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UNLOCKING GROWTH

SEASON 04

From Import Deficit to Agricultural Growth

PAKISTAN'S GARLIC FARMING OPPORTUNITY

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01
INTRODUCING THE OPPORTUNITY

The global market, the domestic deficit, and the price floor that makes local production competitive

THE GLOBAL GARLIC MARKET

Garlic is one of the most structurally embedded food ingredients in the world — a base ingredient in daily cooking across Asia, the Middle East, Europe and the Americas, not a luxury or a seasonal flavouring. Global production stands at approximately 31 million tonnes annually.

METRIC	FIGURE
Global garlic export trade value (2024, HS 070320)	**$4.4 billion**
Global value CAGR (2024–2035)	**+2.8% per year**
Projected total global market value (incl. domestic markets) by 2035	**$46.6 billion**
China's share of global garlic exports	**72% ($3.2B, 2024)**
Pakistan's garlic import bill (2024)	**$52M (PKR 14.5B)**
Production vs. consumption gap	**~47,000 tonnes / year**

CHINA'S EXPORT SHARE

72%

$3.2 billion of a $4.4 billion trade. The top five exporters hold 91.5%.

MARKET BY 2035

$46.6B

Compounding at +2.8% a year from a $4.4 billion 2024 base.

Source: UN Comtrade via worldstopexports.com (2024 export figures) · IndexBox Pakistan Garlic Market Report 2026 · FPCCI January 2026 bulletin

THE PAKISTAN DEFICIT

ANNUAL CONSUMPTION

162,747 t

FY 2024–25

DOMESTIC PRODUCTION

116,166 t

Two-thirds of demand

ANNUAL IMPORT GAP

~47,000 t

Almost entirely from China

METRIC	FIGURE
Import bill (2024, China)	**$52M / PKR 14.5B**
Average import price (2024)	**$1,004 / tonne (+17% YoY)**
Landed cost of Chinese garlic	**PKR 280–300 / kg**
Retail price, Islamabad / Lahore	**PKR 371–519 / kg**
Wholesale benchmark (March 2025)	**PKR 542 / 100 kg**

THE PRICE FLOOR

Any Pakistani farmer who can produce below PKR 280–300 per kilogram is structurally competitive.

That import cost — after customs, freight and handling — is the number local production has to beat. It has already been beaten.

Source: Government of Pakistan market bulletin (January 2026) · FPCCI convener statement January 2026 · Tridge wholesale data March 2025 · IndexBox Pakistan Garlic Market Report 2026

THE VALUE OF SOLVING THE GAP

This is not a speculative opportunity. The demand exists, the buyer exists, and the cost of imports is becoming harder to ignore.

> FPCCI's convener stated in January 2026 that garlic cultivation in Sahiwal division alone could eliminate Pakistan's entire garlic import bill. The question is not whether the market exists — it is who captures it.

PRODUCTION GROWTH, 2019–2023

+54%

2019
75,342 t

2024-25
116,166 t

Yet the import gap persists, because consumption is growing faster. **The opportunity is not shrinking. It is widening.**

02
THE LOCAL PICTURE

Fifteen districts, four provinces, and a yield gap that is agronomic rather than climatic

PAKISTAN TODAY

Garlic is already grown across Pakistan. This is not a new crop introduction — it is an expansion and optimisation of an existing system. At least 15 districts across four provinces cultivate garlic commercially.

REGION	SHARE OF NATIONAL PRODUCTION	NOTE
KPK	~41%	Highest yield per hectare (~11 t/ha); best agronomic outcomes
Punjab	~40%	Largest cultivated area; major wholesale mandi access
Sindh	~15%	Lower yields (4.8 t/ha); earlier planting window
Balochistan	~4%	Smaller contribution; arid climate limits expansion
Gilgit-Baltistan	Not in national statistics	Growing; hardneck variety; strategic off-season timing advantage

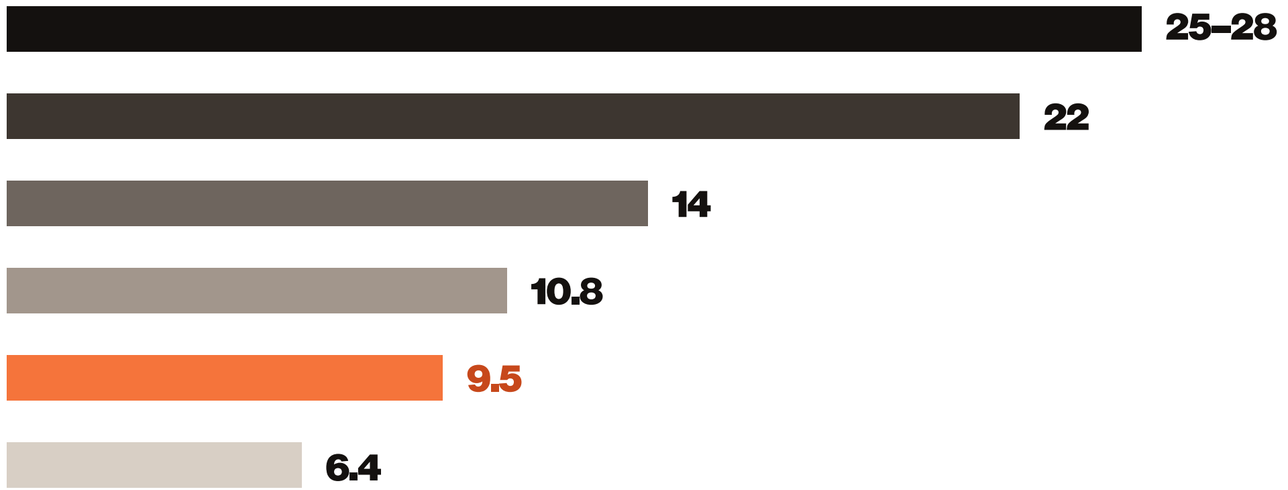
Source: PHDEC Product Report on Garlic · Pakistan Bureau of Statistics

THE YIELD GAP

Pakistan's national average garlic yield is 9.5 tonnes per hectare. This is not a climate or geographic limitation — it is an agronomic one. The gap relative to comparable markets is large and closeable.

MANAGED FARMS, PAKISTAN

19–20 t/ha



COUNTRY	YIELD · TONNES PER HECTARE	CONTEXT
China	25–28	Global benchmark; mechanised, high-input farming
Egypt	22	Major exporter; comparable climate to Pakistan's plains
Spain	14	Premium hardneck producer; export-oriented
India	10.8	Comparable smallholder structure to Pakistan
Pakistan	9.5	National average. KPK already achieves 11 t/ha; managed farms 19–20 t/ha
Bangladesh	6.4	Below Pakistan; comparable smallholder constraints

Source: PHDEC Product Report on Garlic (citing FAO data) · Dawn.com agronomic analysis · ResearchGate garlic yield comparison studies

WHY DOES PAKISTAN'S YIELD LAG?

Four documented agronomic causes — none of them structural or climate-related.

01

Diseased and low-quality seed cloves

80–85% of seed is produced by farmers and small traders without scientific upgrading. Virus-infected cloves reduce yield by 30–50%.

02

Wrong planting time

The optimal window is the first two weeks of October. Late planting permanently limits bulb size potential — garlic forms its yield ceiling early in the growth cycle.

03

Poor soil preparation

Pakistani agricultural soils have low organic matter. The recommended FYM application is 20–25 tonnes per acre before planting — most smallholders apply far less or none.

04

Inadequate spacing, weeding and irrigation discipline

Garlic requires 3–5 manual hoeing cycles and precise irrigation timing. Most smallholders do not follow this schedule.

None of these causes are permanent. They are all correctable with knowledge and basic inputs. That is what makes the yield gap an opportunity, not a constraint.

03

WHAT IS CHANGING? WHY NOW?

The gap has existed for decades. Five forces converged in 2022–2025 to make it materially more actionable

FIVE FORCES UNLOCKING THIS MARKET NOW

01 Rupee depreciation has permanently repriced the import advantage

The rupee fell from PKR 110 in 2018 to a peak of PKR 307 in 2023, and has since stabilised at PKR ~278 today. Imported Chinese garlic that cost the equivalent of PKR 100–110 per kilogram in 2018 now lands at PKR 280–300. The local farmer's zameen, labour and production infrastructure have not tripled in cost.

LANDED COST, CHINESE GARLIC

PKR 110 → 280–300 /kg

2018 → 2026

02 The import bill is politically visible

$52 million leaving Pakistan annually for a single ingredient the country can grow is a visible and uncomfortable figure. FPCCI's convener stated in January 2026 that garlic cultivation in Sahiwal division alone could save the entire import bill. PHDEC has listed garlic post-harvest management as an active government workstream.

ANNUAL IMPORT BILL

$52M

PKR 14.5 billion, 2024

03 Wheat uncertainty is pushing farmers toward alternatives

Garlic is a Rabi crop — planted October–November, harvested April–May — the same calendar slot as wheat. A farmer switching does not need to restructure their farming system. The difference: wheat depends on government procurement certainty that has become unreliable; garlic sells into a private market that is structurally undersupplied.

CALENDAR SLOT

Oct–Nov → Apr–May

Identical to wheat; switch cost near zero

Source: State Bank of Pakistan exchange rate data · FPCCI convener statement January 2026 · PHDEC workstreams · Dawn agricultural reporting 2024–25

TIMING AND RISK HAVE BOTH MOVED

04 OFF-SEASON WINDOW

Gilgit-Baltistan's off-season timing advantage

GB's mountain valleys (1,200–3,000 metres) produce garlic that gets ready in June–July — when the rest of Pakistan's supply is exhausted. Punjab, KPK and Sindh all harvest in April–May, flooding the mandi simultaneously. By June that fresh supply is gone.

FARM-GATE PREMIUM

2–3×

VERNALIZATION

4–6 wks

GB's cold winters naturally provide the vernalization hardneck garlic requires (below 4°C). Punjab barely achieves this. Sindh does not.

05 RISK RE-PRICED

The 2022 floods demonstrated the cost of crop monoculture

The floods inundated 4 million hectares, destroying 40% of the cotton crop and 15% of the rice crop. Every major affected crop was Kharif — grown during the flood-exposed monsoon. Garlic is Rabi, harvested before monsoon arrives.

COTTON LOST

40%

RICE LOST

15%

LAND FLOODED

4M ha

Source: Tridge price data · Pakistan Meteorological Department GB climate data · FAO Pakistan 2022 flood damage assessment

WHAT CHANGED, AND WHAT CONFIRMS IT

CATALYST	WHAT CHANGED	VERIFIED SOURCE
Rupee depreciation	Import cost tripled; local competitiveness doubled	State Bank of Pakistan exchange rate data
Import bill visibility	FPCCI + PHDEC formally engaged; political urgency	FPCCI bulletin January 2026; PHDEC workstreams
Wheat uncertainty	Same calendar slot; private market more reliable than government procurement	Dawn agricultural reporting 2024–25
GB timing advantage	June–July harvest into empty mandi; 2–3x price premium	Tridge price data; field knowledge
2022 flood aftermath	Kharif crop risk re-evaluated; Rabi diversification accelerated	FAO Pakistan flood damage report 2022

Source: State Bank of Pakistan · FPCCI convener statement January 2026 · Dawn.com · Tridge wholesale pricing data · FAO Pakistan 2022 flood assessment

04

THE REAL BARRIERS

Not a demand problem — a supply-side problem with three specific, documented constraints

THREE STRUCTURAL CONSTRAINTS — AND HOW EACH CAN BE SOLVED

BARRIER 01

Simultaneous harvest flooding the mandi

Punjab, KPK, Sindh and Balochistan all harvest in April–May. The supply glut depresses farm-gate prices to their annual low. Farmers sell immediately because they have nowhere to store the crop — capturing the worst possible price.

SOLUTION · STORAGE AND TIMING

Hold cured inventory 60–90 days and sell in July–August at PKR 280–500/kg instead of PKR 150–200/kg at harvest. No additional production required.

BARRIER 02

No post-harvest infrastructure

Garlic requires proper curing — drying in shade with airflow — before storage. Without it, bulbs lose moisture rapidly, weight drops, quality deteriorates and shelf life collapses. Most smallholders lack ventilated storage, grading equipment or cold storage access.

SOLUTION · BASIC VENTILATED STORAGE

Mud/brick construction at PKR 30,000–80,000 per 0.5 acre extends shelf life by 3–4 months. Modest relative to the price arbitrage it unlocks.

BARRIER 03

Seed quality and agronomic knowledge gap

80–85% of garlic seed is produced by farmers and traders without scientific upgrading. Virus-infected cloves reduce yield by 30–50%. Wrong timing permanently caps bulb size; poor soil preparation restricts bulb expansion.

SOLUTION · LOCAL DESI HARDNECK SEED

Source cloves from within the same valley or district. From Year 2, use your own harvest — garlic self-propagates, permanently eliminating 65–70% of Year 1 seed cost.

VARIETY WARNING

NARC G-1 DO NOT USE

The NARC G-1 high-yield variety was promoted 2019–2022 and saw seed prices speculate from PKR 500/kg to PKR 18,000/kg before collapsing to PKR 200/kg in October 2023. Consumer rejection on taste and size is confirmed by field intelligence.

> The opportunity in Pakistan — and specifically in Gilgit-Baltistan — is anchored in the local desi hardneck variety.

SEED PRICE, 2019 START	PKR 500
SPECULATIVE PEAK	PKR 18,000
OCTOBER 2023 COLLAPSE	PKR 200

Source: ProPakistani.pk — G-1 garlic bubble burst October 2023 · ResearchGate garlic production practices Pakistan · KisanLink agronomic guidance

05
BUSINESS MODEL & ECONOMICS

CapEx, OpEx and unit economics across three entry tiers — from one acre to a branded operator

THREE ENTRY TIERS

The garlic opportunity works across three different entry points, each with a different capital requirement, risk profile and operational model.

TIER 1

SMALLHOLDER FARMER

1–5 acres. An existing farmer adding garlic to the Rabi slot already occupied by wheat. Land, irrigation, tools and family labour are in place.

YEAR 1 CAPEX, PER ACRE

PKR 77K–205K

TIER 2

AGGREGATOR / TRADER

Working capital, no land required. Buy from 30–100 smallholders at harvest, cure and store, sell in July–September. No farming risk.

TOTAL ENTRY

PKR 1.24M–3.13M

TIER 3

COMMERCIAL / BRANDED OPERATOR

25+ acres or a processor. Grade, cure, brand and distribute to urban grocery chains, restaurant groups and institutional buyers currently sourcing Chinese garlic.

TOTAL ENTRY

PKR 5.65M–14.4M

TIER 1 — CAPEX, YEAR 1, PER ACRE

ITEM	PKR RANGE
Land preparation (manual tillage, terraced or flat)	**8,000–20,000**
Seed — local desi hardneck cloves (Year 1 only)	**24,000–60,000**
Basic tools (hoes, spades — most farmers already own)	**5,000–15,000**
Irrigation channel improvements (gravity-fed systems)	**10,000–30,000**
Basic ventilated curing / storage shed (mud/brick)	**30,000–80,000**
TOTAL YEAR 1 CAPEX, PER ACRE	**PKR 77,000–205,000**

FROM YEAR 2

–65–70%

Seed cost drops out entirely. Garlic self-propagates from its own cloves, permanently reducing total CapEx.

TIER 1 — OPEX, PER SEASON, PER ACRE

ITEM	YEAR 1 (PKR)	YEAR 2+ (PKR)
Seed (self-sourced from Year 2 onward)	**24,000–60,000**	**0**
Fertiliser — DAP, Urea, Potash	**25,000–40,000**	**25,000–40,000**
Irrigation	**8,000–15,000**	**8,000–15,000**
Labour (planting, 3–5 hoeing cycles, harvest)	**15,000–25,000**	**15,000–25,000**
Pesticide / fungicide (preventive)	**8,000–15,000**	**8,000–15,000**
Transport to market	**10,000–20,000**	**10,000–20,000**
TOTAL OPEX, PER ACRE	**90,000–175,000**	**66,000–115,000**

DAP prices in Punjab have exceeded PKR 12,000–12,800 per bag since 2023. Fertiliser cost volatility should be factored into planning.

Source: Pakistan fertiliser market pricing 2024

UNIT ECONOMICS — PER ACRE, YEAR 2+

SCENARIO	YIELD	PRICE	REVENUE	OPEX	NET PROFIT
Conservative immediate April–May sale	2,800 kg	PKR 150/kg	PKR 420,000	PKR 115,000	**305,000**
Improved stored to Jul–Aug, off-peak	2,800 kg	PKR 350/kg	PKR 980,000	PKR 115,000	**865,000**
Optimistic managed high-input, stored	4,000 kg	PKR 250–500/kg	PKR 1,000,000+	PKR 66,000	**934,000+**

THE HIGHEST-LEVERAGE INTERVENTION

Not better seed or more fertiliser — curing and storing the harvest instead of selling immediately in April–May.

The price difference between April (PKR 150/kg) and August (PKR 350–500/kg) is the business model in a single sentence.

APRIL HARVEST

150

PKR per kg

AUG OFF-PEAK

350–500

PKR per kg



Source: Tridge wholesale price data 2024–2025 · IndexBox import price data · Selinawamucii.com retail pricing benchmarks

TIER 2 — AGGREGATOR / TRADER

Working capital, no land required. The aggregator buys garlic from 30–100 smallholder farmers at harvest (April–May farm gate: PKR 150–200/kg), cures and stores in a ventilated facility, then sells to wholesale mandis or urban buyers in July–September (PKR 350–500/kg). No farming risk. The arbitrage is two to three times.

ITEM	PKR RANGE
Working capital for garlic purchases at harvest	**1,000,000–2,500,000**
Ventilated storage facility (rented or built)	**150,000–400,000**
Grading table and weighing equipment	**40,000–80,000**
Transport and logistics	**50,000–150,000**
TOTAL TIER 2 ENTRY	**PKR 1.24M–3.13M**

ARBITRAGE

2–3×

Buy at PKR 150–200/kg in April–May. Sell at PKR 350–500/kg in July–September.

SUPPLY BASE

30–100

Smallholder farmers across one district. Pre-season purchase price agreed before harvest.

TIER 3 — COMMERCIAL / BRANDED OPERATOR

25+ acres or a processor. The branded operator targets the gap between commodity farm gate and urban premium retail — grading, curing, branding and distributing to urban grocery chains, restaurant groups and institutional buyers who currently source Chinese garlic and would switch to domestic if consistent quality and supply were guaranteed.

ITEM	PKR RANGE
Land lease (25+ acres, seasonal)	**750,000–2,000,000**
Seed at commercial scale	**600,000–1,500,000**
Cold storage unit (10–20 tonne capacity)	**1,500,000–4,000,000**
Grading and packing line	**500,000–1,200,000**
Branding, packaging, certification	**300,000–700,000**
Working capital	**2,000,000–5,000,000**
TOTAL TIER 3 ENTRY	**PKR 5.65M–14.4M**

THE SPREAD BEING CAPTURED

COMMODITY FARM GATE

PKR 150

URBAN PREMIUM RETAIL

PKR 371–519

Per kilogram. The route in is Tier 2 first — build supplier relationships and quality reputation, then invest in cold storage, branded packaging and direct urban buyer relationships.

◐ Source: Pakistan agricultural land lease market rates (Punjab/KPK) · SMEDA pre-feasibility studies (food processing proxies) · Pakistan cold storage construction cost estimates 2024

06
LOCAL SIGNALS

No single large-scale documented garlic success story from Pakistan yet — but the components of the model have been proven individually

ACCELERATE PROSPERITY PORTFOLIO BUSINESS · YASIN GARLIC PRIVATE LIMITED

SUCCESS STORY: ADINA ALI — YASIN VALLEY, GB

> **"Don't look for shortcuts. Start small — the rest of the path opens on its own."**
>
> — Adina Ali, Founder & CEO, Yasin Garlic Private Limited

THE JOURNEY: 7 KG → 8,000 KG

In 2019, Adina Ali planted just 7 kg of desi garlic — sourced from households that had been growing garlic for personal use in Yasin Valley for generations. NARC G-1 (sourced from Punjab) was also planted. G-1 failed. The desi variety worked.

Then he kept part of his first harvest as seed for the following year. And the next. And the next.

YEAR	SEED / SCALE	OUTPUT	NOTES
2019	**7 kg seed cloves**	**Trial plot**	Sourced from valley households growing for personal use
2021	**7 kg seed**	**~25–30 kg**	Local desi hardneck succeeded; NARC G-1 trial failed
2022	**25–30 kg seed**	**~100–120 kg**	Own harvest used as next-season seed — zero external input
2023	**~120 kg seed**	**~700 kg**	Consistent annual scale-up using self-propagated seed
2024	**15 Kanal (~1.9**	**~3,000 kg**	First commercial sale at GB market price premium
2025	**70 Kanal (~8.8 ac)**	**~4,000 kg + PKR 12–13 lakh net**	Net profit: PKR 12–13 lakh
2026	**34 Kanal (~4.3 ac)**	**~8,000 kg**	Expanding on confirmed demand from Gilgit buyers

PKR 12–13 Lakh

NET PROFIT, SINGLE SEASON, 2025

PROFILE

NAME	Adina Ali
COMPANY	Yasin Garlic Private Limited
PORTFOLIO	Accelerate Prosperity Portfolio Business
LOCATION	Yasin Valley, Gilgit-Baltistan
STARTED	2019, with 7 kg of local desi seed
VARIETY	Local desi hardneck (NARC G-1 tried and failed)
SEED COST Y2+	Zero — self-propagated from own harvest
BUYERS	Health-conscious consumers; Gilgit bureaucrats
ADVANTAGE	GB off-season timing = 2–3× plains price premium

> **"Start small. No shortcuts. Build your market knowledge before you scale."**
>
> — Adina Ali, Yasin Valley

THE GB ADVANTAGE — IN HIS OWN WORDS

Adina clearly identified three structural advantages:

Seasonal timing

Punjab harvests April–May. GB harvests in October. By the time the rest of Pakistan's supply runs out, Yasin's garlic enters the market — and sells at a premium.

The need for local seed

Bring in any outside seed and germination will not be 100%. The local hardneck variety understands GB's climate.

Premium product

Mountain water, organic farming, and flavour — Gilgit's bureaucrats and health-conscious buyers specifically preferred Adina's garlic.

LESSON FOR ENTREPRENEURS

Adina's advice is straightforward: Zero external investment in seed. In the first year, collect 7 kg of desi garlic from households around you. Seed cost = zero. Then multiply it yourself. Double your own seed each year until you reach scale.

Garlic is not a hybrid. It regrows from its own cloves. The seed problem is solved — you just need patience.

BOTTOM LINE

In 7 years, Adina turned 7 kg of seed into a 4-acre enterprise — with no external investor, no government support. Just local seed, right timing, and consistency.

SECTION 06 · LOCAL SIGNALS

Garlic has a stronger foundation than floriculture had in 2017.

National demand already exists

The price premium is built into the harvest calendar

The crop improves soil health rather than exhausting it

The seed regenerates itself every year, making Year 2 dramatically cheaper than Year 1

07
WHO SHOULD ENTER?

Four profiles, the entry point that fits each, and the three positions to avoid

WHO SHOULD ENTER — LAND-BASED PROFILES

PROFILE	WHY THIS FITS	BEST ENTRY POINT
Existing wheat or potato farmer 1–5 acres	Land, irrigation, tools and family labour already in place. Garlic's Rabi calendar matches wheat exactly — switch cost is near zero. The private garlic market is more reliable than government wheat procurement.	Dedicate 1 acre to garlic in the first season. Source local desi seed from within the district. Build basic ventilated storage. Find a buyer relationship before planting.
GB potato farmer the standout entrant	GB has 9,000+ hectares under potato cultivation (128,000 tonnes annually). Garlic is the agronomically ideal rotation partner: same land, different calendar slot, light feeder after heavy feeder, pest suppression effect. GB off-season timing means harvest into an empty mandi at 2–3x April–May prices.	Add garlic on an alternate plot during the winter slot (Oct–Jun). Source desi hardneck from valley households already growing for personal use. Sell locally to hotels and restaurants serving GB's 1M+ annual tourists, or freight to Rawalpindi at PKR 200–300/box.

WHO SHOULD ENTER — CAPITAL-BASED PROFILES

PROFILE	WHY THIS FITS	BEST ENTRY POINT
Young entrepreneur with working capital	The aggregator model requires no land. Build buying relationships with 30–100 smallholders across a district. Buy at harvest (PKR 150–200/kg), store correctly, sell in July–September (PKR 350–500/kg). 2–3x arbitrage on PKR 1–3M working capital. Zero farming risk.	Identify 10–15 farmers in one district. Agree a pre-season purchase price. Build or rent a ventilated storage facility. Establish a buyer relationship in an Islamabad/Lahore wholesale mandi or premium grocery chain before harvest.
Commercial / branded operator	Targets the gap between PKR 150/kg commodity farm gate and PKR 371–519/kg retail. Grade, cure, brand and sell to urban grocery chains, restaurant groups or institutional buyers currently sourcing Chinese garlic.	Start with the aggregation model (Tier 2). Build supplier relationships and quality reputation. Then invest in cold storage, branded packaging and direct buyer relationships with premium urban buyers. PKR 5–15M entry.

◐ Source: Field learning call (GB, 2024) · Government of GB agricultural statistics (potato production) · IFAD ETI-GB average landholding data

WHO SHOULD NOT ENTER

Anyone planning to use NARC G-1 as the primary variety

Consumer rejection in GB is confirmed; the speculative bubble has already burst nationally.

Anyone selling immediately at the April–May harvest without a storage plan

The economics only work if you can time your sale or access a counter-seasonal growing window.

Anyone in Sindh's flood-prone lowlands

Garlic's waterlogging intolerance makes it unsuitable for low-lying areas. The opportunity in Sindh is early planting to beat Punjab and KPK to market, not volume competition.

Source: Field learning call (GB, 2024) · ProPakistani.pk — G-1 bubble October 2023

08
CLIMATE RESILIENCE & SUSTAINABILITY

Most agricultural opportunities in Pakistan face a growing headwind. Garlic faces a tailwind

WHY GARLIC GETS MORE ATTRACTIVE, NOT LESS

CLIMATE FACTOR	GARLIC'S POSITION	COMPARISON
Flood exposure	Rabi crop — harvested before monsoon arrives. Not in the field during the flood season that destroyed 40% of cotton and 15% of rice in 2022.	Rice, cotton, sugarcane: all Kharif crops, fully exposed to the 2022 flood season
Water requirement	**350–550mm** per season — the lowest of any major vegetable crop	Rice: 1,000–1,500mm. Wheat: 450–650mm. Pakistan is facing accelerating water scarcity.
Soil health	Garlic root compounds suppress soil-borne pathogens and nematodes. Rotation with wheat or potato improves conditions for the next crop.	Continuous wheat-rice rotation: documented soil health degradation, salinity build-up, compaction
Chemical-free potential	Relatively low pest pressure vs. tomato, chilli or onion. GB's tradition of chemical-free glacier-water farming is already in place.	Premium markets (EU, Gulf, urban Pakistan) increasingly require organic or traceable credentials

> Pakistan is ranked among the most climate-vulnerable countries in the world despite contributing less than 1% of global carbon emissions. A crop that grows in winter, needs less water, improves soil, and commands a premium for its natural origin story is not just commercially attractive — it is directionally correct for Pakistan's agricultural future.

Source: FAO Pakistan 2022 flood damage assessment · ResearchGate garlic water requirements study · Peer-reviewed study on garlic as a climate-resilient crop for Pakistani smallholders, Khyber district (2026) · devpakblog.com

09
ALL SOURCES

Government, trade data, academic research, trade press, agronomy, and GB-specific field sources

GOVERNMENT, TRADE DATA & RESEARCH

GOVERNMENT & REGULATORY

Government of Pakistan Market Bulletin — January 2026 (FY 2024–25 production and consumption figures) · FPCCI Convener Statement — January 2026 (Sahiwal division import substitution claim) · PHDEC — Pakistan Horticulture Development & Export Company (post-harvest management workstream for garlic) · Pakistan Bureau of Statistics (PBS) · Ministry of National Food Security and Research (MINFAL)

INTERNATIONAL TRADE DATA

UN Comtrade via worldstopexports.com — global garlic export data 2024 (China $3.2B / 72.1% share; top 5 = 91.5% of trade) · Tridge — Pakistan Fresh Garlic production and wholesale price data 2019–2025 · IndexBox — Pakistan Garlic Market Report 2026 (import prices, per capita consumption series) · Selinawamucii.com — retail price benchmarks Pakistan 2024–2025

MARKET RESEARCH & ACADEMIC

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PHDEC Product Report on Garlic (phdec.gov.pk) · FAO — Pakistan 2022 flood damage assessment · FAO — Global garlic production statistics by country · ITC / TradeMap — Pakistan garlic trade data · Pakistan Meteorological Department — GB climate data

GB-SPECIFIC SOURCES

Government of Gilgit-Baltistan — Agricultural Statistics (potato: 9,116 hectares, 128,073 tonnes annual production) · Government of GB Tourism Statistics (1M+ annual visitors 2024) · Travellopedia Adventures — Yasin Valley road conditions · devpakblog.com (Usman Naeem, 2018) — GB chemical-free farming tradition · IFAD ETI-GB — average landholding data (0.6–0.8 acres) · Concave AGRI website — GB garlic field visit December 2023

> All figures are market-derived estimates based on published data, field intelligence, and industry benchmarks. Financial figures are indicative and should be validated through local learning calls, SMEDA pre-feasibility studies, and on-ground operator interviews before deployment.

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UNLOCKING GROWTH
SEASON 04

FROM INSPIRATION TO ACTION

47,000 TONNES OF DEMAND IS ALREADY HERE.

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