

Supplementary Table 1 Economics of different farming systems models (mean value of 6 years)

Farming system models	System productivity (REY) (t/ha)	Production cost ($\times 10^3$ ₹/ha)	Gross return ($\times 10^3$ ₹/ha)	Net return ($\times 10^3$ ₹/ha)	Net return/day (₹)	B:C ratio
FC (Field Crop)	9.88	101.5	197.6	96.1	263.3	1.95
FC + Fish + Duck	15.96	152.4	319.2	166.8	457.1	2.10
FC + Fish + Poultry	19.10	168.7	382.0	213.3	584.4	2.26
FC + Fish + Cattle	20.19	226.9	403.8	176.9	484.7	1.78
FC + Fish + Hort	21.61	187.3	432.2	245.0	671.1	2.31
FC + Fish + Hort + Duck	23.39	208.5	467.8	259.3	710.4	2.24
FC + Fish + Hort + Poultry	26.44	224.0	528.8	304.9	835.2	2.36
FC + Fish + Hort + Cattle	28.30	284.5	566.0	281.6	771.4	1.99
Mean	20.61	194.2	412.2	218.0	597.2	2.12
SD	5.49	51.65	109.79	64.42	176.5	-
CV (%)	22.7	27.6	23.4	23.4	23.1	-

Supplementary Table 2 Economics of the crops grown on pond dyke (Mean of 6 years, 2018–24)

Crops	Area (m ²)/no.	Production (kg)	REY (kg)	Production cost (₹.)	Gross returns (₹.)	Net returns (₹.)	B: C ratio
<i>Rabi season</i>							
Tomato	130	520	260	1960	5200	3240	2.65
Cauliflower	130	325	162.5	1650	3250	1600	1.97
Broccoli	130	230	230	2280	4600	2320	2.02
<i>Kharif season</i>							
Sponge gourd	225	335	167.5	1475	3350	1875	2.27
Bitter gourd	225	278	139	1360	2780	1420	2.04
<i>Summer Season</i>							
Okra	175	270	135	1120	2700	1580	2.41
Cowpea	175	175	87.5	815	1750	935	2.15
<i>Annual crop</i>							
Mentha	120	205	180	1750	3600	1850	2.06
Yam	110 No.	195	160	1050	3200	2150	3.05
<i>Fruit crops (in no.)</i>							
Mango	12	482	723	3850	14460	10610	3.76
Guava	10	480	480	2430	9600	7170	3.95
Banana	30	580	580	3150	11600	8450	3.68
Lemon	20	430	645	3150	12900	9750	4.10
Total	0.1 ha	4505	3949.5	26040	78990	52950	3.03

Selling price of the produce (₹/kg): Cucurbits- 10; Broccoli- 20; Tomato/cauliflower- 10; Cowpea/okra-10; Yam-20; Mentha leaves- 30; Lemon-30; Banana-20; Mango-30; Guava-20; Rice - 20; REY- Rice equivalent yield

Supplementary Table 3 Resource recycling under Integrated Farming Systems (Mean value of 6 years, 2018–24)

Source	Nutrient	Raw Material		Recycled Product (Manure)		Additional Nutrient Gained (kg)
Plant Waste		Plant Waste		Vermicompost		
		% Nutrient	kg/ 5200 kg	% Nutrient	kg/ 2900 kg	
	N	1.13		2.50		13.7
	P ₂ O ₅	0.82		2.12		18.8
Cow Dung	K ₂ O	1.10		2.24		7.8
		Cow Dung		FYM		
		% Nutrient	kg/ 12800 kg	% Nutrient	kg/ 9800 kg	
	N	1.18		1.96		41.0
Poultry Droppings	P ₂ O ₅	0.72		1.62		66.6
	K ₂ O	1.12		1.88		40.9
		Poultry Droppings		Poultry Manure		
		% Nutrient	kg/ 2850 kg	% Nutrient	kg/ 2640 kg	
Duck Droppings	N	2.80		3.72		18.4
	P ₂ O ₅	1.82		2.68		18.9
	K ₂ O	0.86		1.23		8.0
		Duck Droppings		Pond Manure		
		% Nutrient	kg/ 1200 kg	% Nutrient	kg/ 5000 kg	
	N	1.80		0.92		24.4
	P ₂ O ₅	0.65		0.36		10.2
	K ₂ O	1.02		0.62		18.8