical, labor, and water costs
Capital Expenditure Budgeted	Pending / Done	Budget irrigation equipment, shade nets, and tools
Working Capital Secured	Pending / Done	Reserve cash buffer for 100% of operational costs to harvest
Break-Even Volume Calculated	Pending / Done	Confirm target yield exceeds break-even threshold by 30%+

Working Template: Gross Margin Budget Form

Cost Category	Budgeted Cost (KES)	Actual Cost (KES)	Variance (KES)
Land Preparation & Tilling			
Certified Seed / Seedlings			
Basal & Topdressing Fertilizer			
Crop Protection Agrochemicals			
Irrigation Energy & Water			
Labor (Planting, Weeding, Spraying)			
TOTAL VARIABLE COST			

The LIMA SMART Solution: Gross Margin & Business Plan Development

Need bankable farm plans?

Horti Grid constructs custom Crop **Gross Margin Analyses** and comprehensive **Farm Enterprise Business** Plans. Our Agricultural Economist will build dynamic financial models that secure investor confidence and guide seasonal cash flow.

STAGE 3: RESOURCE AND INFRASTRUCTURE PREPARATION

Operational Scope:

Secure water, energy, plan for irrigation, necessary controlled environment structures, and secure farm equipment and tools before planting to guarantee uninterrupted crop growth.

FARMER LEARNING NOTE: Decouple Water Infrastructure from Agronomy

Irrigation is not an optional add-on; it is your primary de-risking asset. Rainfed farming in modern climate conditions is gambling. Drip irrigation saves 50% water and enables precise fertigation directly to plant root zones, cutting fertilizer waste by up to 30%. Test pump pressure and emitter flow rates before transplanting.

Readiness Checklist

Infrastructure Unit	Status	Technical Specifications
Water Storage & Pumping	Pending / Done	Dam liner pond, elevated tank, or solar pump installed
Drip Irrigation Layout	Pending / Done	Mainlines, sub-mains, and drip lines pressure tested
Controlled environment structures	Pending / Done	Greenhouse or shade netting planned for/secured/inspected
Farm Tools & Security Fence	Pending / Done	Sprayers, harvesting crates, and perimeter fencing ready

Working Template: Infrastructure Asset Audit

Asset Description	Capacity / Specs	Condition	Maintenance Plan
Water Source			
Water Storage Reservoir			
Irrigation Pump / Power			
Drip Lines & Filtration Bank			
Greenhouse / Shade House			
Knapsack / Power Sprayers			

The LIMA SMART Solution: Turnkey Irrigation Layout Design and Set Up, Greenhouses, Shade houses and Propagation Structures

De-risk farm production with the right infrastructure!

Horti Grid's Infrastructure technicians design and install commercial drip irrigation systems, fertigation units, dam liners, solar pumping systems, and climate-controlled greenhouses and shade houses engineered specifically for the local climate and terrain.

STAGE 4: PRODUCTION PLANNING AND INPUT MANAGEMENT

Operational Scope:

Establish backward-scheduled crop calendars, order high-quality certified inputs, and prepare nurseries to match target market harvest windows.

FARMER LEARNING NOTE: Backward-Schedule Your Harvest Window

High market prices occur during off-season shortage windows. Work backward from your target harvest date: if market demand peaks in November and your tomato variety takes 75 days post-transplant plus 30 days in the nursery, sowing must occur precisely in July. Aligning input procurement with crop schedules prevents nursery holding stress.

Readiness Checklist

Planning Activity	Status <i>(Pending/Done)</i>	Target Date / Vendor
Crop Calendar Formulated		Establish nursery, transplanting, and harvest dates
Certified Inputs Sourced		Purchase hybrid seed, basal fertilizers, and substrates
Nursery Management Setup		Seedling trays, coco-peat, and hygiene protocols ready
Fertigation Schedule Drafted		Weekly crop nutrition roadmap prepared per growth stage

Input Sourcing Schedule

Input Description	Quantity Required	Target Delivery Date	Supplier / Cost
Hybrid Seed Variety or...			
Seedlings			
Basal Fertilizer (e.g. DAP/YaraMila)			
Water-Soluble Fertigation Fertilisers			
Bio-Pesticides & Fungicides			

Lima Smart Solution: Lima Smart Crop Establishment Protocols

Eliminate planting mistakes!

Lima Smart provides Crop Establishment Protocols detailing land prep, spacing calibration, basal application rates, and seedling handling. Our network of field agronomists also deliver On-Site Crop Establishment Supervision to ensure perfect execution.

STAGE 5: WORKFORCE AND OPERATIONAL MANAGEMENT

Operational Scope:

Structure clear daily task assignments, recruit qualified farm supervisors, and establish standard operating procedures (SOPs) for field labor.

FARMER LEARNING NOTE: Standardize Daily Task Rates

Unmanaged labor eats up to 40% of operational budgets. Never pay casual workers purely by the day without defined task quotas (e.g., number of drip lines weeded or beds prepped per worker per day). Document Standard Operating Procedures (SOPs) so that worker performance is measurable and consistent.

Readiness Checklist

Workforce Parameter	Status	Deployment Details
Farm Manager / Supervisor Assigned	Pending / Done	Competency-tested supervisor on-site
Daily Task Quotas Defined	Pending / Done	Specific land prep, weeding, and spraying metrics set
Farm SOPs Documented	Pending / Done	Written protocols for spraying, fertigation, and harvesting
Worker Safety & Protective Gear	Pending / Done	Overalls, boots, masks, and gloves provided

Working Template: Daily Labor Allocation Register

Date	Worker Name	Assigned Task	Task Output	Supervisor Sign-off

The LIMA SMART Solution: Farm Workforce Division & SOP Engineering

Struggling with unreliable farm labor?

Horti Grid's Farm Workforce Division sources, competency-tests, and places verified Farm Managers, Enterprise Supervisors, and Irrigation Technicians. We also construct custom Farm SOPs to institutionalize your operations.

STAGE 6: OPERATIONAL MONITORING AND RECORD KEEPING

Operational Scope:

Implement rigorous daily record-keeping across crop inputs, field operations, labor usage, and financial transactions using digital and manual toolkits.

FARMER LEARNING NOTE: 'If it is not written down, it did not happen'

A farm without records is like a vehicle driven blindfolded. Tracking daily inputs, water volumes, spray dates, and cash expenses allows you to identify cost leaks immediately. Records provide the necessary baseline data to calculate your true cost of production per kilogram.

Readiness Checklist

Record Keeping Tool	Status	Responsible Person
Daily Farm Operations Logbook		Track activities, weather, and labor daily
Input Stock & Inventory Register		Log chemical and fertilizer inflows/outflows
Financial Income & Expense Ledger		Record every cash/M-Pesa payment immediately
Digital Farm Profiling Tool		Upload daily records to digital platform

Working Template:

Date	Field Block	Activity / Input Applied	Labor Used	Cash Out (KES)	Cash In (KES)

The LIMA SMART Solution: Farmer Intelligence Platform & Digital Toolkits

Digitize your farm management! Access Horti Grid's Farmer Intelligence Platform for proprietary Excel templates, mobile record-keeping logs, gross margin calculators, and automated expense trackers tailored for modern commercial agribusinesses.

STAGE 7: CROP PROTECTION, HEALTH AND EXTENSION SUPPORT

Operational Scope:

Execute systematic Integrated Pest and Disease Management (IPM), conduct weekly scouting, and follow milestone crop management protocols.

FARMER LEARNING NOTE: Preventative Scouting vs Reactive Spraying

Waiting for pest damage or disease symptoms to become visible before spraying causes up to 30% yield loss and triples chemical costs. Implement weekly systematic IPM scouting (inspecting 20 random plants per block). Rotate chemical active ingredients to prevent pest resistance.

Readiness Checklist

Crop Protection Activity	Status	Execution Details
Weekly IPM Scouting Schedule		
Crop Management Protocol		
Agrochemical Rotation Plan		
Extension Agro-Care Visits		

Working Template: IPM Pest & Spray Log Sheet

Date	Block	Pest/Disease Identified	Product/Active Ingredient	Pre-Harvest Interval (PHI)	Operator

The LIMA SMART Solution: Lima Smart Extension & Agro-Care Packages

Protect your yield with professional agronomists!

Lima Smart provides:

- Stage-by-Stage Crop Management Protocols
- Milestone Extension Agro-Care Visits
- Expert field diagnostics
- IPM worker training.

STAGE 8: HARVEST, POST-HARVEST HANDLING AND QUALITY CONTROL

Operational Scope:

Plan for/Implement strict harvesting maturity indexing, grading, sorting, cold chain maintenance, and sanitation to minimize post-harvest losses.

FARMER LEARNING NOTE: Protect Post-Harvest Quality

Up to 35% of horticultural value is destroyed after harvest due to rough handling, direct sun exposure, and dirty crates. Harvest during cool morning hours, use sanitized smooth-walled crates, and move produce into shaded cold storage immediately to preserve shelf life and fetch Grade A prices.

Readiness Checklist

Post-Harvest Parameter	Status	Standard Operating Procedure
Maturity Index Defined		Color, size, and firmness criteria set
Sanitized Harvesting Crates		Clean, stackable plastic crates ready
Shaded Sorting & Packhouse Area		Clean, shaded grading station established
Pre-Harvest Interval (PHI) Compliance		Confirm zero chemical spray residue within PHI window

Working Template: Harvest & Quality Grading Log

Harvest Date	Block	Total Harvested (Kg)	Grade A (Kg)	Grade B / Rejects (Kg)	Packhouse Supervisor

The LIMA SMART Solution: Post-Harvest Systems & Quality Audit

Stop post-harvest reject losses!

Horti Grid, through our high value crop agronomist/auditor, designs standardized packhouse sorting protocols, cold chain management procedures, and produce grading metrics that guarantee compliance with premium commercial off-taker standards.

STAGE 9: MARKETING, OFF-TAKE AND SALES STRATEGY

Operational Scope:

Secure contracted off-take agreements, diversify buyer channels, enforce quality grading, and manage transparent produce delivery logistics.

FARMER LEARNING NOTE: Never Rely on a Single Buyer Channel

Selling exclusively at the farm gate to informal middlemen leaves you vulnerable to sudden price crashes. Diversify your market channels: a good formula would be to secure formal off-take contracts with processors/exporters for 60% of volume, supply local wholesale markets with 30%, and direct-sell 10%. Always agree on written grade parameters with formal markets prior to harvest.

Stage 9 Readiness Checklist

Marketing Parameter	Status	Off-Taker Details
Contracted Off-Take Agreement		Written sales contract with pricing formula
Buyer Quality Standards Agreed		Grade specifications and weight tolerances signed
Logistics & Transport Secured		Reliable, ventilated transport scheduled
Diversified Secondary Buyers		Backup wholesale channels identified

Working Template: Buyer Off-Take & Dispatch Register

Dispatch Date	Buyer Name	Volume Delivered (Kg)	Agreed Price / Kg	Total Value (KES)	Payment Status

The LIMA SMART Solution: Verified Partner Network & Market Linkage

Access verified commercial markets! Horti Grid connects accredited 'Farm Ready' producers directly to our Verified Partner Network of institutional buyers, exporters, processors, and supermarket chains—bypassing predatory brokers.

STAGE 10: FINANCIAL CONTROL, CASH FLOW AND RISK MANAGEMENT

Operational Scope:

Manage seasonal cash flow, control procurement expenses, track receivables, and build operational cash buffers to survive market fluctuations.

FARMER LEARNING NOTE: Cash Flow Is the Oxygen of Your Farm

A farm can be profitable on paper but go bankrupt if cash runs out before harvest. Maintain a strict 30-day cash flow forecast. Reinvest at least 40% of seasonal net profits into working capital reserves for the next cycle rather than withdrawing all earnings immediately.

Readiness Checklist

Financial Control Item	Status	Management Protocol
30-Day Cash Flow Forecast	Pending / Done	Project cash inflows vs operational outflows
Debtor Payment Tracking	Pending / Done	Follow up off-taker credit terms strictly
Reinvestment Buffer Reserved	Pending / Done	Set aside capital for next season's inputs
Agricultural Insurance Evaluated	Pending / Done	Explore multi-peril crop insurance coverage

Working Template: Seasonal Cash Flow Reconciliation

Month	Opening Balance	Total Revenue	Total Operating Costs	Net Cash Position	Reinvestment Reserve
Month 1					
Month 2					
Month 3					
Month 4					

The LIMA SMART Solution: Retainer Financial Control & Management

Protect your operational liquidity! Horti Grid provides monthly management retainers where our Agricultural Economists track your income/expense ledgers, manage debtor credit terms, and deliver monthly financial variance audits.

STAGE 11: CONTINUOUS IMPROVEMENT AND POST-SEASON REVIEW

Operational Scope:

Conduct end-of-season financial, agronomic, and operational reviews using the 100-Point Farm Management Scorecard to continuously optimize yields.

 **FARMER LEARNING NOTE: Evaluate Performance After Every Harvest**

The end of a crop cycle is the beginning of the next. Conduct a formal post-season audit comparing budgeted vs actual yields, direct costs, and net margins. Identify the top 2 operational bottlenecks (e.g., fertigation delay or spray miss) and update your SOPs before starting the next cycle.

Readiness Checklist

Review Parameter	Status	Key Findings / Action Points
Actual vs Budgeted Margin Review		Calculate final cost per kg and net return
Agronomic Performance Audit		Review total yield, grade ratio, and pest losses
Workforce Output Evaluation		Assess supervisor and casual labor efficiency
SOP & System Revision		Update farm protocols based on season lessons

Working Template: Post-Season Performance Audit

Key Performance Indicator (KPI)	Budgeted Target	Actual Realized	Variance (+ / -)	Root Cause & Correction
Total Yield (Kg / Acre)				
Average Selling Price (KES/Kg)				
Total Variable Cost (KES)				
Net Margin Per Acre (KES)				
Grade A Harvest Ratio (%)				

The LIMA SMART Solution: 100-Point Farm Enterprise Audit

Benchmark your farm against industry leaders! Engage Horti Grid to execute our 100-Point Farm Enterprise Diagnostic. We audit your site, infrastructure, labor, agronomy, and financials, delivering a 5-tier decision verdict and a 12-month improvement roadmap.

30-Day Execution Roadmap & Farm Readiness Pathways

Transforming an agricultural venture into a de-risked commercial enterprise requires disciplined, phased execution tailored to your farm's current operational state. Choose the implementation pathway below that matches your enterprise journey:

Pathway A: New Farm Starter Setup Roadmap (New Enterprises / Starters)

Designed for new investors and landowners launching a farm enterprise. Focuses on pre-enterprise planning, market-driven crop selection, securing off-take buyers, gross margin budgeting, and setting up farm systems with Lima Smart experts prior to major capital deployment.

Phase & Timeline	Pre-Enterprise Milestones & Expert Support Vehicle
Week 1: Pre-Enterprise Planning & Site Audit	Execute Stage 1: Conduct preliminary site visit, soil/water diagnostic sampling, topography audit, and agro-climatic risk evaluation with Lima Smart experts before investing capital. Lima Smart Support Vehicle: <i>Lima Smart Preliminary Site Visit & Risk Assessment</i>
Week 2: Enterprise Selection & Market Securing	Execute Stage 1 & 2: Match high-value crop options to land/water conditions, analyze off-taker quality/volume specifications, and secure market buyer commitments upfront. Lima Smart Support Vehicle: <i>Lima Smart Site & Enterprise Feasibility Report</i>
Week 3: Gross Margin Budgeting & Financial Setup	Execute Stage 2 & 10: Model detailed crop-specific input budgets, calculate enterprise break-even yields/prices, establish cash flow controls, and project gross margins. Lima Smart Support Vehicle: <i>Lima Smart Gross Margin Analysis & Enterprise Viability Calculator</i>
Week 4: Operational Systems & SOP Engineering	Execute Stages 5 & 6: Formulate customized Standard Operating Procedures (SOPs) for daily tasks, assign farm management roles, set up inventory/cash ledgers, and establish digital tracking toolkits. Lima Smart Support Vehicle: <i>Farm Management Systems, SOP Engineering & Farmer Intelligence Toolkits</i>

Pathway B: Ongoing Farms - Revamp & Turnaround Outline

Designed for active commercial farms facing low yields, high input costs, labor inefficiencies, or operational leaks requiring a 30-day commercial restructuring.

Phase & Timeline	Operational Overhaul Milestones & Expert Support Vehicle
Week 1: Diagnostic Audit & Leak Detection	Execute 100-Point Audit: Comprehensive farm site audit, financial logbook reconciliation, input waste analysis, and worker productivity evaluation. Lima Smart Support Vehicle: <i>Lima Smart 100-Point Farm Enterprise Diagnostic</i>
Week 2: Infrastructure & System Calibration	Audit & Repair: Unclog drip emitters, recalibrate fertigation injectors, restore greenhouse netting, and test soil pH/EC for nutrient locks. Lima Smart Support Vehicle: <i>Lima Smart Irrigation Maintenance & Technical Audit</i>
Week 3: Labor Retraining & SOP Enforcement	Restructure Operations: Enforce strict crop protection protocols, institute daily stock registers, retrain farm managers, and set clear task benchmarks. Agritude Academy Support Vehicle: <i>Agritude Academy Customized Staff Refresher Training</i>
Week 4: Crop Correction & Market Realignment	Execute Remedial Care: Deploy corrective crop nutrition, implement IPM pest spray protocols, standardize grading/packing, and align off-take buyers. Lima Smart Support Vehicle: <i>Lima Smart Diagnostic Agro-Care & Verified Off-Take Linkages</i>

Horti Grid & Agritude Academy: Company & Service Catalog at a Glance

Horti Grid Limited is a premier agribusiness intelligence, capacity building, and enterprise support platform based in Kenya. Moving away from direct biological production risk, Horti Grid monetizes agricultural knowledge, operational management systems, and value-chain networks through six interconnected business engines:

Business Engine	Operating Division	Core Solutions & Client Deliverables
Enterprise Advisory & Feasibility	Horti Grid Advisory Core	100-Point Farm Enterprise Diagnostics Feasibility Reports 5-Tier Investment Decisions
Agronomic Support & Extension	Lima Smart Agro-Care	Site Visits Soil Diagnostics Crop Establishment Protocols Milestone Agro-Care Protocols
Infrastructure	Horti Grid Infrastructure	Turnkey Drip/Fertigation Engineering Water supply and irrigation Solar Pumps Greenhouse Construction
Institutional Capacity	Agritude Academy	Agritude 6-Week Farm Management Mastery Custom Corporate & Workforce Workshops
Workforce Placement	Agritude Academy	Competency Testing & Placement of Farm Workers Supervisors & Irrigation Technicians
Intelligence & Value Chain	Farmer Intelligence Platform	Digital Record Toolkits Verified Partner Network Off-Taker Linkages Farm Ready Certification

Published Lima Smart Agro-Care Service Catalog & Price Schedule

Service Offering	Scope & Deliverables	Official Pricing (KES)
Preliminary Site Visit	On-farm site audit, topography mapping, soil sample collection	KES ***** per visit
Feasibility & Viability Report	Risk analysis, soil test interpretation, enterprise recommendations	KES ***** per report
Crop Gross Margin Analysis	Itemized variable cost breakdown, break-even yield calculation	KES ***** per crop
Crop Establishment Protocol	Land prep, spacing calibration, basal fertilizer & planting guidelines	KES ***** per crop
Crop Management Protocol	Milestone spray roadmap, fertigation schedule & IPM guidelines	KES ***** per crop
Extension Agro-Care Visit	On-site diagnostic inspection, pest/disease audit & corrective action	KES ***** per visit

📞 READY TO BUILD A DE-RISKED AGRIBUSINESS ENTERPRISE?
Contact Horti Grid Limited - Lima Smart Agro-Care Division / Agritude Academy

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