

KONCEPT INFRA STUDIOS HYDROPONICS

From MBS Genetics Success to
Your **10x Yield Revolution**



KONCEPT INFRA North India Turnkey
STUDIOS





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THE AGRI CRISIS

North India's Yield Killers

Water: 600mm rain avg → 68% deficit

Land: Urban sprawl eats 10% farmland/yr

Yields: 30–50% losses to pests/weather

₹2.5L Cr annual agri loss annually in India

Squeezed incomes due to rising irrigation and fertilizer costs

Volatile export/import policies have at times reduced agricultural exports





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ENTER HYDROPONICS

Soil Less

**Year-
Round**

: SOIL-FREE REVOLUTION REVOLUTION

**98% Less
Water**

**4-10x
Yield**

Proven in India—See Results Next





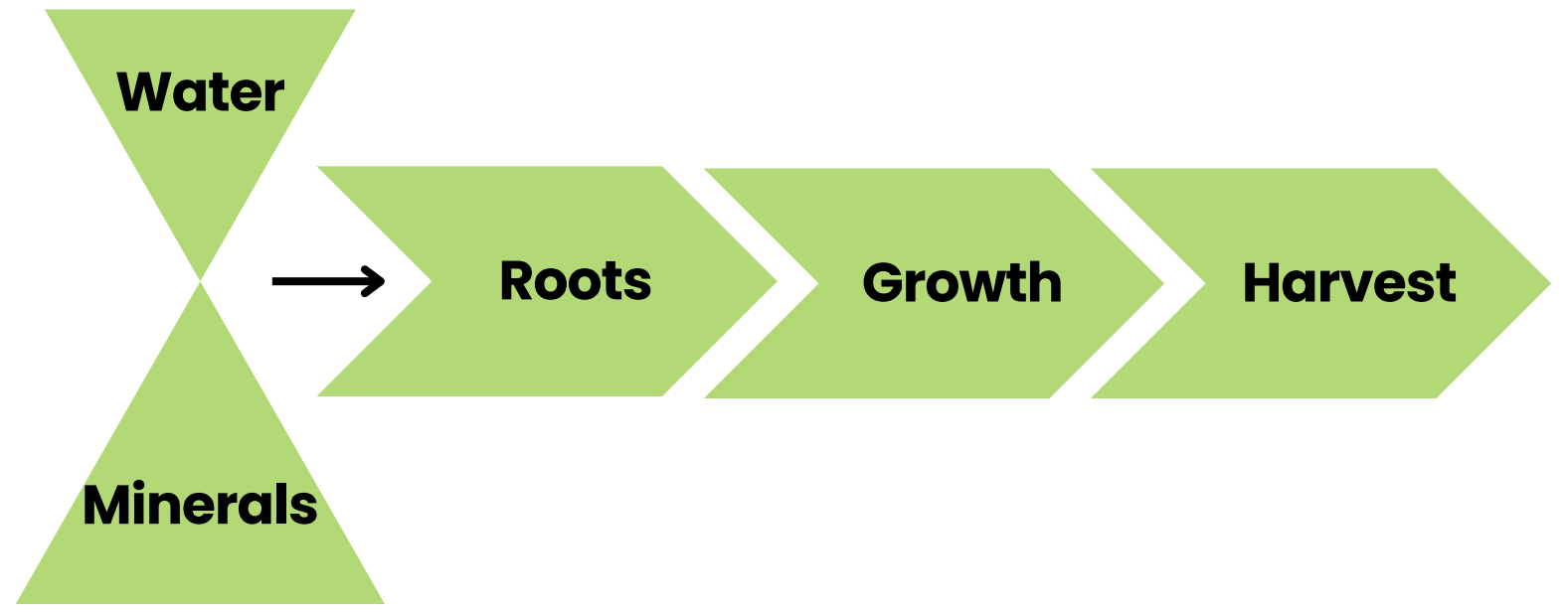
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WHAT IS HYDROPONICS?

Hydroponic farming grows plants in nutrient-rich water without soil, offering **90–98%** water savings, **4–10x** faster yields, and year-round production—ideal for North India’s water-scarce, urbanizing agri sector. India’s hydroponics market is exploding from **USD 1.33B in FY2024** to **USD 4.05B by FY2032** at **14.94% CAGR**, driven by demand for pesticide-free produce.

Core systems include **NFT** (low-water flow for herbs), **DWC** (high-oxygen for fast greens), and **vertical towers** (urban density). Benefits: **Year-round crops**, no soil diseases.

Nutrients Direct to Roots—No Soil Needed



90% Farmers report faster cycles



TYPES OF HYDROPONIC SYSTEMS

Each system serves a different crop, scale, and investment level.

- **Wick System**
- **Deep Water Culture**
- **Ebb & Flow**
- **Nutrient Film Technique**
- **Drip**
- **Aeroponics**

We understand the full spectrum, and we choose based on business logic.



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WICK SYSTEM -KEY COMPONENTS

The simplest entry-level. A wick system is the simplest, entirely passive hydroponic setup. It uses a capillary material, like a **cotton or nylon wick**, to draw nutrient solution from a reservoir directly into the plant's root zone. It requires no electricity or mechanical pumps, making it perfect for small, low-maintenance indoor gardens. hydroponic system.



Use case: Small home setups, learning farms, low-budget demos

Strength: Passive, low maintenance, easy to explain.

Limitation: Not ideal for large commercial production or thirsty crops.

Best For Herbs: Basil, cilantro, mint, and oregano.

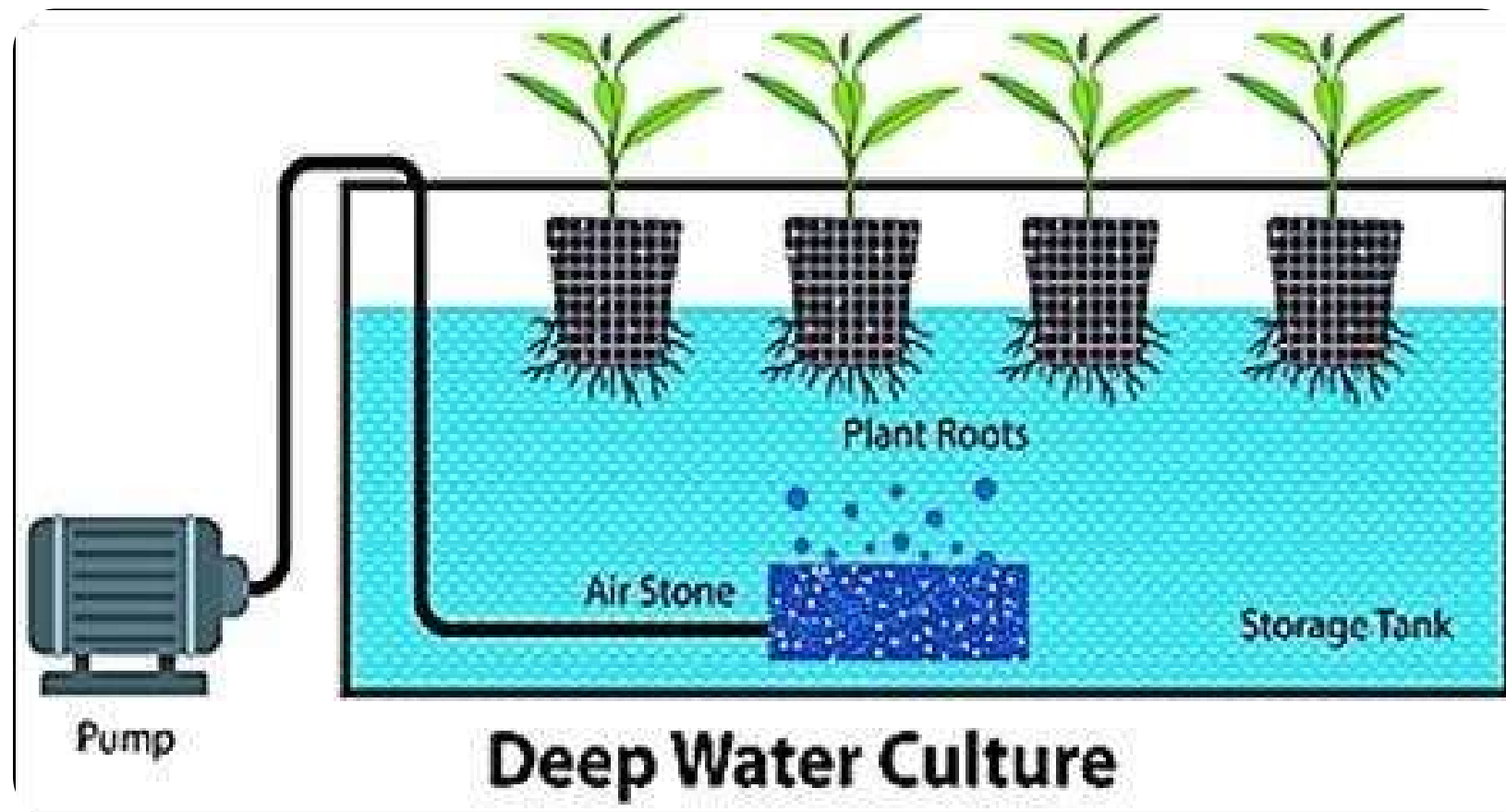


DEEP WATER CULTURE-KEY COMPONENTS



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Deep water culture (DWC) is a popular, beginner-friendly hydroponic method where plant roots are suspended directly in a continuously aerated, nutrient-rich water solution. This technique often uses net pots in floating rafts or container lids, allowing plants to grow faster due to constant access to water, nutrients, and oxygen, and is ideal for leafy greens and herbs.



Use case: Leafy greens, lettuce, beginner commercial farms.

Strength: Simple, low parts, popular, fast growth.

Limitation: Water quality and oxygenation must be managed well.

Fast Growth: The direct access to nutrients enables rapid growth.

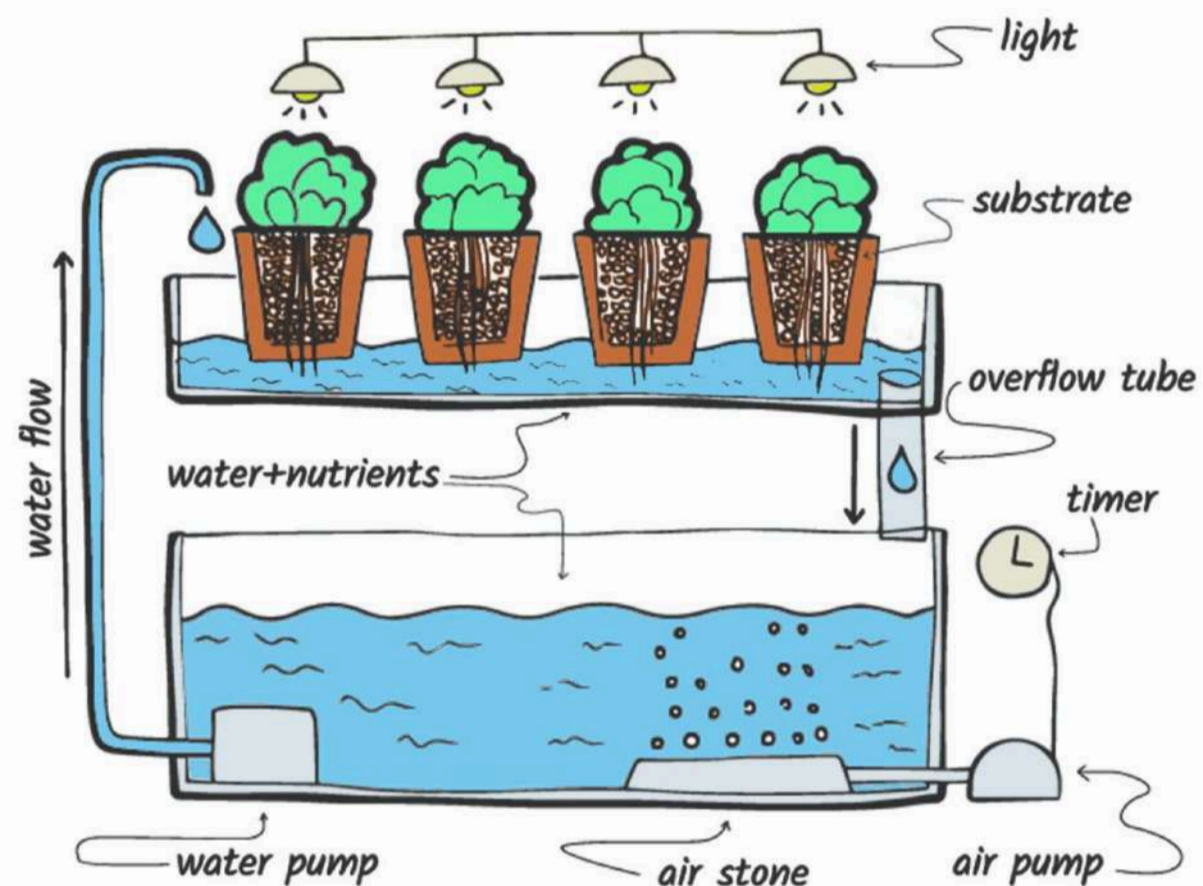




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EBB AND FLOW-KEY COMPONENTS

Ebb and flow (or "flood and drain") hydroponics is a reliable, simple system where plants are periodically flooded with nutrient solution, then allowed to drain back into a reservoir. This technique drives out stale air and forces fresh oxygen into the root zone, supporting high yields and healthy growth.



Use case: Flexible farms, mixed crops, educational or mid-scale projects.

Strength: Balanced, versatile, good for clients wanting a reliable middle-ground.

Limitation: Timer/pump dependence, more moving parts than wick or DWC.



NUTRIENT FILM TECHNIQUE-KEY COMPONENTS

An NFT (Nutrient Film Technique) system is a highly efficient, soil-free method where a shallow, continuous stream of oxygenated water flows over bare plant roots. It is the ideal, space-saving system for rapidly growing quick-turning crops like leafy greens and herbs in your home or commercial setup.

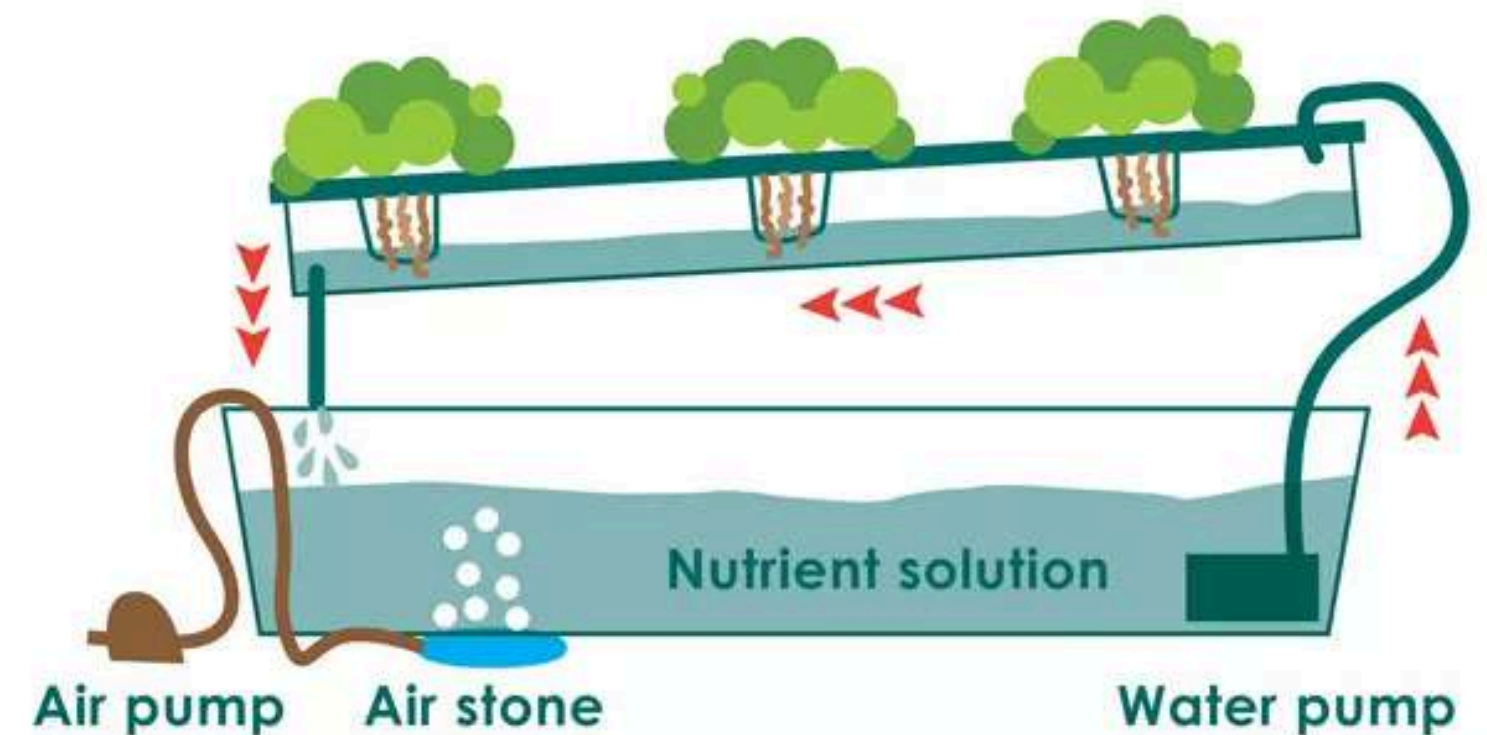
Use case: Herbs, leafy greens, strawberries, compact commercial farms.

Strength: Water-efficient, neat, scalable, strong for premium produce.

Limitation: Clogging and flow failure can damage the system quickly.



NUTRIENT FILM TECHNIQUE



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DRIP SYSTEM - KEY COMPONENTS



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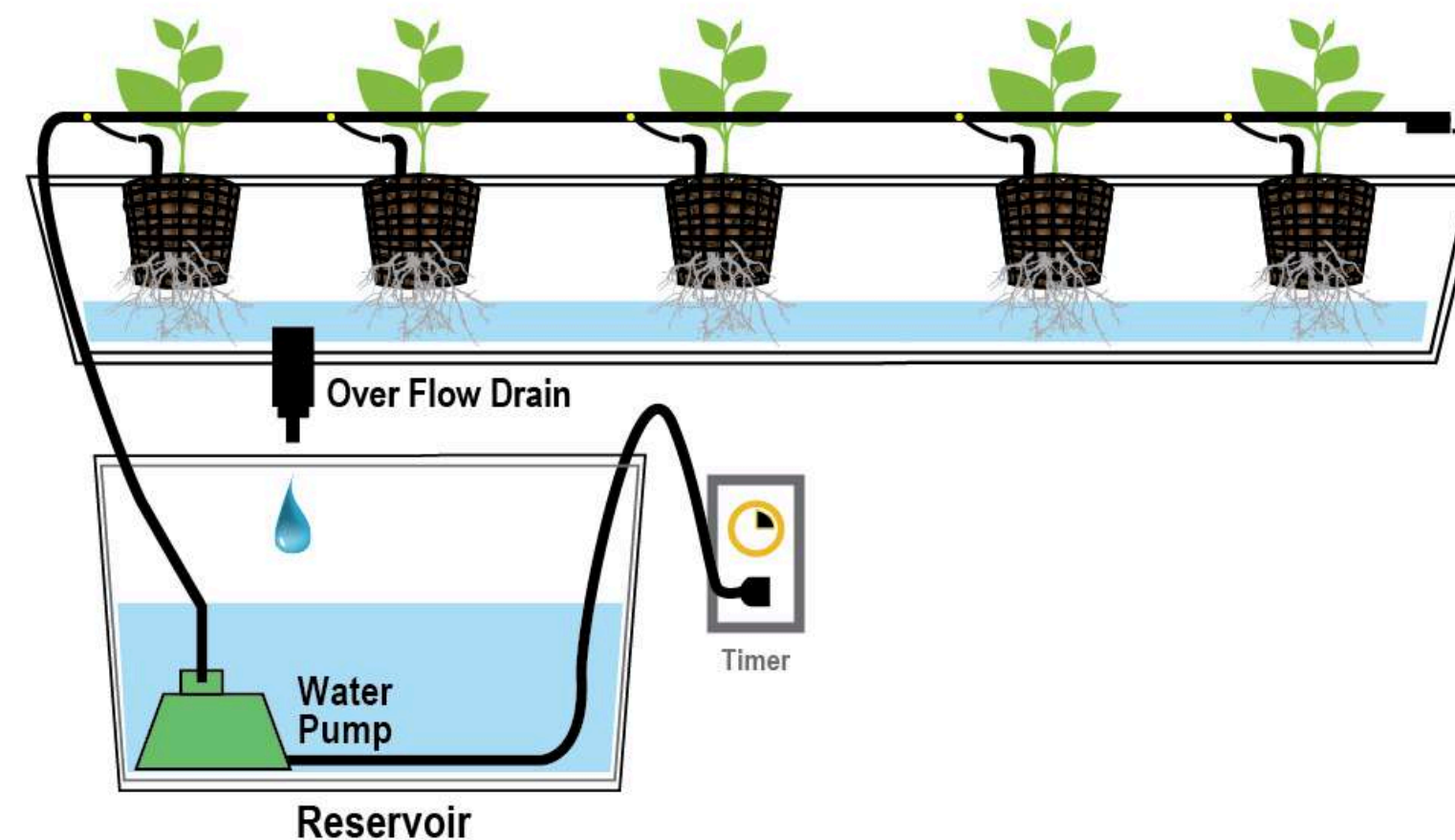
A hydroponic drip system is an active, water-efficient method that uses a pump to deliver nutrient solution directly to the base of each plant through small emitter lines. It is highly versatile, supporting both large-scale commercial operations and small indoor setups using growing media like coconut coir or clay pebbles.

Drip System

Use case: Tomatoes, cucumbers, peppers, fruiting crops.

Strength: Highly scalable, precise, commercial-friendly.

Limitation: Requires more equipment and tighter design discipline





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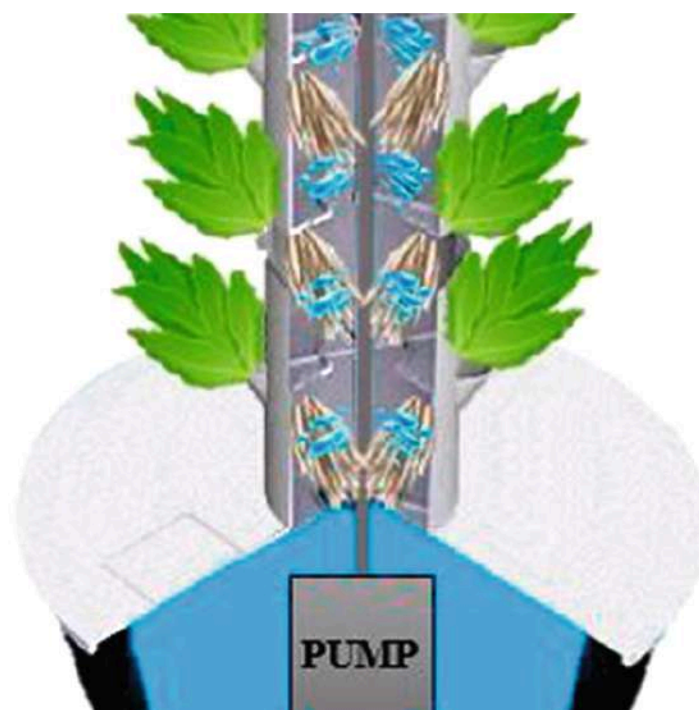
AEROPONICS -KEY COMPONENTS

Aeroponics is an advanced, soil-free subcategory of hydroponics. Instead of submerging roots in water or a solid medium, aeroponic systems suspend plant roots in the air and mist them intermittently with a nutrient-rich water solution, maximizing oxygen exposure for faster growth and higher yields.

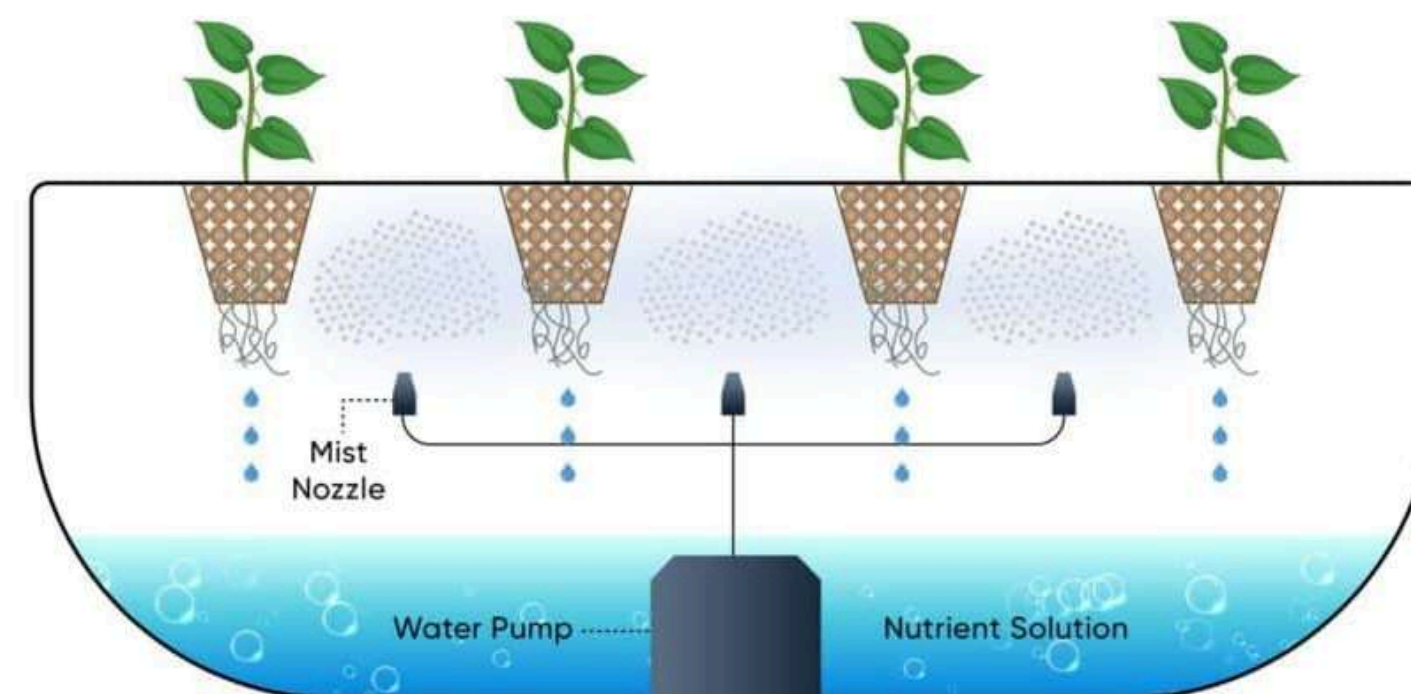
Use case: Premium showcase farms, high-tech clients, elite demo projects.

Strength: Very high oxygen exposure and strong efficiency potential.

Limitation: High complexity, high sensitivity, and higher capex.



Aeroponic System





THE COMPARISON MATRIX

Decision Factor	Wick	DWC	Ebb & Flow	NFT	Drip	Aeroponics
Working Style	Passive capillary movement through a wick	Roots sit in oxygenated nutrient water	Grow bed floods and drains on a timer.	Thin nutrient film flows over roots in channels.	Nutrients drip directly to each plant's root zone	Roots are suspended and misted with nutrient solution.
Best For	Small plants, beginners, very low-budget setups	Lettuce, leafy greens, simple commercial farms	Flexible mixed systems, educational or mid-scale farms.	Herbs, leafy greens, strawberries.	Tomatoes, cucumbers, peppers, fruiting crops.	Premium high-tech farms and maximum oxygen environments.
Strengths	Cheapest, simplest, no pumps	Easy to run, fast vegetative growth, popular	Balanced, versatile, many crop options.	Water-efficient, clean, scalable.	Precise feeding, highly scalable, commercial-friendly.	Very high oxygen exposure, efficient use of space.
Limitations	Weak for large plants and large-scale production	Needs strong oxygenation and water discipline	More moving parts, timer and pump dependence.	Clogging or pump failure can damage crops quickly.	More equipment and higher maintenance discipline.	Highest complexity and sensitivity to failure.
Ideal Client Type	Hobbyist or pilot client	Entry-level commercial grower	Client wanting a flexible mid-tier farm.	Client focused on premium leafy greens.	Serious fruiting-crop business.	Innovation-seeking premium investor.

Hydroponics is not one product; it is a family of systems. Our role is to choose the right architecture for the crop, client budget, operating skill, and return target.



THE MARKET IS EXPLODING

Demand is rising faster than trusted execution capacity.

USD 592.39M
in 2025



USD 2.66B by
2034



16.23% CAGR



Why demand is Rising ?

Food safety demand: consumers want pesticide-free produce.

Urban land scarcity: hydroponics works where land is limited.

Controlled output: consistent quality matters for retail and institutional buyers.

High-value crop shift: the industry is moving beyond leafy greens into cucumbers, peppers, strawberries, and tomatoes.

Why the Gap Exists ?

Many people still treat hydroponics like a plug-and-play system, but it actually needs technical design, climate control, and ongoing monitoring.

The market lacks reliable scale operators, post-installation support, and standardized execution.

Serious commercial projects need market-first planning, not just equipment-first installation.

Why Koncept Infra Studios

- Concept-to-handover execution model.
- Agri infrastructure credibility through MBS Genetics.
- North India focus with climate-aware design and delivery.



HYDROPONICS: THE YIELD MULTIPLIER



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Traditional Farming



- Soil-dependent.
- Larger land requirement.
- Higher water use.
- More weather and pest exposure.

Hydroponics



- Up to **90%** less water use.
- Up to **60%** less fertiliser use.
- Higher yields per unit area.
- Higher land-use efficiency through vertical and controlled production.

What it means for the client

- More produce from the same footprint.
- Faster turnaround between cycles.
- Better consistency for buyers.
- Stronger economics for premium crops and institutional supply.

EXAMPLE LED ROI PROOF



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CASE STUDY 1: 1,000 sq ft hydroponic lettuce setup

- **Traditional soil farming:** about 1 harvest unit per cycle with higher water use.
- **Hydroponic system:** research has shown up to 11x higher yield and about 250x lower water use in lettuce comparisons.
- **Result:** the same footprint can produce far more marketable crop with much tighter control over quality and harvest timing.



CASE STUDY 2: Strawberries

- **Traditional soil farming:** Strawberries are usually grown in soil or greenhouse substrate beds, which require more land, more labor for weed and disease management, and more vulnerability to soil-borne issues.
- **Hydroponic system:** In hydroponic systems, strawberries are grown in controlled channels or substrate systems with nutrient delivery and much tighter environmental control.
- **Result:** A commercial hydroponic strawberry system can deliver higher control, cleaner fruit, and better productivity per square meter than soil-based farming, especially in greenhouse conditions. This is the kind of crop that works well for premium urban markets



CASE STUDY 3 : Hydroponic Fodder

- **Traditional soil farming:** Conventional fodder cultivation depends on land, weather, irrigation, and longer growing cycles, which is difficult in water-stressed or land-limited regions.
- **Hydroponic system:** Hydroponic fodder is produced in a controlled setup without soil, often harvested within about 7 to 11 days, making it much faster than traditional fodder farming. In the study you can reference, 250 g of oat seed produced about 1254.22 g of biomass by day 11, while wheat was noted as the most cost-effective option.
- **Result:** This creates a compelling livestock-support case because hydroponic fodder gives fast, fresh feed with strong biomass gain and better consistency. For Indian clients, it also fits dairy and breeding businesses where feed security matters.



ROI PROOF: WHY HYDROPONICS PAYS

BACK FASTER



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Case Study 1: Lettuce Setup

- **Space** - 1000 sq ft
- **Traditional Yield** - averagely 500 Kgs
- **Hydroponic Yield** - averagely 1440 Kgs
- **Yield Increment** - almost 3 X
- **Additional Hassles Solved :**
 - Labour
 - Irrigation
 - Fertiliser
 - Pest Control
 - No variability due to weather or soil issues
- **One time setup Cost only**
- **Similar quality product all across**
- **Traditional lettuce:** about 45–60 days
- **Hydroponic lettuce:** about 30–45 days

Case Study 2 : Strawberries

- **Space** - 1000 sq ft
- **Traditional Yield** - averagely 300–450 Kgs
- **Hydroponic Yield** - averagely 900–1200 Kgs
- **Yield Increment** - almost 2.5x to 3x
- **Additional Hassles Solved :**
 - Labour
 - Irrigation
 - Fertiliser
 - Pest control
 - Soil-borne disease issues
 - No variability due to weather or soil conditions
- **Cleaner, premium-grade fruit**
- **More uniform size and quality**
- **One time setup cost only**
- **Traditional strawberry:** about 90–120 days
- **Hydroponic strawberry:** about 70–100 days

Case Study 3 : Hydroponic Fodder

- **Space** - 1000 sq ft
- **Traditional Yield** - averagely 6000-8000 Kgs per cycle
- **Hydroponic Yield** - 60 - 150 kg per day
- **Yield Increment** - almost 6x to 8x biomass conversion efficiency.
- **Additional Hassles Solved :**
 - Land & Water dependency.
 - Seasonal variability.
 - Longer crop duration.
 - Transport cost from distant fodder farms.
 - Fuel cost and carbon emissions
 - Pesticides, insecticides, and herbicides.
 - Post-harvest losses.
 - Monsoon failure risk.
 - Feed shortage risk.
 - Quality inconsistency.
 - Labour intensity in field cultivation
- **One time setup cost only**
- **Traditional strawberry:** about 45-80 days
- **Hydroponic strawberry:** about 7-12 days

SUBSIDY BOOST: NORTH INDIA ADVANTAGE



Where support comes from

- **NHB:** Credit-linked subsidy support for commercial horticulture and protected cultivation projects.
- **NHM / MIDH:** Support for polyhouse, shade net house, and related horticulture infrastructure.
- **State mission top-ups:** Some states add extra support on top of central schemes.

What can be subsidized

- Polyhouse / greenhouse structure.
- Shade net house / naturally ventilated structure.
- Hydroponic project infrastructure built inside the protected environment.
- Credit-linked project components depending on scheme eligibility.

Why this matters

- Lower upfront cash requirement.
- Better bankability.
- Easier client decision-making.
- Faster move from concept to execution.
- Stronger case for commercial adoption in North India.

Haryana: 65%, Uttar Pradesh: 50%, Rajasthan: 50%, Himachal & Hills: Higher

WHAT TO GROW

- Hydroponics works especially well for crops that grow fast, have high value, or need controlled conditions. The most common and practical categories are:
 - **Leafy greens:** lettuce, spinach, kale, arugula, bok choy, Swiss chard, mustard greens.
 - **Herbs:** basil, mint, coriander, parsley, dill, thyme, oregano, chives, rosemary.
 - **Fruiting vegetables:** tomatoes, cucumbers, capsicum/peppers, chillies, beans, peas.
 - **Premium crops:** strawberries, saffron and some specialty lettuces.
 - **Fodder:** green animal feed for dairy and livestock use.

Apart from above listed crops a deep study into any major crop that needs to be grown commercially, an exclusive setup can be designed for almost every crop.



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MEET



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Concept Infra Studios is built for clients who want infrastructure that works as hard as the business behind it.

Koncept Infra Studios is a concept-led development and execution partner focused on creating practical, premium, and future-ready spaces. We bring together planning, design thinking, project coordination, and execution discipline to build environments that perform well in the real world.

Our approach is built for clients who want more than construction. We help shape projects that are commercially viable, operationally efficient, and visually strong — whether the brief is hydroponics, wellness, hospitality, or specialized infrastructure.

Concept

We start with the business model, not just the structure.

Execution

We convert ideas into buildable, measurable project outcomes.

Value

We focus on performance, scalability, and long-term usability.

Koncept Infra Studios entered Agri-Tech with their first project - **MBS GENETICS GOAT FARM** later in 2025 and envision helping multiple business to begin their agri tech journey.



OUR HYDRO PROMISE

“We promise to turn hydroponics into a dependable production model — not just a trend, but a business system that delivers clarity, control, and confidence.”



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