

GREEN SOLUTIONS GROUP



STATE OF KUWAIT

2026

Agricultural sovereignty through water
technology

ECOSORB® · ECOFERT® · NAPEMA® · PAULOWNIA



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Four chapters, one vision

Understanding Kuwait's agricultural constraint — then the technology that resolves it.

01 **The Kuwaiti Context** Geography, water, economy — and why productivity recovery matters more than land expansion.

02 **Key Sectors Under Pressure** Protected vegetables, dates, fodder and green belts: where the pressure is visible today.

03 **The Food Equation** Import dependency, water exposure and the strategic gap to close.

04 **Our Response** ECOSORB®, ECOFERT®, NAPEMA®, Paulownia — four levers for resilient local production.

Kuwait agriculture at a glance

Three numbers that define the challenge and the immediate opportunity.

≈95 %

food imported

high exposure to external supply chains

≈0.5 %

GDP from agriculture

small sector — strategic role

≈90 %

land not viable

Wafra, Abdali and Sulaibiya concentrate production

The Kuwait opportunity is not broad land expansion. It is precision recovery: holding water in the root zone, protecting crops from heat and salinity stress, and building export-grade, residue-free production under controlled environments.

Three agricultural zones — one water constraint

Kuwait's productive land is concentrated, fragmented and highly dependent on protected agriculture.

Al Wafra

Southern agricultural belt. Vegetables, dates, fodder and greenhouse crops under high heat and brackish-water pressure.

Al Sulaibiya

Central zone and strategic point for treated wastewater, nursery production and urban greening.

Al Abdali

Northern production zone. Mixed crops, livestock and greenhouse production — exposed to salinity and logistics distance.

Coastal & Urban

Food logistics, consumers and landscaping demand concentrate around Kuwait City and coastal infrastructure.

The bottleneck is not demand. It is the cost of creating a stable root-zone climate in hostile conditions.

The water crisis is the business case

No permanent natural water sources; agriculture relies on groundwater, desalination and treated wastewater.

Desalination

a national water backbone — too expensive to waste in inefficient irrigation.

Treated wastewater

strategic for irrigation, fodder and landscaping — quality must be managed.

Brackish groundwater

salinity is the silent tax on yield, soil structure and crop choice.

ECOSORB® turns each irrigation cycle into a longer root-zone reserve — precisely the lever Kuwait needs.



A wealthy economy with a narrow food base

Vision 2035 opens the door to private-sector-led, technology-backed food security.

<1 %

agriculture & fishing

of GDP — but high strategic value

Capital

Oil & state spending

Large fiscal capacity, but imported food remains an external exposure.

Policy

Vision 2035

Private sector, production efficiency and investment attractiveness are explicit priorities.

Security

Food security

Sustainable agriculture is a national development and SDG priority.

Protected vegetables — the immediate lever

Tomato, cucumber, pepper and leafy vegetables: the sector where technology can show results fastest.



Al Wafra and Abdali: Kuwait's controlled-environment production engine.

77 kt

tomato output

reported 2025 local production

47 kt

cucumber output

reported 2025 local production

The commercial case is clear: Kuwait already has greenhouse know-how. The missing link is lower water cost, stronger soil or substrate biology, and residue-free disease management that stabilizes yield over the full season.

ECOSORB® + ECOFERT® + NAPEMA® creates the compact technology stack for tomatoes, cucumbers, peppers and leafy vegetables.

Greenhouse economics — every litre is margin

In Kuwait, irrigation efficiency and cooling resilience are not environmental luxuries; they are operating costs.

- | | | |
|----|--------------------------|---|
| 01 | Water cost | Irrigation cycles, desalinated/TSE/brackish mix, salinity management. |
| 02 | Heat stress | Cooling load, flower abortion, fruit cracking and lower marketable yield. |
| 03 | Disease pressure | Humidity variation under protected systems increases fungal and bacterial risks. |
| 04 | Market volatility | High import dependence makes domestic quality premium — but only if supply is reliable. |

Kuwait does not need a generic agricultural supplier. It needs a root-zone technology partner.

Dates & palms — heritage under salinity pressure

The date palm is cultural infrastructure; its productivity depends on water quality and root-zone stability.

Heat

flower & fruit stress

May–September pressure window

Salt

root-zone toxicity

brackish irrigation and poor drainage

Water

yield insurance

longer reserve between irrigations

Soil

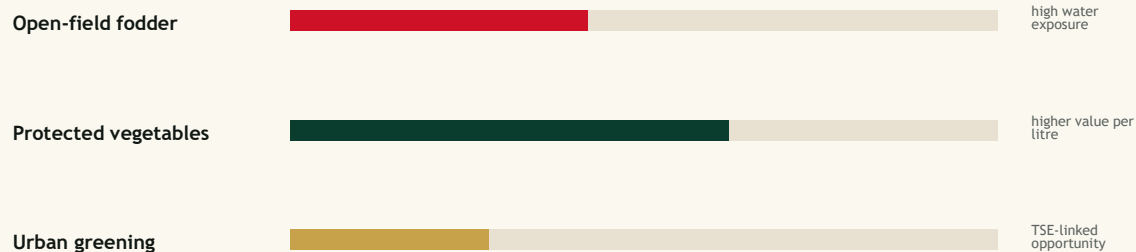
organic recovery

sandy soils need biological structure

For date palms, the issue is not only production volume. It is survival, fruit size, water cost and long-term soil health. ECOSORB® secures the water reserve. ECOFERT® rebuilds biological fertility. Together they convert a fragile orchard into a managed asset.

Fodder — the water-intensive livestock base

Alfalfa and fodder crops are strategic for livestock, but they are among the first victims of water scarcity.



Green Solutions response

- ECOSORB® at establishment
- ECOFERT® for sandy soil structure
- precision irrigation calendar
- reduced water stress per biomass cycle

The strategic choice is not to irrigate everything. It is to concentrate water on the crops and systems with the highest “dinar per drop”.

Food dependency — the strategic blind spot

Kuwait's purchasing power is strong; its supply-chain exposure remains structural.

≈95 %

food imported

external supply risk

0.5 %

agri GDP

strategic under-weight

2,880

farms

clustered in few zones

141 M m²

farm area

concentrated land base

The geopolitical exposure

Every disruption in global grain, vegetable, energy or shipping markets feeds directly into household prices and public import bills. Local agriculture will never replace imports entirely — but it can become a strategic buffer.

OPPORTUNITY

Yield potential per sector — the gap to close

What local production does today versus what it can do when water, soil and crop health are treated together.

Realistic productivity target on selected crops within five years — not through miracles, through root-zone management.



Current
Potential

x2

The unvarnished finding: no Kuwaiti production system can scale without lowering the cost of each productive litre of water.

ECOSORB®

ECOSORB® — water that stays where it belongs

The hydro-retentive polymer that stores water and releases it to roots on demand.

300×

own weight in water

released as soil dries

40–60 %

irrigation reduction

target range by crop and soil

3–5 yrs

active duration

single soil application

Root zone

climate insurance

against irrigation gaps

For Kuwait: ECOSORB® converts expensive irrigation into a longer useful reserve, reduces stress during heat peaks and stabilizes fruit size in protected vegetables and date orchards.

ECOFERT® — sandy soil regeneration

Turning inert substrate into living, productive ground under hyper-arid conditions.

Kuwait's productive zones share a critical limitation: sandy soils, low organic matter, salinity pressure and rapid nutrient leaching. Mineral fertilizers alone cannot correct a dead substrate. ECOFERT® works at the root cause: biological life, soil structure and nutrient retention.

The result is not cosmetic fertility — it is lower leaching, better water retention and stronger root performance under heat.

ECOFERT START

Seedling start-up & germination

ECOFERT GROW

Vegetative growth

ECOFERT BLOOM

Flowering & fruit-set

ECOFERT SOIL

Organic soil recovery

ECOFERT STRESS

Drought and heat resistance

NAPEMA® Natural protection for premium crops

Residue-free crop protection for high-value domestic supply and GCC-quality horticulture.

Kuwait's protected agriculture faces a familiar Gulf challenge: high humidity shifts inside greenhouses, fungal pressure, bacterial blights and residue limits demanded by premium buyers. NAPEMA® combines plant extracts and essential oils in a systemic formulation that stimulates the plant's own immune defenses.

Antifungal protection

Systemic coverage against common greenhouse fungal and bacterial pressure.

Residue-free positioning

Natural formulation aligned with premium buyer requirements.

Durable plant immunity

Protection continues beyond the application date through stimulated defenses.

Paulownia — windbreak, soil shield, carbon asset

A fast-growing tree for farm protection, urban greening corridors and selected desert-edge reforestation.

5–7 yrs

commercial timber

if managed with irrigation discipline

6–8 m

first-season growth

under appropriate establishment conditions

45 °C

heat tolerance

screened in arid deployments

Farm edge

wind & sand shield

protects high-value production

Kuwait does not need symbolic tree planting. It needs functional green belts around farms, roads, nurseries and urban corridors — windbreaks that reduce sand movement, protect greenhouses and create a future carbon/biomass asset.

The Kuwait partnership model

Three pillars — exclusive distribution, agronomic support, institutional positioning.

Exclusive Distribution

- Territorial exclusivity — State of Kuwait
- Launch stock for first commercial season
- Logistics via Shuwaikh / Shuaiba
- Premium margins on technical products

Agronomic Support

- Certified technical training
- Field advisory and crop-cycle monitoring
- Hotline for techno-commercial teams
- Seasonal protocol updates

Institutional Positioning

- Alignment with Kuwait Vision 2035
- Dialogue with PAAFR and food-security bodies
- Reference projects in Wafra and Abdali
- GCC donors, FAO, World Bank, IsDB positioning

GREEN SOLUTIONS GROUP



Kuwait has the capital, the infrastructure and the strategic need.

What it needs is the technology that transforms each litre of water into measurable production.

No impossible promises. No miraculous transformation. A realistic productivity recovery on protected vegetables, dates, fodder and green belts – with technologies already built for arid soils, water scarcity and export-grade crop health.

Green Solutions Group seeks a Kuwaiti partner of institutional standing to carry this technology transfer at scale. The window is open – it will not remain so indefinitely.

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Selected sources & working assumptions

The deck is designed as a commercial strategy document; figures should be refreshed before official submission.

World Bank WDI

Agriculture, forestry and fishing value added; GDP indicators for Kuwait.

FAO

Kuwait country profile; family-farming/agricultural constraints; arid-zone and soil/water limitations.

U.S. International Trade Administration

Kuwait agricultural areas: Wafra, Abdali, Sulaibiya; farms and protected agriculture reliance.

Kuwait Vision 2035 / MOFA

Private-sector-led development, investment attractiveness and production efficiency orientation.

UN SDG Kuwait commitments

Sustainable agriculture and food-security framing.

Kuwait press / market reports

Recent production signals for tomatoes and cucumbers; to be validated with official PAAFR statistics before final issue.