

## Aquaponics farming system (100 M<sup>2</sup> / 40000 lit capacity) with fish as main source of income: Design and approximate cost break-up details

Sr No	System component	Unit price	Approx cost (Lacs)	Remark
1	Fish tanks (HDPE circular tank+ liner), wire mesh with brick constructed platform and central drainage	Rs.13000 * 4 units	Rs.52000.00	Tanks will be fixed on 1.5 Ft elevated platform. Cost may vary based on land elevation & extra civil work.
2	Magnetic blower with invertor backup (8 hours)	Rs.3500+ 17000+1000	Rs.22500.00	Magnetic blower will be used in case of power failure with air stone diffuse. Running approx. 2 Hr / Day
3	Air blower 2 Hp	Rs.16000.00	Rs.16000.00	Regenerative blower running approx. 8 Hr / Day
4	Airoxy diffusors	Rs.170 / Mtr @ 40 Mtr	Rs.6800.00	Each tank will host 10 rings at equal distance.
5	Water circulation plumbing	Approx	Rs.10000.00	50 & 63 mm PVC pipe approx. 60 Mtr with required connection joints & ball valves
6	1 HP Open well pump with auto-cut off	Rs.9000.00	Rs.9000.00	For re-circulating water from bio-bed to fish tank.
7	Timer, controller, electrification (Panel box)	Rs.4000	Rs.4000.00	Water circulation motor & blower timers.
8	Air blower plumbing	Rs.5000	Rs.5000.00	Cost may vary (10 – 15 %) based on CFD of air flow
7	DWC beds – IBC tank grow media (broken bricks)	Rs.3000 * 5 + 10000.00	Rs.25000.00	Bed for nitrification & vegetable cultivation
9	Civil construction	Approx	Rs.10000.00	Fish tank base, chambers etc
10	Local transport	Approx	Rs.5000.00	1.5 Hp open-well submersible pump with UPVC plumbing line, valves.
		<b>Sub total</b>	<b>1,65,300.00</b>	
	Extra / optional			
11	Roof cover (Polyhouse structure)	Approx 400 Sq M for 110 M Sq	Rs.44000.00	
		<b>Total</b>	<b>2,09,000.00</b>	
12	Design consultancy charges (NKS Pvt Ltd)	<b>Approx 10 %</b>	<b>Rs.15000.00</b>	Travel + supervision cost extra.



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Approximate recurring cost / year –

Sr No	Particular	Cost	Assumption
A	Fish Farming		
1	Fish seed (tilapia) @ Rs.6 / seed for 1000 seed / tank ( 3inch seasoned seed)	24000.00	6 Rs/ head for 4000 seeds+ transport
2	Fish feed @ 2 FCR @ Rs.30 / Kg	210000.00	2 FCR @ 30 Rs/ Kg for 3500 Kg yield
3	Electricity	10800.00	15 Unit / day @ 2 Rs/ unit
4	Misc	5000.00	
		249800.00	

Approximate income assumption

Sr No	Particular	Cost	Assumption
A	Fish sales @3500 Kg @ 100 / kg	350000.00	Sale price 100 / Kg
B	Hydroponics plants (Aprox)	30000.00	Leafy vegetables
	Gross profit	380000.00	
	Net profit	130200.00	
	ROI (Years)	1.60 Years	