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वित्तीय वर्ष 2025 -26 के लिए कृषि और सम्बन्धित क्षेत्र निवेशों की इकाई लागत की व्यापक मार्गदर्शिका

A Comprehensive Guide of Unit Costs on Investment in Agriculture and Allied Activities for FY 2025-26

राष्ट्रीय कृषि और ग्रामीण विकास बैंक

आंध्र प्रदेश क्षेत्रीय कार्यालय, विजयवाड़ा

National Bank for Agriculture and Rural Development

Andhra Pradesh Regional Office, Vijayawada

नाबार्ड

विज़न

-ग्रामीण समृद्धि के लिए राष्ट्रीय विकास बैंक-

VISION

"Development Bank of the Nation for fostering rural prosperity"

मिशन

-सहभागिता, संधारणीयता और समानता पर आधारित वित्तीय और गैर-वित्तीय सहयोगों, नवोन्मेषों, प्रौद्योगिकी और संस्थागत विकास के माध्यम से समृद्धि लाने के लिए कृषि और ग्रामीण विकास का संवर्धन-

MISSION

"Promote sustainable and equitable agriculture and rural development through participative financial and non-financial interventions, innovations, technology and institutional development for securing prosperity"

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NABARD doesn't accept any financial liability to anyone using this report for any purpose. The costs and parameters suggested are based on information available with NABARD and recommendations / suggestions from Govt. Departments, Bankers and Research Institutes. All Unit Costs are indicative in nature and there may be variations based on field/ local conditions. Banks/ government agencies may assess the credit requirement, consider the field level situations and keep in view the technical feasibility, financial viability and the bankability of the investments.

प्राक्कथन

कृषि में पूंजी निर्माण को सुविधाजनक बनाने और किसानों के अवसरों में विविधता लाकर उनकी आय को बढ़ाने में मदद करने के लिए निवेश ऋण एक महत्वपूर्ण घटक है। कृषि क्षेत्र में पूंजी निर्माण कृषि और समवर्गी क्षेत्रों में रोजगार के अवसर सृजित करने का एक व्यवहार्य और सर्वोत्तम तरीका है। आंध्र प्रदेश में, कृषि और संबद्ध क्षेत्र राज्य के सकल घरेलू उत्पाद में लगभग 35% योगदान करते हैं और राज्य की 60% से अधिक आबादी के लिए रोजगार का प्राथमिक स्रोत है। इसलिए, कृषि निवेश ऋण राज्य के सामाजिक-आर्थिक विकास का मूलभूत स्तंभ है।

किसानों को उनकी निवेश ऋण आवश्यकताओं को पूरा करने के लिए समय पर और पर्याप्त ऋण की सुविधा प्रदान करने में इकाई लागत का निर्धारण एक प्रमुख भूमिका निभाता है। राज्य में कृषि और संबद्ध क्षेत्रों के तहत निवेश ऋण को बढ़ावा देने के उद्देश्य से, नाबार्ड एक परामर्श प्रक्रिया के माध्यम से प्रमुख गतिविधियों के लिए सांकेतिक इकाई लागत तय करने के लिए राज्य स्तरीय इकाई लागत समिति (एसएलयूसीसी) की बैठक आयोजित करना जारी रखता है। वित्त वर्ष 2025-26 के लिए आंध्र प्रदेश राज्य के लिए कृषि निवेश गतिविधियों की इकाई लागतों पर 26 जून 2025 को आयोजित एसएलयूसीसी बैठक में चर्चा की गई और बाद में विभिन्न संस्थानों से सुझाव और इनपुट प्राप्त होने के बाद इसे अंतिम रूप दिया गया। यह इकाई लागत पुस्तिका ऋण मूल्यांकन के दौरान शाखा प्रबंधकों के लिए एक संदर्भ पुस्तिका के रूप में कार्य करती है और इस

प्रकार किसी गतिविधि के कम-वित्तपोषण या अधिक-वित्तपोषण को रोकने में मदद करती है। यह ध्यान दिया जा सकता है कि एसएलयूसीसी द्वारा निर्धारित इकाई लागत प्रकृति में सांकेतिक हैं।

मैं आंध्र प्रदेश सरकार के सभी संबंधित विभागों, राज्य स्तरीय बैंकरों, बैंकों, डॉ. वाईएसआर बागवानी विश्वविद्यालय, एएनजीआरएयू, सतत कृषि केंद्र और अन्य एजेंसियों का हार्दिक आभार व्यक्त करता हूँ जिन्होंने इस पुस्तिका की इकाई लागत में योगदान दिया है। हम इस पुस्तिका को कृषि निवेश ऋण के लिए एक अधिक समावेशी संसाधन बनाने हेतु विभिन्न इकाई लागतों को और अधिक परिष्कृत और बेहतर बनाने हेतु उपयोगकर्ताओं की प्रतिक्रिया का स्वागत करते हैं।

मुझे उम्मीद है कि हमारा यह सामूहिक प्रयास निवेश ऋण गतिविधियों के लिए इष्टतम वित्त को सक्षम करेगा और कृषि क्षेत्र में निवेश ऋण के प्रवाह में और सुधार करेगा।

एम आर गोपाल

एम आर गोपाल

मुख्य महाप्रबंधक

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FOREWORD

Investment credit is a critical component in facilitating capital formation in agriculture and helping in supplementing farmers' income by diversifying their avenues. Capital formation in farm sector is one of the feasible and best way to create employment opportunities in agriculture and allied sectors. In Andhra Pradesh, agriculture and allied sectors contribute about 35% of the state GDP and are a primary source of employment for more than 60% of the state's population. Therefore, agriculture Investment credit is a foundational pillar of Socio-economic development of the state.

Fixation of unit costs plays a major role in facilitating timely and adequate credit to farmers for meeting their investment credit requirements. With a view to boosting investment credit under agriculture and allied sectors in the State, NABARD continues to convene the State Level Unit Cost Committee (SLUCC) meeting to fix indicative Unit Costs for major activities through a consultative process. The unit costs for agriculture investment activities for the State of Andhra Pradesh for FY2025-26 were discussed in the SLUCC meeting held on 26 June 2025 and subsequently finalized after receipt of the suggestions and inputs from the various institutions. This Unit Cost Booklet serves as a reference handbook for Branch Managers during credit appraisal and thereby helps to obviate under-financing or over-financing of an activity. It may be noted that the Unit Costs fixed by the SLUCC are indicative in nature and the financing institutions or Government agencies may refine the costs based on the field level situations, technical feasibility, financial viability and bankability of the investments.

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I would like to place on record my sincere thanks to all the line departments of Government of Andhra Pradesh, SLBC, Banks, Dr. YSR Horticulture University, ANGRAU, Centre for Sustainable Agriculture, and other agencies who have contributed to assessment of the unit costs. We welcome feedback from the users to further refine and improve the various unit costs in order to make this booklet a more inclusive resource for agricultural Investment credit.

I hope that this collective endeavour will enable optimal financing for investment credit activities and further improve the flow of investment credit in Agriculture Sector.

M R Gopal

Chief General Manager

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LEGEND

S. No.	Abbreviation	Full Form / Meaning
1	ha	Hectare (10,000 sq. m)
2	m	Metre
3	hp	Horsepower
4	mm	Millimetre
5	ac	Acre (4,000 sq. m approx.)
6	TPA	Tonne per Annum
7	L	Litre
8	Lpd / Lph / Lpa	Litres per day / hour / annum
9	Rm	Running Metre
10	rpm	Revolutions per minute
11	sq. ft	Square Foot (plural: Square Feet)
12	m^3	Cubic Metre
13	t (tonne)	Metric Tonne (1,000 kg)
14	Lps	Litres per second
15	q	Quintal (100 kg)

Chapter 1

Water Resources

In Andhra Pradesh, the potential for bank financing is significant in supporting the establishment of new irrigation systems, pump sets, micro-irrigation systems, well deepening, well recharge, pipelines for water conveyance, and small lift schemes. Within the growth strategy of the Government of Andhra Pradesh (GoAP), a focal point has been the emphasis on irrigation. To realize this strategy, the government has actively undertaken major and medium irrigation projects, alongside initiatives for the modernization of delta systems and flood banks. These endeavours are aimed at creating new irrigation potential and ensuring the stabilization of the ayacut in the irrigation sector. The total credit outlay assessed in the State under water resources is ₹5308.07 crore for 2025-26.

Andhra Pradesh has about 54% of gross sown area under at least one source of irrigation. The gross irrigated area in the state decreased to 38.44 lakh ha in 2021-22 from 39.85 lakh ha in 2020-21. The share of various sources in gross

irrigated area is given in the pie chart. The net irrigated area of the state in 2021-22 stands at 29.52 lakh ha. Creation of Irrigation Potential continued to be a prioritized area, with 106.64 lakh ha of irrigation potential created up to December 2022 under major anicuts on Godavari, Krishna, and Pennar rivers and projects like Nagarjuna Sagar, Telugu Ganga, Somasila, SRBC, Vamsadhara, Medium irrigation projects and Minor irrigation schemes. There is still significant potential for irrigation which is still untapped in the state.

Andhra Pradesh, being a solar-rich state with a substantial potential of 120 GW in renewable energy and reverse pumped hydropower, has made significant strides in renewable energy development. The state has actively pursued the Solar Pump Sets program with financial assistance from MNRE, GoI. Looking ahead, Andhra Pradesh has set ambitious targets, aiming to establish 20 GW of renewable energy capacity by 2030, which includes 10 GW from solar power. In this backdrop, NABARD has included the unit costs for Solar Irrigation Pumps for FY 2025-26.

Source: Water Resources Dept., Govt of AP

1.1 Dug Wells

1.1.1 Dug well in Hardrock Areas - Model I

a. Well Details		Outer Dia.(m)		6.9
		Inner Dia.(m)		6
		Depth of the Well(m)		10
		Steining of the well(m)		5
		Thickness of Steining(m)		0.45
b. Cost of Excavation				
Depth (m)	**RMT**	**Quantity (cum)**	**Rate/cum (₹)**	**Amount (₹)**
0.0 to 2.0 m	2	75	185	13300
2.0 to 4.0 m	2	75	221	16600
4.0 to 6.0 m	2	57	309	17600
6.0 to 8.0 m	2	57	375	21400
8.0 to 10.0 m	2	57	409	23300
c. Cost of Steining in cum		45	473	497
d. De-watering Charges L S				5600
Total				**119900**
Rounded off				**1,20,200**

1.1.2 Dug well in Hardrock Areas - Model II

a. Basic Details	Outer Dia.(m)	6.9
	Inner Dia.(m)	6
	Depth of the Well(m)	12
	Steining of the well(m)	5
	Thickness of Steining(m)	0.45

b. Cost of Excavation

Depth (m)	RMT	Quantity (cum)	Rate/cum (₹)	Amount (₹)
0.0 to 2.0m	2	75	177	13300
2.0 to 4.0 m	2	75	221	16600
4.0 to 6.0 m	2	57	309	17600
6.0 to 8.0 m	2	57	375	21400
8.0 to 10.0 m	2	57	409	23300
10.0 to 12 m	2	57	486	27700
c. Cost of Steining		45	497	497
d. De-watering Charges				5500
Total				**147800**
Rounded off				**1,47,800**

1.1.3 Dug well in Hardrock Areas - Model III

a. Basic Details	Outer Dia.(m)	5.9
	Inner Dia.(m)	5
	Depth of the Well(m)	14
	Steining of the well(m)	5
	Thickness of Steining(m)	0.45

b. Cost of Excavation

Depth (m)	RMT	Quantity (cum)	Rate/cum (₹)	Amount (₹)
0.0 to 2.0 m	2	55	176	9720
2.0 to 4.0 m	2	55	221	12155
4.0 to 6.0 m	2	40	309	12360
6.0 to 8.0 m	2	40	375	15000
8.0 to 10.0 m	2	40	408	16320
10.0 to 12 m	2	40	485	19400
12.0 to 14 m	2	40	519	20760
c. Cost of Steining		38	497	18890
d. De-watering Charges				5513
Total				**130100**
Rounded off				**1,30,100**

1.1.4 Dug well in Hardrock Areas - Model IV

a. Basic Details	Outer Dia.(m)	5.9
	Inner Dia.(m)	5
	Depth of the Well(m)	16
	Steining of the well(m)	5
	Thickness of Steining(m)	0.45

b. Cost of Excavation

Depth (m)	RMT	Quantity (cum)	Rate/cum (₹)	Amount (₹)
0.0 to 2.0 m	2	55	177	9785
2.0 to 4.0 m	2	55	221	12205
4.0 to 6.0 m	2	40	309	12410
6.0 to 8.0 m	2	40	375	15050
8.0 to 10.0 m	2	40	409	16410
10.0 to 12 m	2	40	486	19490
12.0 to 14 m	2	40	519	20810
14.0 to 16 m	2	40	552	22130
c. Cost of Steining		38	497	18936
d. De-watering Charges				6074
Total				**153300**
Rounded off				**1,53,300**

1.1.5 Dug well in Hardrock Areas - Model V

a. Basic Details	Outer Dia.(m)	4.9
	Inner Dia.(m)	4
	Depth of the Well(m)	12
	Steining of the well(m)	5
	Thickness of Steining(m)	0.45

b. Cost of Excavation

Depth (m)	RMT	Quantity (cum)	Rate/cum (₹)	Amount (₹)
0.0 to 2.0 m	2	40	177	7146
2.0 to 4.0 m	2	40	221	8870
4.0 to 6.0 m	2	27	309	8425
6.0 to 8.0 m	2	27	375	10211
8.0 to 10.0 m	2	28	409	11512
10.0 to 12 m	2	28	486	13673
c. Cost of Steining		38	497	18963
d. De-watering Charges				6100
Total				**84900**
Rounded off				**84,900**

1.1.6 Dug well in Hardrock Areas - Model VI

a. Basic Details		Outer Dia.(m)		3.9
		Inner Dia.(m)		3
		Depth of the Well(m)		12
		Steining of the well(m)		5
		Thickness of Steining(m)		0.45
b. Cost of Excavation				
Depth (m)	**RMT**	**Quantity (cum)**	**Rate/cum (₹)**	**Amount (₹)**
0.0 to 2.0 m	2	25	177	4440
2.0 to 4.0 m	2	25	221	5543
4.0 to 6.0 m	2	15	309	4661
6.0 to 8.0 m	2	15	375	5653
8.0 to 10.0 m	2	15	409	6150
10.0 to 12 m	2	15	486	7307
c. Cost of Steining		32	497	15933
d. De-watering Charges				6613
Total				**56300**
Rounded off				**56,300**

1.1.7 Dug well in Hardrock Areas - Model VII

a. Basic Details	Outer Dia.(m)	3.2
	Inner Dia.(m)	3
	Depth of the Well(m)	12
	Steining of the well(m)	12
	Thickness of Steining(m)	0.1

b. Cost of Excavation				
Depth (m)	**RMT**	**Quantity (cum)**	**Rate/cum (₹)**	**Amount (₹)**
0.0 to 2.0 m	2	15	177	2653
2.0 to 4.0 m	2	15	221	3315
4.0 to 6.0 m	2	15	309	4688
6.0 to 8.0 m	2	15	375	5680
8.0 to 10.0 m	2	15	409	6177
10.0 to 12 m	2	16	486	7819
c. Cost of Lining		12	3258	42443
d. De-watering Charges				5525
Total				**78300**
Rounded off				**78,300**

Repayment for Dug Wells *– 11 to 15 years including 23 months Gestation Period (GP).*

1.2 Borewells

S. No.	Item	Design	Unit Rate (₹/m)		Total Amount (₹)
1	Drilling of bore well by down the hole hammer (DTH) drilling to a finished depths specified and reaming the bore to the required depth and dia to suit lowering of 7" dia (180 mm) internal dia casing pipe with coupling, fixing of pipes, flushing the bore wells at an average 150 psi inclusive of transportation from point to point, crew charges, consumables, shifting of rig and all other charges etc.	Diameter (mm)	180		
		Depth (m)	100	573.3	57330
2	Casing				
	PVC casing pipe	Diameter (mm)	180		
		Pressure	6 kg/cm²		
		Length (m)	20	1102	22050
3	Well cap (PVC)	Diameter (mm)	180	497	497
Total					**80500**
Rounded off					**80,500**

1.3 Filter Points

Filter point 125 mm					
S. No	**Item**	**Design**		**Unit Rate (₹/m)**	**Total Amount (₹)**
1	Drilling: Drilling of 200 mm dia bore in BC and sandy, loamy soils including conveyance of HB set/ mini rotary rig work spot and all other drilling operations including incidental charges and inserting 125 mm dia (OD) PVC casing development charges and all other charges (excluding cost of casing pipe, couplings, cap and clamp set etc.)	Diameter (mm)	125		
		Depth (m)	20	726	14520
2	Casing				
	PVC plain casing pipe	Diameter (mm)	125		
		Pressure	10 kg/cm²		
		Length (m)	18	818	14724
3	PVC casing pipe (Slotting)	Diameter (mm)	125		
		Pressure	10 kg/cm²		

		Length (m)	2	908	1816
4	Well cap suitable to 125mm. (OD) PVC pipe	1 No.		567	567
5	M.S Clamp set suitable to 125mm (OD)PVC pipe	1 No.		794	794
6	Bottom Dummy (CI) suitable to 125mm (OD) PVC casing pipe	1 No.		679	679
Total					**33100**
Rounded off					**33100**

1.4 Tube Well

Tube well 175 mm (7”)					
Sl. No.	**Item**	**Design**	**Unit Rate**	**Total Amount**	
				(₹/m)	**(₹)**
1	Drilling: Drilling of tube well (Piezometer) with Rotary rig to finished dia of 311 mm (12 ¼”) with a pilot bore of suitable dia may be 216 mm (8 ½”) and then reaming to the finished diameter in all formations such as Alluvia, Clay and Sand stones etc., including insertion charges for 175 dia (OD) PVC casing threaded pipes cost of consumables, cost of pebble gravel/clay balls, gravel/clay balls packing around the casing pipes, tube well development charges, transportation of rig and all other charges etc., (excluding cost of casing	Diameter (mm)	175		
		Depth (m)	150	1326	198900

Tube well 175 mm (7”)					
Sl. No.	**Item**	**Design**	**Unit Rate**	**Total Amount**	
				(₹/m)	**(₹)**
	pipes, well cap, bottom dummy and clamp set).				
2	Casing				
	PVC plain casing pipe	Diameter (mm)	175		
		Pressure	10 kg/cm²		
		Length (m)	90	1326	119340
3	PVC casing pipe (slotting)	Diameter (mm)	175		
		Pressure	10 kg/cm²		
		Slot size	1/8” or 1/16”		
		Length (m)	60	2210	132600
4	Well cap suitable to 175mm. (OD) PVC pipe	1 No.		780	780

Tube well 175 mm (7”)					
Sl. No.	**Item**	**Design**	**Unit Rate**	**Total Amount**	
				(₹/m)	**(₹)**
5	M.S Clamp set suitable to 175mm (OD) PVC pipe	1 No.		1559	1559
6	Bottom Dummy (CI) suitable to 175mm (OD) PVC casing pipe	1 No.		2226	2226
Total					**432705**
Rounded off					**4,55,400**

Repayment period*- 11 to 13 years excluding 11 months grace period.*

1.5 Complete Pump System

S. No.	Item	Electric (₹)			Diesel (₹)	
		3 HP	**5 HP**	**7.5 HP**	**5 HP**	**8 HP**
1	Prime Mover & Pump	18750	24270	33627	30872	43550
2	Foot Valve	450	552	662	662	995

3	Suction & Delivery Pipe	2760	3639	3749	3310	4410
4	Bend (Suction)	230	277	331	387	552
5	Bend (Delivery)	340	387	441	441	552
6	Starter	2760	2770	2757	0	0
7	Capacitor	390	607	607	0	0
8	Main Switch	390	387	387	0	0
9	Switch Board	670	662	662	0	0
10	Bolts & Miscellaneous	90	89	89	277	335
11	Earthing	670	662	663	0	0
12	Coupling/ Clamps	0	0	0	552	775
13	Water cooling system	0	0	0	1103	1215
14	Transport	560	552	554	552	662
15	Installation	780	771	828	773	883

Total	28840	35625	45357	38929	53929
GST @ 12 percent	3460	4275	5443	4671	6471
Total	**32300**	**39900**	**50800**	**43600**	**60400**
Rounded off	**32,300**	**39,900**	**50,800**	**43,600**	**60,400**

1.6 Submersible Pump Sets

S. No	Item	3 HP (₹)	5 HP (₹)	7.5 HP (₹)	10 HP (₹)
1	Pump set	35330	38150	46800	58470
2	Cable	2660	2660	3050	3510
3	GI Pipe	9945	14340	16383	21070
4	Pressure Gauge	444	478	585	585
5	Non-Return Valve	1107	1218	1050	1171
6	Starter & Panel Board	5145	5140	5260	5858
7	Capacitor	885	882	885	938

S. No	Item	3 HP (₹)	5 HP (₹)	7.5 HP (₹)	10 HP (₹)
8	Transport	662	662	816	938
9	Installation	1769	2095	2225	2460
Total		57947	65625	77054	95000
GST @ 12 percent		6953	7875	9246	11400
Total		**64900**	**73500**	**86300**	**106400**
Rounded off		**64,900**	**73,500**	**86,300**	**1,06,400**

Repayment period *- 9 years*

1.7 Artificial Recharge of Wells

1.7.1 Artificial Recharge of Dried /Seasonally Functioning Bore-Well

S. No	Item	Qty.	Per unit cost (₹)	Total (₹)
1	Earth Work excavation around the bore well (JCB) hours	3	1541	4623

2	Boulders (8 to 12 inches size) (Granitic/ Hard Material/ Field) to be filled up to 1.5 m (tractor trips)	5	1954	9770
3	Boulders (6 inches size), to be filled up to 1/2 m (tractor trips)	2	2015	4030
4	80-40 mm size jelly to be filled up to 1/2 m (tractor trips)	2	3198	6396
5	Coarse Sand to be filled up to 1/2 m (tractor trips)	3	3145	9435
6	Casing pipe with holes including concrete base	1	4385	4385
7	Aqua mesh in meters	50	71	3550
8	Nylon mesh 6 m	1	320	320
9	Size Stone (Safe wall) (1 tractor = 250 stones)	1	2015	2015
10	Cement including transport per bag	3	508	1524
11	Casing pipe holding bracket with bolts and nuts/clamp	1	699	699
12	Labour for filling the materials (person days)	9	570	5130
13	Mason and labour for making protection wall (1 Mason per	1	2014	2014

	day cost ₹450, 1 Labour per day ₹350)-days			
14	Diversion drain (cubic m) using machine	10	141	1410
	Total			**55301**
	Rounded off			**55,300**

***Repayment**: 4 years (half yearly instalment)*

1.7.2 Artificial Recharge of Dried Open/Dug-Well

Particulars	Measurement (m)			Volume (m3)	Rate (₹)/ cubic m	Labour (₹)	Material (₹)	Total Cost (₹)
	Length	Width	Depth					
Earth Work								
Diversion Drain	15	1	0.75	11.25	170	1813	0	2004
	2.5	2.5	1.2	7.5	170	1208	0	1336
Middle Drain	3	1	0.75	2.25	170	363	0	402
	4	4	1.5	24	170	3867	0	4274
Pipe Line – Trench	6	0.5	0.9	2.7	170	435	0	490

Pipe Cost - 150 mm - Length - 6m						0	1346	1414
Misc.						0	668	702
Total						**7685**	**2014**	**10622**
Rounded Off								**10700**

1.8 Drip Irrigation

S.No.	Crop	Spacing	Type of Drip	Unit Cost (12 mm) (₹)	Unit Cost (16mm) (₹)	Repayment period	Gestation period
1	Mango, Sapota	10 m x 10 m	Inline	24500	27000	4	1 year
2	Mango	9 m x 9 m	Inline	25500	27500	4	1 year
3	Mango, Coconut, Sapota	8 m x 8 m	Inline	-	29000	4	1 year
4	Mango, Sweet Orange, Acid Lime, Custard Apple,	6m x 6m	Inline	27000	35000	3	1 year

	Guava, Amla, Ber						
5	Mango	5 m x 5 m	Inline	35500	39000	3	1 year
6	Pomegranate	4 m x 4 m	Inline	36500	41500	3	1 year
7	Pomegranate	3 m x 3 m	Inline	41500	48000	3	1 year
8	Papaya	2.5 m x 2.5 m	Inline	-	68000	3	1 year
9	Phalsa	2 m x 2 m	Inline	72000	83000	4	1 year
10	Papaya, Banana (Dwarf), Amla	1.5 m x 1.5 m	Inline	-	97000	4	1 year
11	Cucurbits (Bottle Gourd)	2.5 m x 0.6 m	Inline	-	72000	4	1 year
12	Papaya, Banana, Rose, Jasmine, Cotton	1.8 m x 0.6 m	Inline	75000	91500	5	1 year
13	Sugarcane	1.5 m x 0.60 m	Inline	-	110000	3	1 year
14	Cucurbits (Ridge Gourd)	1.2 m x 0.60 m	Inline	105000	127500	3	1 year

1.9 Sprinkler Systems

1.9.1 Pipe Dia. – 63 mm

Sprinkler System Components	Rate (₹)	0.4 to 1.0 ha		1.0 to 2.0 ha	
		Quantity (No.)	Amount (₹)	Quantity (No.)	Amount (₹)
		Pipe Dia 63mm		Pipe Dia 63mm	
HDPE Pipes with quick action coupler (3.2 kg/cm²) of 6m long	569	27	15450	35	20170
Sprinkler coupler with foot baton assembly	334	5	1682	8	3365
Sprinkler nozzles (1.7 to 2.8 kg/cm²)	446	5	2245	8	3585
Riser pipe 20mm diameter x 75cm long	112	5	560	8	898
Connecting nipple	235	1	236	2	470
Bend with coupler 90°	235	1	236	2	470
Tee with coupler	235	1	236	3	705
End plug	112	2	224	2	224

Sprinkler System Components	Rate (₹)	0.4 to 1.0 ha		1.0 to 2.0 ha	
		Quantity (No.)	Amount (₹)	Quantity (No.)	Amount (₹)
		Pipe Dia 63mm		Pipe Dia 63mm	
Miscellaneous			560		560
Basic system cost per hectare (₹)			21429		30447
GST @12%			2571		3653
Total			**24000**		**34100**
Rounded off			**24,000**		**34,100**

1.9.2 Pipe Dia. – 75 mm

Sprinkler System Components	Rate (₹)	0.4 to 1.0 ha		1.0 to 2.0 ha	
		Quantity (No.)	Amount (₹)	Quantity (No.)	Amount (₹)
		Pipe Dia. 75mm		Pipe Dia. 75mm	
HDPE Pipes with quick action coupler (2.5 kg/cm²) of 6m long	702	25	17585	33	23218
Sprinkler coupler with foot baton assembly	446	5	2237	8	4465
Sprinkler nozzles (1.7 to 2.8 kg/cm²)	446	5	2237	8	3570
Riser pipe 20mm diameter x 75cm long	112	5	560	8	897
Connecting nipple	235	1	235	1	236
Bend with coupler 90°	235	1	235	1	236
Tee with coupler	235	1	235	3	705
End plug	112	2	224	2	224
Miscellaneous			560		557

Sprinkler System Components	Rate (₹)	0.4 to 1.0 ha		1.0 to 2.0 ha	
		Quantity (No.)	Amount (₹)	Quantity (No.)	Amount (₹)
		Pipe Dia. 75mm		Pipe Dia. 75mm	
Basic system cost per hectare (₹)			24108		34108
GST @12%			2892		4092
Total			27000		38200
Rounded off			**27,000**		**38,200**

1.9.3 Pipe Dia. – 90 mm

Sprinkler System Components	Rate (₹)	1.0 to 2.0 ha	
		Quantity (No.)	Amount (₹)
		Pipe Dia 90 mm	
HDPE Pipes with quick action coupler (2.5 kg/cm^2) of 6m long	708	33	23364

Sprinkler System Components	Rate (₹)	1.0 to 2.0 ha	
		Quantity (No.)	Amount (₹)
		Pipe Dia 90 mm	
Sprinkler coupler with foot baton assembly	449	8	3592
Sprinkler nozzles (1.7 to 2.8 kg/cm^2)	449	8	3592
Riser pipe 20mm diameter x 75cm long	168	8	1344
Connecting nipple	258	2	516
Bend with coupler 90^0	258	2	516
Tee with coupler	258	3	774
End plug	112	2	224
Miscellaneous			561
Basic system cost per hectare (₹)			34483
GST @12%			4137
Total			**38620**

Sprinkler System Components	Rate (₹)	1.0 to 2.0 ha	
		Quantity (No.)	Amount (₹)
		Pipe Dia 90 mm	
Rounded off			38,700

1.10 Rain Guns

System Components	Capital Cost (₹)
Rain gun with nozzle (3-4 kg/cm2), discharge of 7 lps to 19 lps and radius of 31m to 50m, pipe dia 90 mm, and related systems	35727
Pump set (5 HP) & Misc.	40958
Rounded off	**76,800**

Repayment period- *5 years*

1.11 Micro-Irrigation

S.No.	Spacing (m x m)	Unit Cost (₹)
Micro Sprinklers		

1	5 x 5	71,900
2	3 x 3	71,900
Mini Sprinklers		
1	10 x 10	89,200
2	8 x 8	1,08,400

1.12 Solar Irrigation

S.No.	Item of Investment	Unit Cost (₹)	Repayment period (Years)	Gestation/ Grace period (Years)
1	Solar Irrigation Pump set - AC Motor (5 HP)	5,66,500	5	1
2	Solar Irrigation Pump set - DC Motor (5 HP)	6,32,200	5	1

Special Terms of Financing:

For dug wells/bore wells in critical and semi-critical areas, permission needs to be obtained from the Hydro geologists/Dept. of Mines & Geology and positively with the prior approval of the Andhra Pradesh Ground Water Authority.

The list of District-wise Mandal-wise list of the over-exploited villages (in which the ban on exploitation of ground water is extended) as notified in the

Government of Andhra Pradesh G.O.MS.No.38, dated 11.06.2021, is given below:

S. No	Erstwhile District	Mandal	Village Names
1	Krishna	Musunuru	Musunuru, Akkireddigudem, Chakkapalle
2	Guntur	Bollapalle	Ravulapuram, Gutlapalle, Gandiganumala, Gummanampadu, Remidicherla
3	Guntur	Veldurthi	Gottipalla, Srigiripadu, Patlaveedu, Uppalapadu, Kandlakunta, Rachamallipadu, Gundlapadu, Mandadi
4	Guntur	Durgi	Kolagutla, Polepalle, Atmakur
5	Guntur	Macherla	Macherla (M), Rayavaram, Amani Jammala Madaka

S. No	Erstwhile District	Mandal	Village Names
6	Prakasam	Giddaluru	Modam Palle, Chatti Reddy Palle, Mundla Padu, Kristam Setti Palle, Narasimhuni Palle, Thimma Puram, Kanchi Palle, Sanjeevarao Peta, Gadikota, Tripura Puram
7	Prakasam	Komarolu	Vennam Palle, Guduru Moravai Palle, Mottu Palle, Brahmana Palle, Rajupalem, Suravari Palle
8	Prakasam	Cumbum	Porumamilla Palle, China Cumbum, Yerrabalem, Cumbum, Kandula Puram, Nadim Palle, Jangamguntla, Lanja Kota
9	Prakasam	Bestavaripeta	Moksha Gundum, Bestawaripeta, Retla Palle
10	Prakasam	Racherla	Edavalli, Gudimetla, Dadanaguruvai Palle, Chollaveedu, Chinnagani Palle, Anumula Palle, Akaveedu

S. No	Erstwhile District	Mandal	Village Names
11	Prakasam	Komarolu	Nagireddipalle
12	Prakasam	Markapur	Krishnapuram, Peda Yachavaram, Yella Puram, Sivaram Puram, Narasimha Puram, Thippaya Palem, Malyavanthuni Padu, Bondala Padu, Chintakunta, Badekhanpeta, Bhupathi Palle, Jammana Palle, Peda Nagulavaram, Kolabhimunipadu, Vemula Kota, Nikaram Palle
13	Prakasam	Tarlapadu	Kethagudipi, Thummala Cheruvu, Tarlupadu, Pathe Puram, Tellapadu
14	Prakasam	Ardhaveedu	Gannepalle

S. No	Erstwhile District	Mandal	Village Names
15	Prakasam	Pedaaraveedu	Peda Araveedu, Gobburu, S.Kotha Palle, Thangirala Palle, Devarajugattu, Thoka Palle, Lingamvani Palle, Obulakkapalle, Cumbampadu, Pragallapadu, Sanikavaram, Chatla Mitta, Boyada Gumpula, Badveedu
16	Prakasam	Yerragondapalem	Ammani Gudi Padu, Ramachandra Puram, Billagondi Penta
17	Prakasam	Dornala	Nallaguntla, Peda Bommala Puram, Dornala
18	Prakasam	Pullalacheruvu	Komarolu, Racha Konda, Kavala Kuntla, Chapala Madugu, Yendra Palle, Chowtapalle, Chowtapa Charla, Garapenta, Chennapalem, , Pullalacheruvu, Marrivemula, Mutukula, Satha Kodu, Narasa Puram

S. No	Erstwhile District	Mandal	Village Names
19	Nellore	Kota	Chendodu, Thinnelapudi, Gudali, Vanjivaka
20	Nellore	Vakadu	Yaragatipalle, Pulikorru @ Balireddipalem
21	Nellore	Venkatagiri	Chinthalapallevari Khandrika, Sunkaravaripalle, Madichenu Khandrika, Chelikampadu, Kylasanadhapuram
22	Nellore	Naidupeta	Vinnamala, Athalapalem, L.A.Sagaram, Ravulagunta
23	Chittoor	Tirupati	Panakam, Vemur
24	Chittoor	Nagari	Tirumalarajukhandriga, Nagari
25	Chittoor	Punganur	Punganur (Np)
26	Chittoor	Gangavaram	Keelapalle, Pasupathur, Gundugallu
27	Chittoor	Palamaner	Ayyamreddi Palle, Chethapenta, Gundlapalle, Ankamvaripalle

S. No	Erstwhile District	Mandal	Village Names
28	Chittoor	Baireddi Palle	Meakalanagireddi Palle, Veerlabanda, Pathurnatham, Lakkanapalle, Kammanapalle, Gollachemana Palle, Kambhampalle
29	Chittoor	Venkatagiri Kota	Krishnapuram, Venkatagirikota, Papepalle, Nernipalle, Bodiguttapalle, Kumbarlapalle, Chintamakulapalle, Gudipalle
30	Chittoor	Rama Kuppam	Vijalapuram
31	Chittoor	Santhi Puram	Karlagatta, Preethichamanur, Madanapalle, Kalamaladoddi, Banthimadugu Gollapalle
32	Chittoor	Gudi Palle	Beggilipalle, Sanganapalle, Sodiganipalle, Jarugukonda, Bisanatham
33	Chittoor	Kuppam	Kuppam, Ekarlapalle, Kamathamur, Ellajjanuru, Urinayanipalle

S. No	Erstwhile District	Mandal	Village Names
34	Chittoor	Gurramkonda	Sarimadugu, Nadimikhandriga
35	Kadapa	Proddutur	Modameedipalle (Rural), Yerraguntlapalle, Kothapalle, Upparapalle, Gopavaram
36	Kadapa	Chapad	Ananthapuram
37	Kadapa	Brahmamgarimattam	Somireddipalle, Mallepalle, G.Narasimhapuram
38	Kadapa	Chaknayapet	Kumarakalva, Anjaneyapuram, Addalamarri
39	Kadapa	Vempalle	Vempalle, Muthukuru, Alavalapadu
40	Kadapa	Penagaluru	Itimarpuram, Narayana Nellore, Narasingarajupuram, Siddavaram, Obili, Thirumalarajupeta, Komantharajupuram, Indlur

S. No	Erstwhile District	Mandal	Village Names
41	Kadapa	Lingala	Herojipuram, Vadlavaripalle, Ramanuthalapalle
42	Kadapa	Thandur	Sydapuram
43	Kadapa	Pulivendla	Pulivendla
44	Kadapa	Vemula	Meedipentla, Vemula, Gondipalle, Chagaleru
45	Kadapa	Kamalapuram	Peddacheppalle, Letapalle, Dadireddipalle
46	Kadapa	Royachoti	Chennamukkapalle, Syamalavaripalle, Indukurupalle, Masapet
47	Kadapa	Sambepalle	Sambepalle, Gunnikuntla, Guriginjakunta, Dudyala, Routhukunta
48	Kadapa	Veeraballe	Odiveedu

S. No	Erstwhile District	Mandal	Village Names
49	Kadapa	Pullampeta	Thiruvengalanatharajapuram, Sreerangarajupalem
50	Kadapa	Rajampet	Kothapalle, Anantharajupuram, Akepadu
51	Kadapa	Kodur	Vellelavari Khandrika, Vasudevapuram, Obanapalle
52	Kadapa	Obulavaripalle	Bommavaram, Govindampalle, Botimeedapalle
53	Kadapa	Chitvel	K.V.R.R. Puram, K.S.Agraharam, Chitvel, Nethivaripalle Nagavaram, Thimmayapalem, Bhakrapuram
54	Anantapur	Kundurpi	Jambugumpala
55	Anantapur	Settur	Lakshmanpalle, Chintarlapalle,
56	Anantapur	Rayadurg	Mechiri

S. No	Erstwhile District	Mandal	Village Names
57	Anantapur	Somandepalle	Velidadakala, Velagamakulapalle, Tungodu, Julukunta, Nadimpalle
58	Anantapur	Roddam	Dodagatta, Cherukur, Kogira
59	Anantapur	Lepakshi	Kondur, Kallur, Lepakshi, Cholasamudram, Kodihalli
60	Anantapur	Hindupur	Maluguru, Chalivendala, Manesamudram, Devarapalle, Gollapuram, Sreekanthapuram (Rural), Kotnur, Kirikera Kotipi
61	Anantapur	Parigi	Beechiganipalle
62	Anantapur	Chilamathur	Demakethepalle, Hussainpuram
63	Anantapur	Madakasira	Jadrahalli, Yerrabommanahalli, R. Anantapuram

S. No	Erstwhile District	Mandal	Village Names
64	Anantapur	Gudibanda	Pillenahalli, Rallahalli, Karikera, Morubagal, Gunimorubagal, Mandalahalli, Konkallu, S.Rayapuram, Muthukur, Kekathi
65	Anantapur	Agali	Inagalore, Ravudi, Kodihalli, Akkagaladevarahalli, P. Byadigera, Hulikeradevarahalli, Madhudi, Narasambudi, Agali
66	Anantapur	Rolla	Rolla, Dodderi, Kaki, Ratnagiri, M.Rayapuram, Bommagundanahalli
67	Anantapur	Amarapuram	Nidragatta, Thammadehalli, Halukuru, Valasa
68	Anantapur	Kothacheruvu	Bandlapalle, Pakeerupalle, Vemuletipalle, Thippa Batlapalle, Iragampalle, Marakuntapalle
69	Anantapur	Puttaparthi	Nidimamidi, Kotlapalle

S. No	Erstwhile District	Mandal	Village Names
70	Anantapur	Nallacheruvu	Talamarlavandla Palle, Nallacheruvu, Oravoy
71	Anantapur	Tanakal	Ethodu, Balasamudram, Diguvamandalapalle, Agraharampalle, T.Sadum, Maddinayanipalem, Cheekatimanipalle, Gurrambailu, Bonthalapalle, Kotapalle, Tavalam
72	Anantapur	Putlur	Madugupalle, Komatikuntla, Ellutla, Chinnamallepalle, Kummanamala
73	Anantapur	Yellanur	Medukurthy, Thirumalapuram, Vemulapalle, Boppepalle, Peddamallepalle, Mallagundla, Goddumarri
74	Anantapur	Nambulipulikunta	Gootibylu, Edurudona, Mudupalajuvi, Gowkanapalle, Velichelimala
75	Anantapur	Amadagur	Karinireddipalle, Lokojipalle

S. No	Erstwhile District	Mandal	Village Names
76	Anantapur	Gandlapenta	Maduguvanigondi, Gandlapenta, Jeenulakunta, Chamalagondi, , Chamachenubylu, Kurumamidi, Somayajulapalle
77	Anantapur	Talupula	Puligundlapalle, Nuthanakalva, Vepamampeta, Talupula, Bandlapalle
78	Anantapur	Tadpatri	Puliproddatur, Nandalapadu (Rural)
79	Anantapur	Yadiki	Kamalapadu, Konuppalapadu, Obulapuram, Nittoor, Puppala, Yadiki, Thimmapuram, Chandana
80	Anantapur	Putlur	Dosaledu, Kadavakallu, Arakativemula, Cherlopalli
81	Anantapur	Peddapappur	Muchukota, Pasalur, Garladinne
82	Kurnool	Chagalamarri	Chinna Vangali, Chagalamarri
83	Kurnool	Allagadda	Ahobilam

S. No	Erstwhile District	Mandal	Village Names
84	Kurnool	Kosigi	Kosigi, Pendekal, Irangal, Nelakosigi, Bompalle, Sajjalaguddam, Devarabetta, Yandapalle, Chirthanakal
85	Kurnool	Gonegandla	Pedda Marriveedu, Gonegandla, Kulumala
86	Kurnool	Peapally	Madhavaram, Jaladurgam
87	Kurnool	Orvakal	Komarolu
88	Kurnool	Veldurthi (Kurnool)	Bukkapuram
89	Kurnool	Bethamcherla	Emboy

- Star rated pump sets may be promoted and additional cost on energy efficient pump sets mays be considered as per prevailing market conditions.
- The minimum spacing to be maintained between dug wells / bore wells, minor irrigation works shall be as indicated in the Government of Andhra Pradesh G.O.MS.No.16, dated 23.03.2021.
- The depth recommended for drilling shall be as per site specific requirement, based on hydro geological and geophysical data and shall be as per the table below:

Agro-Climatic and Ground Water Zone (Erstwhile Districts)	Depth of drilling recommended (mtr.)			Remarks
	Hard Rock Areas	Sedimentary Areas	Alluvial Areas	
Southern Zone - 1 (Nellore, Chittoor, Kadapa - erstwhile districts)	200	No limitation		1. Based on the local conditions and the filed hydro geological and geophysical survey results, the recommendations of groundwater department officers or any registered Geologist/Geophysicist with APSGW&WAD may be adopted to drill beyond 200 m. 2. In case of coastal aquifer systems, precautions should be taken to avoid sea water incursion.
Low rainfall Zone – 2 (Kurnool, Anantapuram erstwhile districts)	200			
Central Zone – 3 (Guntur, Prakasam erstwhile districts)	200			
Godavari Zone – 4 (East Godavari, West Godavari, Krishna erstwhile districts)	150			
North Coastal Zone – 5	150			

(Srikakulam, Vizianagaram, Visakhapatnam erstwhile districts)			

- The proposed spacing norms between the wells in command areas is as mentioned below, however while recommending any well for any other purpose in the vicinity of a rural water supply well the norm of maintaining 250 m should be followed without any compromise.

Agro-Climatic and Ground Water Zone (Erstwhile Districts)	Ayacut (Command) Area			
	Dug Well (m)	Filter Point Well (m)	Bore Well / Tube Well (m)	
			<=10 cub. m/hr	10-20 Cu.m /hr
Southern Zone - 1 (Nellore, Chittoor, Kadapa erstwhile districts)	40	75	75	100
Low rainfall Zone – 2 (Kurnool, Anantapuram erstwhile districts)	40	75	75	100
Central Zone – 3 (Guntur, Prakasam erstwhile districts)	50	100	100	150

Godavari Zone – 4 (East Godavari, West Godavari, Krishna erstwhile districts)	30	50	50	75
North Coastal Zone – 5 (Srikakulam, Vizianagaram, Visakhapatnam erstwhile districts)	30	75	75	100

- The proposed spacing norms between wells in non-command areas is as mentioned below, however while recommending any well for any other purpose in the vicinity of a rural water supply well the norm of maintaining 250 m should be followed without any compromise.

Agro-Climatic and Ground Water Zone (Erstwhile Districts)	**Ayacut (Non-Command) Area**			
	Dug Well (m)	**Filter Point Well (m)**	**Bore Well / Tube Well (m)**	
			<=10 cub. m/hr	**10-20 Cu.m /hr**
Southern Zone - 1 (Nellore, Chittoor, Kadapa erstwhile districts)	50	100	100	150
Low rainfall Zone – 2 (Kurnool, Anantapuram erstwhile districts)	75	150	150	200
Central Zone – 3 (Guntur, Prakasam erstwhile districts)	50	100	100	150
Godavari Zone – 4	50	100	100	150

(East Godavari, West Godavari, Krishna erstwhile districts)				
North Coastal Zone – 5 (Srikakulam, Vizianagaram, Visakhapatnam erstwhile districts)	50	100	100	150

- *Renovation/Deepening of Wells (DoW)*
  - ❖ Only those wells having insufficient water column during summer and need deepening to ensure adequate yield for meeting the water requirement of the crop shall be covered under the programme.
  - ❖ The spacing norms between wells may be adhered to under DOW also.

- *Power Supply*

  Before approving loan for electric pump sets, the bank shall satisfy itself that the village is electrified, and that timely power supply would be available to the beneficiary for operation of the pump set.

- *Selection and Installation of Pump sets*

  a) The bank shall ensure that the pump sets that are financed under the scheme are selected and installed as per BIS 10804-1994 or latest editions.

  b) Wherever loans are advanced for replacement of existing pump set by new pump or for replacement of diesel pump set by electric pump set, the bank shall ensure that there is no change in the HP of the pump set and that the new pump set is as per BIS 10804-1994 or latest edition.

c) Bank shall ensure that the spacing criteria, as stipulated, are adhered to, for the loans extended for pump sets also.

d) Wherever loans are advanced for standby pump set, the bank may ensure that the standby unit is also selected as per BIS 10804-1994 or latest edition.

e) Wherever higher HP pump set is required for use other than irrigation, with common prime mover, total HP of the pump set selected for agricultural shall not exceed 1.5 times the HP required for irrigation purpose, subject to a maximum of 10 HP.

f) Capacitors: The Electric motor financed should always be provided with a starter and a capacitor matching the motor. The following KVAR rating capacitor should be used:

Below 3 hp	1 kvar
3 hp to 5 hp	2 kvar
5 hp to 7.5 hp	3 kvar

- *After Sales Service*

  The Bank shall ensure that adequate after sales service and repair facilities are provided by the manufacturers / dealers installing the pump set on beneficiaries' wells.

- *Water Lifting Permission*

  Wherever financing pump sets for lifting water from river/canal is involved, a letter from the competent authority of the Department/Agency concerned of the State Govt. permitting the beneficiary to lift water from river/canal

and indicating the period up to which such permission is provided should be obtained and furnished to the financing bank before sanctioning the loan.

- *Micro Irrigation Systems*

  a) Drip System

  - The Bank should ensure that only a technically competent and approved firm or person designs and installs the system at the field level.
  - The installing agency should assess the water requirement of each plant, optimum crop geometry, etc. and design the system accordingly. The bank should insist for a field layout map showing the benefiting area and the item-wise cost estimate.
  - Availability of design discharge of suitable chemical and physical quality on long term basis should be ensured for smooth operation of the system.
  - The installing agency should furnish performance guarantee for the efficient operation of the system for a minimum of 3 years' period as also ensure timely and adequate post sales-service for trouble-free working of the system.
  - The bank should carry out periodic monitoring of the implementation and assess the performance of the system at the field level.
  - Banks should ensure to safeguard the pipes (main and lateral drips), emitters, etc., against theft, robbery, fire, etc.
  - The system components to be installed should conform to the BIS Specification.

b) Sprinkler System

- The bank should ensure that adequate water of suitable quality to cover the envisaged area is available at the nearest location.
- The design of the sprinkler system should be done for the proposed cropping pattern should be done by a technically competent agency/person taking into consideration the source and availability of water, wind velocity in different seasons, soil conditions, agro-climatic situations, etc. to ensure installation of most economical system at farm level.
- The components of the system including pipes should conform to the BIS specification.
- The implementing agency / manufacturers should offer performance guarantee for the operation of the system for a reasonably longer period against any defect either manufacturing/working or installation.
- The firm should extend regular post sales service for maintenance.
- A plan of the area showing the layout of the system and cost estimate of the system should be prepared by the implementing agency.
- The implementing agency should offer regular post sales-service for maintenance.
- The bank should conduct periodic monitoring visits to assess the performance of the system and take corrective steps, wherever required.

Chapter 2
Land Development

Land development is a comprehensive process which entails evaluating, planning, designing, and modifying the cultivable land for undertaking the farming and allied activities. Land development involves transforming the terrain in various ways, including reshaping landforms from their semi-natural or natural condition for agricultural or allied purpose. Estimation, Entitlement Programs, and Land Development Construction are the three steps of the complete development phase.

Land Resources, soil, water and forests are considered as integral part of the natural capital which forms the foundation for the wealth of our society and economies. Out of the net sown area of 60.38 lakh ha of the state, 30.86 lakh ha is rainfed. The activities identified for land development are soil and water conservation measures, command area development, land levelling, etc.

S.No.	Activity	Specifications	Unit Cost (₹)	Repayment (Yrs.)
1	Graded Bunding	slope 2-10%, area: 1 acre-4047 sq.mts	14,200	5
2	Gully plugging with Stone	5 m	7,500	5
3	Earthen gully plugs with outlet	6 m	3,900	5
4	OFD works for 2% slope	1 acre	31,800	4
5	OFD works for 3% slope	1 acre	43,400	4
6	Reclamation of saline/alkaline soils	1 acre	21,400	7
7	Farm Pond – all soils with Geo membrane sheet lining	14m x 14m x 2m	66,700	5
8	Farm Pond – all soils with Geo membrane sheet lining	14m x 14m x 3m	94,700	5
9	Mini Farm Pond - all soils without lining	10m x 10m x 2m	21,800	5
10	NADEP compost - including operational cost	10’ x 6’x 3’	21,400	5

11	Tiny Vermicompost	2 TPA	35,500	5
12	Mini Vermicompost	20 TPA	3,95,000	5
13	Vermi hatchery	260 TPA	17,23,800	5
14	Barbed wire fencing – cement poles	per running meter	500	Repayment depends on the crop
15	Tank silt application (transport & application)	1 acre	14,200	5

Instalments: 1 year GP with annual instalments

Special Terms of Financing:

- Banks may finance land development activities as per the cost norms indicated in the relevant Central scheme. Physical norms for land development works to be decided as per local rates, DSR/SOR of State Govt/Department.
- The bank shall satisfy itself that the required technical guidance and supervision is made available by the concerned department of the State Government.

- Field to field level irrigation is discouraged and separate field channels are used to convey irrigation water to various parts of holding.

Chapter 3
Integrated Farming System

To ensure the long-term viability of agriculture, Andhra Pradesh has prioritized crop diversification and Integrated Farming Systems (IFS). The state encourages farmers to diversify their crop choices, moving away from mono-cropping towards mixed cropping or intercropping. This practice helps reduce the risk of crop failure and improves soil fertility. Additionally, integrated farming systems, combining crop cultivation with livestock rearing or fish farming, provide additional income sources for farmers while enhancing nutrient cycling and reducing pest problems. These sustainable farming systems contribute to the overall resilience of agricultural communities.

IFS approach can be described as “A judicious mix of two or more components using cardinal principles of minimum competition and maximum complementarity with advanced agronomic management tools aiming for sustainable and environment friendly improvement of farm income, family

nutrition and ecosystem services". Preservation of biodiversity, diversification of cropping/farming system and maximum recycling is the base for success of the farming systems approach.

In view of the Six agro-climatic zones of Andhra Pradesh, the unit costs for four IFS models which encompasses all agro-climatic zones of the state, have been given here:

- IFS Model for Dryland Agriculture
- IFS Model Suitable for Rainfed Agriculture
- IFS Model Suitable for Irrigated Agriculture
- IFS Model Suitable for Wet Land Agriculture
- Five Layer Model

1. IFS Model for Dryland Agriculture

(Dryland crops including Horticulture + Sheep/goat & Poultry birds + Trees/grass fodder)

S. No	Critical IFS Components	Unit Cost (₹ /ha)	Construction Cost (₹)	Maintenance Cost /year (₹)	Total Cost (₹)
1	Sheep/Goat Component (20+2 Unit)	65000	40000	94700	199700
2	Backyard poultry unit (100 Nos)	15000	33000	20000	68000
3	Field Crops	50000	-	85000	135000

	(Groundnut/Sorghum/Bajra/Minor Millets + Red gram/ Cowpea/ Black gram)				
4	Horticulture unit (Including fruit crops & plantations)	40000	-	28300	68300
5	Compost unit and other components	15800	10500	10500	36800
	Total	**185800**	**83500**	**238500**	**507800**

***Districts Covered**: Anantapur, Chittoor, Kadapa, Kurnool, Prakasam*

2. IFS Model Suitable for Rainfed Agriculture

(Rainfed cropping + Sheep/Goat/Poultry + Dryland Horticulture)

S. No.	Critical IFS Components	Unit Cost (Rs/ha)	Construction Cost (₹)	Maintenance Cost /year (₹)	Total Cost (₹)
1	Sheep/Goat Component (20+2 Unit)	75000	50000	74700	199700
2	Backyard poultry unit (100 Nos)	13000	35000	20000	68000
3	Dairy Unit (1 Milch Animal + 1 Heifer)	80000	55000	30700	165700

4	Field Crops (Rainfed Rice/Cotton/Groundnut/ Sorghum /Bajra/ Minor Millets + Red gram/ Cowpea/ pulses)	75000	-	80000	155000
5	Horticulture unit (including fruit crops & plantations)	45000	-	30000	75000
6	Compost unit and other components	15000	10000	11800	36800
	Total	**303000**	**150000**	**247200**	**700200**

***Districts Covered**: Guntur, Srikakulam, Visakhapatnam, Vizianagaram and uplands of Andhra Pradesh*

3. IFS Model Suitable for Irrigated Agriculture

(Cropping + Cattle + Horticulture + Mushroom cultivation)

S. No.	Critical IFS Components	Unit Cost (Rs/ha)	Construction Cost (₹)	Maintenance Cost /year (₹)	Total Cost (₹)
1.	Dairy Unit (2 Milch Animal + 1 Heifer)	75000	50000	40700	165700

2.	Backyard poultry unit (250 Nos)	45000	80000	45000	170000
3.	Field Crops (Rice/Maize/Cotton - Sunflower/Sweet corn/Cowpea)	70000	0	75000	145000
4.	Horticulture unit (including fruit crops & plantations)	50000	-	25000	75000
5.	Compost unit and other components	30000	20000	18300	68300
6.	Biogas Unit	125000	-	25000	150000
7.	Mushroom unit	10000	5000	10000	25000
8.	Apiculture unit	25,000	-	30,000	55,000
	Total	**430000**	**155000**	**269000**	**854000**

***Districts Covered**: Krishna, Guntur, East Godavari, West Godavari, Nellore*

4. IFS Model Suitable for Wet Land Agriculture

(Cropping + Horticulture + Fishery + Poultry + Mushroom Cultivation)

Sr. No	Critical IFS Components	Unit Cost (Rs/ ha)	Construction Cost (₹)	Maintenance Cost /year (₹)	Total Cost (₹)
1.	Dairy Unit (2 Milch Animal + 1 Heifer)	76000	50000	40000	166000
2.	Backyard poultry unit (250 Nos)	25000	75000	25000	170000
3.	Fishery Unit	100000	75000	150000	325000
4.	Crops (Rice/Maize/Sweet corn-green gram/Cowpea	70000	0	75000	145000
5.	Horticulture unit (including fruit crops & plantations)	45000	-	30000	75000
6.	Compost unit and other components	33000	20000	15250	68250
7.	Biogas Unit	125000	-	25000	150000
8.	Mushroom unit	10000	5000	10000	25000
	Total	**484000**	**225000**	**370300**	**1124300**

5. Five Layer Model

Why Five - layer?

Five- layer plantation is systematic integration of tree and crop species with varying degrees of sunlight intensity, which ensures 100% cover to the soil with diverse plants and trees; enhances soil biome, carbon sequestration, and water retention capacity of soils, provides enhanced nutrient availability and year-round income to farmers.

The principle is some trees require top layer - high intensity sunlight and bottom layers love shade. It is mimicking of forest and paradigm shift from mono crop mindset.

Trees create biodiversity and hence, provide nutrition through live roots, they provide regular income to farmers and at the same time protects the environment by reducing the temperature, allowing rains to come, maintains soil health, carbon sequestration, fodder to animals etc. Thus, drought proofing is done in the semi-arid and areas like Rayalaseema.

A. Fixed Costs (Plant saplings and seeds)

S. No	Particulars	Physical requirement		Unit Rate (₹)	Cost (₹)
1	Layer -1 (Group A) 7000 to	Mango/Jamun/Jack fruit/Wood apple/Teak wood /Coconut/Palm trees/Tamarind /Cashew	54	3400	17000

	12000 -foot candles	*Minimum spacing 12 meters			
2	Layer-2 Medium trees 5400 to 7000-foot candles	Mosambi/Dwarf mango/Guava/Lemon/orange/Areca nut/Sapota/seethapal *Minimum spacing 6 meters	150	90	13500
3	Layer-3 3700 to 5400 -foot candles	Drumstick /Papaya/Banana/Pomegranate/Perineal curry leaves/Perineal red gram, Castor *Minimum spacing 3 meters	504	20	10080
4	Layer-4 1800 to 3700 -foot candles	All vegetables (Tomato, Brinjal, Cauliflower, Cabbage, Green chilli, tubers and all leafy vegetables etc.)	1 kit (with multiple vegetables	8000	8000
5	Layer-5 It can with stand sunlight up	Creepers, climbers and bulbs (Onion & garlic)	1 kit (with multiple creepers and climbers)	3120	3120

	to 1800-foot candles				
6	Wind break-1	Miliya Dube, Silver oak, Palm, Teak, Red Sandalwood, Pongamia, Neem, Tamarind etc	120	60	7200
7	Wind break-2		1/2 kg	1000	1000
8	Intail land preparation		1	4500	4500
9	Drip system (Irrigation)		1	45000	45000
10	Mulching material		5	3500	17500
	Subtotal				**126100**
	15% additional cost				**18915**
	Sub Total				**145015**
	Rounded off (A)				**150000**

B. Recurring Cost

Sr. No.	Components	Cost (₹)
1	Labour Cost	54400
2	Soil Management Cost (Inputs)	19900
3	Plant Protection	19300
4	Others/Misc	1000
	Sub total	**94600**
	Rounded off (B)	**95000**
	Total Cost (A+B)	**245000**

C. Techno-Economic Assumptions

Sr. No	Particulars	Crop	Unit	Assumption	Remark	No. of yields in a year
1	Layer -1	Jamun	kg/acre	2160	Yield starts from 5th year	1

	selling price		Rs/kg	80		
2	Layer-2	Guava	kg/acre	3000	Yield starts from 2nd year	1
	selling price		Rs/kg	20		
3	Layer -3	Drumstick	pieces/acre	126000	Yield starts from 1st year onwards	1
	selling price		Rs/piece	1		
		Red gram	kg/acre	1008	Yield starts from 1st year onwards	2
	selling price		Rs/kg	50		
4	Layer -4	vegetables	kg/acre	12960	Yield starts from 1st year onwards	2
	selling price		Rs/kg	5		
		Tubers	kg/acre	3110	Yield starts	3

					from 1st year onwards	
	selling price		Rs/kg	10		
5	Layer -5	Creepers & climbers	kg/acre	5832	Yield starts from 1st year onwards	2
	selling price		Rs/kg	10		
6	Wind break -1	Miliya Dube (Timber)	CFT	1800	Once at 10th year	1
	selling price		1 CFT	300		
7	Wind break -2	Sesbania Grandiflora (Avisa)	kg/acre	18	Yield starts from 1st year onwards	1
	selling price		Rs/kg	1200		

Special Terms of Financing:

- 5-layer model may also be customized into multi-layer model with integration of other trees/crops into the 5-layer model. Banana based, vegetable based, sugar cane based, coconut based, Navadhanya based, cashew based and tree-based models may be devised keeping in view the copping systems in Andhra Pradesh.
- The five -layer/multi-layer plantations are classified as follows:
    - Establishing five -layer model in vacant lands either Rainfed or Irrigated.
    - Converting existing orchards
    - Cropping system based multi-layer plantations (converting mono cropping /Inter cropping systems into multi-layer plantations by integrating layers).
- Live Fence and wind break are pre-requisite for all the above systems:
- Plant species bearing thorns around the plot and interspaces covered with tall growing trees like Miliya Dube, Silver oak, Palm, Teak, Red Sandalwood, Pongamia, Neem, Tamarind etc. as wind breaks by maintaining specific spacing by at least 8 feet.
- For all the above conservation furrows, trenches are also must.

***Note**: Unit Costs may vary depending upon the enterprise proposed in the integrated model.*

Chapter 4
Farm Mechanization

Farm mechanization proves to be instrumental in reducing cultivation costs and enhancing productivity through efficient resource utilization. As per NABARD, powered machines contribute 40-45 percent to various farm activities. The need for modern farm equipment arose from the increased production of grains, cereals, and oil seeds, which necessitates intensive harvesting procedures to maximize yield and minimize waste.

NABARD has assessed the credit potential of ₹ 5409.72 for 2025-26 for farm mechanization in Andhra Pradesh. There is considerable potential for financing various farm equipment such as tractors, power tillers, rotavators, paddy transplanters, threshers, and harvesters. Recognizing the challenge posed by small and dispersed farm holdings, the establishment of

Custom Hiring Centers has become imperative and can be facilitated through the involvement of entities such as Farmer Producer Organizations (FPOs), Self-Help Group Federations (SHG Federations), and Primary Agricultural Credit Societies (PACS). The concept of Uberization holds promise in agricultural mechanization, where individual owners can be networked through a common platform. This approach allows for real-time and cost-effective responses to demand. To expedite the scale-up of such services across the state, the promotion of a franchise model, particularly through encouraging agricultural start-ups, can be instrumental.

S. No	Activity	Unit Cost (₹)	Remarks
1	Tractor with accessories – 15 to 25 HP	400000 to 600000	7 to 9 years Repayment Period with 1 year GP
2	Tractor with accessories – 26 to 35 HP	620000 to 680000	
3	Tractor with accessories – 36 to 45 HP	680000 to 780000	
4	Tractor with accessories – 46 to 55 HP	800000 to 980000	
5	Tractor with accessories – 56 to 60 HP	980000 to 1080000	
6	Trolley – two wheel hydraulic	160000 to 190000	5 to 7 years Repayment Period with 1 year GP
7	Power Tiller 6 to 12 HP	175000 to 300000	
8	Seed cum fertilizer Drill (1m width)	80000 to 150000	
9	Paddy Transplanter (4, 6 & 8 rows)	230000 to 460000	

S. No	Activity	Unit Cost (₹)	Remarks
10	M.B. Plough (2/3 furrows)	40000 to 75000	Tractor with minimum 2-3 implements are to be purchased
11	Reversible M.B. Plough (2/3 furrows)	75000 to 110000	
12	Disc Plough (2/3 discs)	50000 to 80000	
13	Disc Harrow (12 to 30 discs)	60000 to 90000	
14	Cultivator (7 tine to 11 tine)	25000 to 50000	
15	Rotovator (540 and 1000 rpm PTO speed)	125000 to 160000	
16	Thresher (30 to 45 HP PTO driven)	140000 to 320000	7 to 9 years Repayment Period as per the make/HP/Specifications

S. No	Activity	Unit Cost (₹)	Remarks
17	Bullock Drawn MB Plough	8000 to 35000	7 to 9 years Repayment Period as per the make/HP/Specifications
18	Groundnut decorticator – hand operated	14000 to 22000	
19	Groundnut decorticator (M/c operated)	50000 to 110000	
20	Combine Harvesters	1400000 to 2900000	
21	Turmeric cooking machine (4 drums)	550000	
22	Laser guided land leveller	470000	
23	Rotary Mulcher with tractor	110000 to 170000	
24	Mini power weeder (2 HP)	20000 to 25000	
25	Medium power weeder (4.8 HP)	50000	

S. No	Activity	Unit Cost (₹)	Remarks
26	Solar fencing (5 line 7 feet poles) per acre	80000 (Rs. 280/- RM)	7 to 9 years Repayment Period as per the make/HP/Specifications
27	Sugarcane harvester	10000000 to 15000000	
28	Paddy Reaper	200000	
29	Paddy straw Baler (Square) – Tractor Operated	350000 to 1850000	
30	Paddy straw Baler (Round) – Tractor Operated	105000 to 1350000	
31	Automatic Seedling Machine	230000 to 350000	
32	Shredder	180000 to 210000	
33	Paddy Winnower Cleaner	200000	
34	Agri-Backhoe Loader	350000 to 420000	

S. No	Activity	Unit Cost (₹)	Remarks
35	Brush cutter	12000 to 28000	7 to 9 years Repayment Period as per the make/HP/Specifications
36	Chaff cutter	32000 to 100000	
37	Chaff Cutter cum Pulveriser	55000 to 60000	
38	Mini Feed Mixing Plant	150000	
39	Solar/ Electrical Pest Repellent	12000 to 30000	
40	Agriculture Drone (10 Litre. spray capacity) with Assembling section, etc. and onsite training	650000 to 1000000	
41	Agriculture Drone: Seed Planting Drones	475000 to 1900000	
42	Vegetable Dryer- Solar Tunnel Dryer (100 to 200 Sq. ft)	75000 to 175000	The Solar as well as Electric dryers can be used for various vegetable including Chilli and Tomatoes
43	Vegetable Electric Dryer - 48 Trays	300000 to 450000	

S. No	Activity	Unit Cost (₹)	Remarks
44	Battery Operated Tiller with Accessories - 1.2 Kw (3 tyne cultivator, flail mower, sprayer pump, trolley, 4 tyne seed drill, Earth Auger etc.)	340000 to 460000	

@ Costs are indicative only; may vary based on capacity, make, quotation, specifications, etc.

Special Terms of Financing – Farm Mechanization

- Selection of the machinery will depend upon the area, major crops, skilled and unskilled labor availability, soil type etc.
- While financing tractors/power tillers & farm equipment's the banks may ensure the respective BIS standards are adhered to.
- Banks may finance FM activities as per the crops grown, presence of other CHCs & concentration of farm machinery in the area.

Chapter 5
Plantation and Horticulture

Andhra Pradesh has six Agro-climatic zones, which has led to unique opportunities for crop diversification in terms of high volume to high value crops like plantation and horticulture. The area under Horticulture crops is 18.08 lakh ha with a production of 369.07 lakh MTs (Department of Horticulture, GoAP: III Estimates of 2021-22). Andhra Pradesh ranks first in area and production of fruits and spices and second in Micro Irrigation area coverage. The GoAP is actively prioritizing this sector and has formulated a comprehensive perspective plan. This plan encompasses various strategic aspects, including area expansion, implementation of micro-irrigation systems, promotion of protected cultivation, establishment of polyhouses, mechanization, development of cold storage and ripening chambers, as well as initiatives in fruit and vegetable processing and value addition. Considering the scope available for the sector, the credit potential in 2025-26 is assessed at ₹6,080.87 crore.


Vegetables Cultivation Zones


Fruit Cultivation Zones


Spices Cultivation Zones


Plantation Crop Cultivation Zones

S.No	Crop	Spacing (m)	Population /acre	Year I (₹)	Year II (₹)	Year III (₹)	Year IV (₹)	Year V (₹)	Unit Cost (₹)	Capitilisation (Yrs.)	Repayment period (Yrs.)
1	Mango	7.5 x 7.5	71	52000	15600	15600	19500	27300	130000	5	5
2	Mango – high density	5 x 5	160	65209	19398	20168	25175	35105	165000	5	5
3	Mango – ultra high density	4 x 3	440	88274	29250	32189	41390	-	191000	4	3
4	Mango – ultra high density	2.5 x 2.5	640	137660	53830	60430	-	-	251900	3	3
5	Guava	6 x 6	110	51377	15272	15891	19800	27660	130000	10	7
6	Guava – high density	3 x 3	440	89170	30700	34480	-	-	154300	3	7
7	Custard Apple – ultra high density	2.5 x 2.5	640	107410	39360	34500	-	-	181300	3	7
8	Dragon Fruit	2.5 x 2.5	1600	619600	69000	-	-	-	688600	2	6

S.No	Crop	Spacing (m)	Population /acre	Year I (₹)	Year II (₹)	Year III (₹)	Year IV (₹)	Year V (₹)	Unit Cost (₹)	Capitilisation (Yrs.)	Repayment period (Yrs.)
9	Apple Ber	5 x 5	160	82560	46440	-	-	-	129000	2	7
10	Apple Ber	4 x 4	250	90450	44550	-	-	-	135000	2	7
11	Ber	6 x 6	110	61953	22759	22458	21830	0	129000	4	7
12	Citrus	6 x 6	110	63234	18812	19559	24415	33980	160000	5	7
13	Sapota	8 x 8	60	47426	14109	14670	18311	25484	120000	5	7
14	Pomegranate	5.0 x 5.0	-	-	-	-	-	-	165000	3	3
15	Pomegranate	5.0 x 3.0	-	-	-	-	-	-	170000	3	3
16	Pomegranate	4.0 x 3.0	-	-	-	-	-	-	180000	3	3

S.No	Crop	Spacing (m)	Population /acre	Year I (₹)	Year II (₹)	Year III (₹)	Year IV (₹)	Year V (₹)	Unit Cost (₹)	Capitilisation (Yrs.)	Repayment period (Yrs.)
17	Tissue Culture Banana	1.65 x 1.65	1470	129800	-	-	-	-	129800	1	1
18	Cashew	6 x 6	110	59282	17636	18337	22889	31856	150000	5	7
19	Coconut – East Coast Tall	7.5 x 7.5	60	57306	17049	17726	22126	30793	145000	5	8
20	Coconut – Godavari Ganga Tall X Dwarf hybrid	8 x 8	63	30589	9100	9451	11800	16460	77400	5	8
21	Jasmine	1.5 x 1.5	1780	82300	-	-	-	-	82300	1	1
22	Oil Palm	9 x 9	110	-	-	-	-	-	108350	4	8
23	Aonla	6 x 6	110	53603	22138	23696	20563	-	120000	5	6
24	Creeper Crops – Trellis System	4 x 5.5	180	142156	42288	43968	54784	76504	359700	5	8

S.No	Crop	Spacing (m)	Population /acre	Year I (₹)	Year II (₹)	Year III (₹)	Year IV (₹)	Year V (₹)	Unit Cost (₹)	Capitilisation (Yrs.)	Repayment period (Yrs.)
25	Rose	2 m x 2 m	2000	78900	-	-	-	-	78900	1	1
26	Chrysanthemum	30cm x30 cm with a distance of 45 cm between rows	11000	135000	-	-	-	-	135000		
27	Jamun	6m x 6m	110	32149	9570	9941	12420	17320	81400	5	5
28	Exotic flowers like Orchids, Chrysanthemum and hybrid roses (polyhouse cultivation)	1m x 1m	4000	172000	-	-	-	-	172000	1	1
29	Poly houses and shade nets (Installation cost)	1m x 1m	4000	-	-	-	-	-	3500000		

S.No	Crop	Spacing (m)	Population /acre	Year I (₹)	Year II (₹)	Year III (₹)	Year IV (₹)	Year V (₹)	Unit Cost (₹)	Capitilisation (Yrs.)	Repayment period (Yrs.)
30	Capsicum under Naturally Ventilated Poly house	1m x 1m	4000	-	-	-	-	-	1500000	1	1
31	Cucumber under Naturally Ventilated Poly house	1m x 1m	4000	-	-	-	-	-	1650000	1	1
32	Gerbera under Naturally Ventilated Poly house	1000 sq mt(40* 40cm)	6250	-	-	-	-	-	1800000	1	1
33	Rose under Naturally Ventilated Poly house	1000 sq mt		-	-	-	-	-	1450000	1	1
34	Tomato under Naturally Ventilated Poly house	1000 sq mt(75 * 60cm)	2222	-	-	-	-	-	1150000	1	1
35	Capsicum under Low Cost Walk in Tunnel (Poly House)	1000 sq mt(45*30cm)	7407	-	-	-	-	-	800000	1	1

S.No	Crop	Spacing (m)	Population /acre	Year I (₹)	Year II (₹)	Year III (₹)	Year IV (₹)	Year V (₹)	Unit Cost (₹)	Capitilisation (Yrs.)	Repayment period (Yrs.)
36	Cucumber under Low Cost Walk in Tunnel (Poly-House)	1000 sq mtm(60 cm * 2meter)	833	-	-	-	-	-	800000	1	1
37	Tomato under Low Cost Walk in Tunnel Poly House	1000 sq mt (45*60)	7407	-	-	-	-	-	800000	1	1
38	Bee Keeping	50 colonies (boxes)		-	-	-	-	-	265000	1	3
39	Bamboo	5 m x 5 m	400/ha	-	-	-	-	-	102000	5	8

Special Terms of Financing:

- The bank shall satisfy itself that planting material of required quantity and quality, procured by the borrowers are from reliable sources such as nurseries of Agricultural Universities or State Government or any other recognized private nursery.
- Loan shall be issued in respect of investments for raising plants during the first year and also for subsequent maintenance, till the plant attains economic bearing stage, or as indicated in the Unit Cost. However, where loans are proposed to be availed of only for the first-year planting, it should be ensured that the borrowers have their own resources to meet subsequent expenditure.
- Suitable inter crops may be taken up during the gestation period of the main crop, wherever feasible.
- Mixed cropping shall be encouraged, wherever possible, as in the case of coconut, etc.
- A suitable tie-up arrangement can be tried with the marketing agency concerned for recovering the loan installments with the concurrence of the borrowers.

Chapter 6

Sericulture

Andhra Pradesh is the second largest producer of Silk in India next to Karnataka. Mulberry is grown in Sri Satya Sai, Anantapur, Chittoor, Annamayya, Prakasam, Kadapa and Kakinada districts. There are more than 75,000 farmers in the state who are actively involved in the sericulture. In FY 2022-23, Tasar cocoon production in Andhra Pradesh was 1518 lakh cocoon, which contributed ₹ 897.66 crore in GVA realized of the state.

The sector has immense potential in the state. There is ample scope in on-farm and off-farm activities. On-farm activity includes Increase in area under Mulberry plantation and Establishment of new rearing units at farmer level for Cocoon production. The non-farm activity includes Reeling of Cocoons for production of Raw Silk by Reelers, Twisting of Silk yarn and dyeing by entrepreneur and Weaving of Silk yarn into Silk Fabric by Silk Weavers. The

state has favourable climatic conditions to take up the activity and has dedicated State Government department to handle the extension services to farmers. The Agriculture University and KVKs are developing new technologies for reducing the mortality and improving the quality and yield of silk. Mulberry plantation: An area of 143,000 acres has been brought under Mulberry cultivation till 2023-24.

Source: Socio-economic survey of AP, 2023-24

S. No	Component	Type – I (1000 Sq Ft) (₹)	Type – II (600 Sq Ft) (₹)
	Mulberry Cultivation		
a	Construction of Silkworm rearing Shed	10,00,000	6,00,000
b	Mulberry Garden per One acre (2 crops)	2,20,000	2,20,000
c	Silkworm Rearing (shoot rearing system and rearing appliances) Equipment	1,25,000	1,00,000
Total		**1500000**	**13,45,000**

S. No	Activity	Unit Size	Unit Cost (₹)
1	Chawki Rearing Center	5000 DFLs per batch -1200 sq. ft Shed	18,00,000
2	Multi end reeling Unit	6 basins	12,00,000
3	Multi end reeling Unit	MERU (10 basins)	21,00,000
4	Twisting Unit	480 spindles	12,00,000
5	Automatic Reeling Machine	400 ends	1,70,00,000
6	Automatic Reeling Machine	200 ends	88,00,000
7	Automatic Reeling Machine	120 ends	40,00,000

Special Terms of Financing:

The terms and conditions indicated below are for area-based sericulture development programme:

- The borrowers may be identified in consultation with the State Department of Sericulture/Central Silk Board, especially in non-traditional zones/districts.

- While financing for seed cocoon production, ensure that the scheme is a notified seed area.
- Ensure that the borrowers selected have adequate source of irrigation while financing for mulberry cultivation under irrigated conditions. If necessary, water saving irrigation system like Drip and Sprinkler may be suggested, wherever feasible, and the required credited assistance extended.
- Improved High Yielding Varieties of mulberry and silkworm races may be insisted upon under irrigated conditions.
- Supply of planting material of specified mulberry variety may be ensured through Government Seed Farm or through reputed private sources.
- The financing bank may ensure that there is adequate supply of quality disease free Silkworm eggs (DFLs).
- The financing bank may ensure that a sound/competitive marketing infrastructure is available in the scheme area and the farmers are not required to carry their cocoons to a far-off market.
- Bankers may also educate the farmers regarding the subsidy schemes available with Sericulture Department for different investment activities.

Chapter 7

Forestry

Agroforestry is emerging as a potential solution to mitigate the effects of climate change by offering microclimate moderation, conserving natural resources, and establishing supplementary sources of livelihood and income. The agroforestry system, with its multifaceted approach, not only contributes to climate resilience but also enables additional income generation.

Through Integrated Farming practices, elements such as poultry, mushroom cultivation, fish farming, beekeeping, sericulture, and other diverse activities can be seamlessly integrated, fostering a holistic and sustainable approach to agriculture. The credit potential assessed under forestry and wasteland development in 2025-26 is ₹ 599.04 crore. Forestry is a sustainable land-use system that boosts overall yields by combining annual food crops with perennial cycles or simultaneously, is guided by practices tailored to the local community and the economic and ecological conditions of the area.

The bankers need to be sensitized about forestry schemes so as to create awareness for financing the activity. Banks may extend financial assistance for cultivation of commercially important tree species like Bamboo, Teak, Subabul, Clonal Eucalyptus and Casuarina under Agro Forestry. NABARD has estimated a potential of ₹599.04 crore under Forestry and wasteland development in Andhra Pradesh for the FY 2025-26.

Source: Dept. of Forest & Dept. of Horticulture, Govt of AP

S. No.	Plantation	Unit Cost/ha (₹)	Repayment (Yrs.)	Gestation period (Yrs.)
1	Teak	1,36,000	10	6
2	Casuarina	95,000	4	3
3	Subabul	85,500	4	3
4	Eucalyptus (Clonal)	1,07,000	6	5
5	Meliadubia	1,14,500	7	6

Note:

- *Forest Department suggests that teak cultivation should be grown preferably along with the Agriculture/Horticulture crops as these species have longer rotation period compared to other fast-growing species.*

- *The Unit Cost may vary for the different agro-climatic regions and on the locality specific requirements/conditions.*
- *Farmers should be encouraged to take up agroforestry activities particularly in the initial years, in order to ensure steady flow of cash to the farmers.*

Chapter 8

Animal Husbandry

Andhra Pradesh has some of the richest livestock resources in the Country and is one of the most advanced States in Animal Husbandry. The Livestock play a vital role in Socio-economic and cultural life of the state. The Livestock sector provides not only the "Risk Proofing" during agrarian distress, but also a credible source of remunerative income to the farmers. The growth rate of 3.76% was recorded in the livestock sector.

The State has the world-famous breed of Ongole Cattle, Godavari Buffaloes, Aseel breed of poultry, which is the principal source for the development of broiler breeds in the world. Andhra Pradesh is also famous for Nellore breed of sheep, which is well known for quality meat. As per the Livestock Census 2019, the state has 340.60 lakh of Livestock population and 1078.63 Poultry

population. During 2021-22, the state stood 1st in Egg Production (2645.03 lakh no.), 2nd in Meat production (10.25 Lakh MTs) and 5th in Milk production (154.03 Lakh MTs) in the country.

As per the operational guidelines of Animal Husbandry Infrastructure Development Fund (AHIDF) scheme the scheduled banks may provide financial assistance to individuals/ FPOs for establishment of infrastructure for dairy processing and value addition infrastructure and establishment of animal feed plant in the private sector. The estimated potential for the year 2025-26 under Animal Husbandry Sector including Dairy, Poultry and Sheep, Goats and Piggeries work out to ₹26641.68 crore. The major activities under this sector include loans for mini dairy units, cows, buffalos, calf rearing, dairy outlets, broiler and layer poultry, breeding farms, feed plants, sheep and goat rearing, piggery, KCC for dairy, poultry, sheep, goat, etc.

Source: Socio Economic Survey 2022-23, Govt of AP

8.1 Dairy

a. Two Animal Unit

S. No	Item of Investment	Unit Size	Unit Cost (₹)		Repayment
i	**Cross Bred Cows**	1+1	Cost of 2 CBC's (Rs.72000/animal)	144000	5 Yrs. including 6 months GP
			Equipment	5000	
			Feed Cost for one month (1 animal)	4667	
			Insurance (@4.5%)	6480	
			Vety Aid	3000	
			Other costs	2600	
			Total	**165647**	
			Rounded off to	**1,65,700.00**	
ii	**Graded Murrah Buffaloes (GMB)**	1+1	Cost of 2 GMB's ((Rs. 90000/animal))	180000	5 Yrs. including 6 months GP
			Equipment	5000	
			Feed Cost for 1 month (I animal)	4246	

S. No	Item of Investment	Unit Size	Unit Cost (₹)		Repayment
			Insurance (@4.5%)	8100	
			Vety Aid	3000	
			Others	2500	
			Total	**202846**	
			Rounded off to	**2,02,800.00**	
iii	**High Yield Variety (CBC)**	1+1	Cost of 2 CBC's (Rs.85000/animal)	170000	5 Yrs
			Equipment	5000	
			Feed Cost for one month (2 animal)	10020	
			Insurance (@4.5%)	7650	
			Vety Aid	3000	
			Other costs	3000	
			Total	**198770**	

S. No	Item of Investment	Unit Size	Unit Cost (₹)		Repayment
			Rounded off to	**1,98,800.00**	
iv	**High Yield Variety (GMB)**	1+1	Cost of 2 GMB's (Rs. 100000/animal)	200000	5 Yrs
			Equipment	5000	
			Feed Cost for 1 month (2 animal)	9388	
			Insurance (@4.5%)	9000	
			Vety Aid	3000	
			Others	2500	
			Total	**228888**	
			Rounded off to	**2,28,900.00**	

b. Mini Dairy

S. No	Item of Investment	Unit Size	Unit Cost (₹)		Repayment
i	**Mini Dairy (CB Cows)**	3+2	Shed (5 animals, 40 sq. ft/animal, Rs. 240/sq. ft; Thatch roof)	48000	5 Yrs. including 6 months GP
			Shed (3 calves; 30 sq. ft/animal, Rs. 240/sq. ft; Thatch roof)	21600	
			Cost of equipment (Rs. 1200/animal)	6000	
			Cost of animals – CB cows (Rs. 72000/animal)	360000	
			Feed for 1 month for I batch	14687	
			Fodder cultivation (0.5 acre)	18000	
			Insurance (@4.5%)	16200	
			Veterinary Aid	7500	
			Others	7000	
			Total for CB cow unit	**497987**	
			Rounded off to	**4,98,000.00**	

S. No	Item of Investment	Unit Size	Unit Cost (₹)		Repayment
ii	**Mini Dairy (GMB)**	3+2	Shed (5 animals, 40 sq.ft/animal, Rs. 240/sq.ft; Thatch roof)	48000	5 Yrs. including 6 months GP
			Shed (3 calves; 30 sq. ft/animal, Rs. 240/sq. ft; Thatch roof)	21600	
			Cost of equipment	6000	
			Cost of animals – GM Buffaloes (Rs. 90000/animal)	450000	
			Feed for 1 month for I batch	13772	
			Fodder cultivation (0.5 acre)	18000	
			Insurance (@4.5%)	25250	
			Veterinary Aid	7500	
			Others	6000	
			Total for GMB unit	**595122**	
			Rounded off to	**5,96,000**	

c. Mini Dairy (High Yield)

S. No	Item of Investment	Unit Size	Unit Cost (₹)		Repayment
i	**Mini Dairy (High Yield CB Cows)**	5+5	Shed for adults (10 animals, 40 sq. ft / animal: Rs.360/sq. ft)	144000	5 Yrs. including 6 months GP
			Shed for calves (30 sq. ft/calf: Rs. 360/sq. ft; 5 calves)	54000	
			Chaff cutter	15000	
			Cost of equipment	10000	
			Cost of animals – High Yield CB cows (Rs. 85000/ animal)	850000	
			Feed for 1 month for I batch	25627	
			Fodder cultivation (1 acre)	36000	
			Insurance (@4.5%)	39250	
			Veterinary Aid (Rs.1500/animal)	20000	
			Labour Cost	25000	

S. No	Item of Investment	Unit Size	Unit Cost (₹)		Repayment
			Others	4500	
			Total for CB cow unit	**12,23,000**	
ii	**Mini Dairy (High Yield GMB Cows)**	5+5	Shed for adults (10 animals, 40 sq. ft / animal: Rs.360/sq. ft; AC Sheet roofing)	144000	5 Yrs. including 6 months GP
			Shed for calves (30 sq. ft/calf: Rs. 360/sq. ft; AC shed; 5 calves)	54000	
			Chaff cutter	15000	
			Cost of equipment	10000	
			Cost of animals – High Yield GM Buffaloes (Rs. 100000/ animal)	1000000	
			Feed for 1 month for I batch	24477	
			Fodder cultivation (1 acre)	37000	
			Insurance (@4.5%)	55000	
			Veterinary Aid (Rs.1500/animal)	15000	

S. No	Item of Investment	Unit Size	Unit Cost (₹)		Repayment
			Labour Cost	35000	
			Others	10000	
			Total for GMB cow unit	**1399477**	
			Rounded off to	**14,01,000**	

***Note**: Additional cost for water source, milking machine etc., can be considered subject to viability*

d. Commercial Dairy

S. No	Item of Investment	Unit Size	Unit Cost (₹)	Repayment
1	**Commercial Dairy**		Depending upon the size of the unit. Indicative costs for various items of investments are - • Cost of CBC - ₹6000-7500/Litre Per day (LPD); GMB - ₹9000-11000/LPD; Cost of equipment - ₹1100/animal	

S. No	Item of Investment	Unit Size	Unit Cost (₹)	Repayment
			• Higher transport can be considered on need basis • Shed space - 20 sq.ft/calf; 30 sq.ft/heifer; 40 sq.ft/ adult; Shed cost - ₹240/sq.ft-Thatched Roof; ₹330/sq.ft-Asbestos roof • Fodder cultivation - 1 ac/10 animals; ₹36000/acre • Feed cost to be capitalised for the first batch of animals @₹3500/animal; Insurance cost - actual (4.5% of animal cost assumed); Veterinary aid - ₹1500/animal Other investments like feed store, milk shed, chaff cutter, minor irrigation structures for fodder unit, water supply system, milking machines, fencing, cost of bulls / AI unit, feed mixing unit etc., may be considered based on need and subject to viability.	

e. Female Calf Rearing

S. No	Item of Investment	Unit Size	Unit Cost (₹)		Repayment
i	**Female Calf Rearing (CB & GMB)**	1	Cost of Calf* Own		5 Yrs. including 2 Yrs. GP
			Cost of feed for 23 months (1620 kg) for CB calves	42500	
			Cost of feed for 40 months (1900 kg) for Buffalo calves	47500	
			Veterinary Aid	1320	
			Insurance	2000	
			Total - CB Calf	**46,000**	
			Total - Buffalo Calf	**53,000**	

f. Fodder Cultivation

S. No	Item of Investment	Unit Size	Unit Cost (₹)		Repayment
i		1 Acre	Cost of Land Preparation-Ploughing	2158	5 Yrs.

S. No	Item of Investment	Unit Size	Unit Cost (₹)		Repayment
	Fodder Cultivation		Forming ridges	1439	
			Planting material. (13500 slips)	4856	
			Farm Yard Manure 5 tons	5995	
			Fertiliser	2998	
			Cost of application of farm yard manure and fertiliser	2998	
			Cost of Planting	2398	
			Cost of weeding	4796	
			Cost of Irrigation	1799	
			Cost of cutting	4796	
			Miscellaneous	1799	
			Total	**36030**	

S. No	Item of Investment	Unit Size	Unit Cost (₹)		Repayment
			Rounded Off	**36,000**	

g. ZBNF Unit

S. No	Item of Investment	Unit Size	Unit Cost (₹)		Repayment
i	**ZBNF Unit Non-Descript Cows (selling milk, urine and dung)**	1+1	Cost of 2 NDCs (₹40000/animal)	80000	5 Yrs. including 6 months GP
			Shed Cost with suitable flooring for urine collection- 100 Sq. ft @ ₹200 per sq. ft	20000	
			Plastic Drums – 10 in no of diff. sizes	3000	
			Other equipment	1500	
			Feed cost (considered for one month)	1390	
			Insurance	3600	
			Medicines	1000	

S. No	Item of Investment	Unit Size	Unit Cost (₹)		Repayment
			Veterinary aid	1200	
			Power and other expenses	400	
			Total	**112090**	
			Rounded off	**1,12,100**	
ii	**ZBNF Unit Non-Descript Cows (selling part of milk and preparing different products from urine and dung)**	1+1	Cost of 2 NDCs (₹40000/animal)	80000	5 Yrs. including 6 months GP
			Shed Cost with suitable flooring for urine collection- 100 Sq. ft @ ₹200 per sq. ft	20000	
			Plastic Drums – 10 in no of diff. sizes	3000	
			Stove and other equipment	10000	
			Feed cost (considered for one month)	1390	
			Insurance	3600	
			fuel cost for stove	600	

S. No	Item of Investment	Unit Size	Unit Cost (₹)		Repayment
			Medicines	1000	
			Veterinary aid	1200	
			Power and other expenses	400	
			Total	**1,21,200**	
			Rounded off	**1,21,200**	

Special Terms of Financing:

- The bank shall select villages keeping in view the compactness of the area to facilitate supervision and nearness of villages to veterinary dispensaries, animal breeding centres and milk marketing facilities.
- The bank shall ensure that a unit of 2/3 milch animals is financed and that animals are purchased with an interval of about 4-6 months to ensure continuity in milk production.
- The bank shall finance under the scheme only good quality animals viz. Graded Murrah buffaloes / Cross bred cows, preferably freshly calved animals in second or third lactation.
    - Immediately after purchase, suitable arrangements for identification of animals by tattooing or ear tagging shall be made with the help of State Animal Husbandry Department. In addition

to this, the record of particulars of the animal identification (colour, birthmarks, etc.) shall be maintained.

- Certificate regarding age, milk production and health of animals financed shall be obtained from qualified veterinary assistant surgeon.

- Animals should be vaccinated with the help of Veterinary Department, against diseases such as Rinderpest, Haemorrhagic Septicaemia and Foot and Mouth disease, depending upon prevalence of particular diseases in the area and as per the device
- of the State Animal Husbandry Department.
- Adequate insurance cover is to be obtained for all animals purchased under the scheme.
- The bank shall satisfy itself that beneficiaries have adequate arrangements for supply of green/dry fodder and concentrate feed. The bank shall, wherever possible, encourage the beneficiary to take up green fodder cultivation on his/her own.
- The bank shall satisfy itself that adequate facilities for veterinary aid and breeding are available from the Government department/ Milk Union concerned to the beneficiary in the vicinity of the scheme area.
- In cases, where cross bred / indigenous cows are financed, the bank shall satisfy itself that breeding service, with high quality semen of exotic / cross bred pedigree bulls, is available at the artificial insemination centres in the scheme area.
- Wherever loans for construction of cattle shed are not given, the bank shall ensure, before sanction of loan for purchase of milch animals, that the beneficiary either has cattle shed or facilities to provide shelter or will be able to provide cattle shed out of his own sources.

- The bank shall satisfy itself that suitable and satisfactory arrangements exist for marketing of milk. Such arrangements could either be in the nature of organised marketing through milk collection centres or outlet for direct sale of milk at a remunerative price.
- Wherever an arrangement is made to market milk through organised system, the bank may make arrangements with the milk collection agencies for loan recoveries out of sale proceeds.

8.2 Sheep Rearing

S. No	Item of Investment	Unit Size	Unit Cost (₹)		Repayment
i	**Breeding unit - Nellore breed**	100+5	Cost of Ram	100000	6 yrs. including 1 year GP
			Cost of ewes (₹10350/animal)	1335000	
			Cost of feeding for one cycle	100000	
			Cost of Insurance (7.5% for 3 years)	165000	
			Cost of Veterinary Aid	18000	
			Equipment	41000	
			Total	**1759000**	

			Rounded off	**17,59,000**	
			**Cost of thatched shed may be considered on need basis*		
ii	**Breeding unit - Deccani breed**	100+5	Cost of Ram	109800	6 yrs. including 6 months GP
			Cost of ewes (₹8000/animal)	1150000	
			Cost of feeding for one cycle	78700	
			Cost of Insurance (7.5% for 3 years)	98600	
			Cost of Veterinary Aid	27700	
			Equipment	18900	
			Total	**1483689**	
			Rounded off	**14,83,700**	
			**Cost of thatched shed may be considered on need basis*		
iii	**Ram Lamb Fattening)**	20/batch	Cost of Lambs (20Nos)	90000	6 yrs. including 6 months GP
			Cost of Shed and equipments	19000	

			Cost of Feeding	9000	
			Cost of Veterinary Aid	3000	
			Total	**1,30,000**	

8.3 Goat Rearing

S. No	Item of Investment	Unit Size	Unit Cost (₹)		Repayment
i	**Rearing Unit - Osmanbadi breed/ Improved desi**	20+1	Cost of Buck	12650	6 yrs. including 1 year GP
			Cost of Does (₹9200 each)	184000	
			Cost of feeding for one cycle	10391	
			Cost of Insurance (7.5% for 3 years)	14352	
			Cost of Veterinary Aid	3542	
			Equipment	2875	

			Total	**227810**	
			Rounded off	**2,28,900**	

Special Terms of Financing – Sheep and Goat Rearing:

- The bank shall select villages keeping in view the compactness of the area to facilitate supervision, nearness of villages (within 5 to 10 km distance) to veterinary dispensaries, grazing facility and adequate marketing facilities of wool/meat.
- While selecting beneficiaries, preference may be given to persons belonging to traditional shepherds' community having better experience of management of sheep/goat.
- Only sheep/goat of 12 to 18 months old, certified as healthy by a qualified Veterinary Assistant Surgeon of Department of Animal Husbandry, preferably Nellore/Deccani breeds of sheep and Osmanabadi/local breeds of goat shall be financed under the scheme.
- All animals financed shall be tattooed or ear tagged for proper identification.
- Arrangements may be made to vaccinate animals purchased against all infectious diseases, including Entrotoxemia, as per the advice of Department of Animal husbandry. Sheep/Goat shall be dewormed at least once in three months with the help of State Animal Husbandry Department.
- The bank shall ensure that animals are adequately insured.

- The bank shall ensure that no animal is disposed of or sold by the beneficiary, without its prior permission in writing, till the loan is fully repaid.
- Transportation costs extra, on need basis.

8.4 Piggery

S. No	Item of Investment	Unit Size	Unit Cost (₹)		Repayment
i	**Breeding Unit**	3+1	Cost of Boar	6600	5 yrs. including 1 year GP
			Cost of Sows (₹4400/animal)	13200	
			Cost of adult shed (70 sq ft/boar and 20 sq ft /sow for 2 sows and one farrowing pen @100 sq ft for one sow)	24200	
			Cost of fattener shed (10 sq ft /fattener)	11000	
			Cost of feeding for one cycle	47370	
			Cost of Insurance (6% per year)	2188	
			Cost of Veterinary Aid and miscellaneous expenses	9580	

S. No	Item of Investment	Unit Size	Unit Cost (₹)		Repayment
			Tricycle for kitchen waste collection, water supply and Equipment	33900	
			Total	144038	
			Rounded off	**1,48,000**	
ii	**Breeding Unit**	10+1	Cost of Boar	6600	5 yrs. including 1 year GP
			Cost of Sows (₹4400/animal)	44000	
			Cost of adult shed (70 sq ft/boar and 20 sq ft /sow for 7 sows and three farrowing pen @100 sq ft for three sow)	59400	
			Cost of fattener shed (10 sq ft /fattener)	45100	
			Tricycle for kitchen waste collection, water supply biosecurity and Equipment	66000	
			Cost of feeding for one cycle	218429	
			Cost of Insurance (6% per year)	7036	
			Cost of Veterinary Aid and miscellaneous expenses	7665	

S. No	Item of Investment	Unit Size	Unit Cost (₹)		Repayment
			Labour wages	99200	
			Total	**508430**	
			Rounded off	**5,08,500**	
iii	**Fattening Unit**	10	Cost of piglets	29000	5 yrs. including 1 year GP
			Cost of shed (10 sq ft per fattener)	12000	
			Cost of Feed	1800	
			Miscellaneous	1000	
			Total	**44,000**	

Special Terms of Financing

Banks may ensure:

- Piggery units are set up away and have adequate sources of vegetable, hotel and other waste.

- Good quality foundation stock aged around 8 months in case of breeding units and 2 months in case of fattening units may be financed.
- For animals purchased from State Government farms, the price as per quotation may be considered.
- Linkages in respect of training, breeding and veterinary care, feed, garbage collection, medicines and marketing are adequate.
- Animals are identified immediately after purchase through ear tagging and are insured, preferably under a long-term master policy.
- Borrower follows the schedules regarding deworming and vaccination against prevalent diseases (swine fever etc.), with the help of local veterinarian.

8.5 Plough Bullocks & Bullock Carts

S. No	Activity	Unit Size	Unit Cost (₹)
1	Plough Bullocks-non-descript (medium size) (incl. Insurance)	1 Pair	50000
2	Plough Bullocks-Hallikar Bullocks (incl. Insurance)	1 Pair	80000
3	Bullock Carts-Pneumatic Tyre carts (3 T)	1 No	50000 to 55000
4	Bullock Carts-Carts of local make / wooden	1 No	40000 to 45000

8.6 Poultry

Item of Investment	Unit Size	Unit Cost (₹)	Repayment Period	Terms & Conditions
Contract Broiler Farming	Any Size	Only cost of shed and equipments need to be considered. Indicative cost would be: • Thatch roof shed (₹/sq.ft/shed) - 250 • Asbestos roof and local material (₹/Sq.Ft.) – 190 to 210 Equipment (₹/broiler) - 18 to 20	6-8 years including 1 year GP	• There is a proper tie-up arrangement with the integrators like VHPL, Suguna, etc., • At least 5 batches of birds /year are supplied by the integrators. • Proper training is given to the farmers before taking up the activity. • Activity is taken up in a
Independent broiler units	Large Units	Indicative costs - • Cost of Shed Construction – Asbestos (₹/sq.ft.) – ₹190- 210 • Equipment (₹/broiler) - 18 to 20 • Cost of DOC (₹) - 35 to 47 • Cost of Feed (₹/kg) - 40 to 50 • Cost of Misc. Expenses (₹/bird) - 20 • Total expenses (₹/bird) - 400 to 450	5 years including 1 year GP	Banks may ensure that – • Extreme care is taken in financing independent broiler units as more broiler production is coming under contract farming. • Linkages in respect of training, chicks, feed, medicines etc., are adequate. The farm has a captive clientele / adequate market considering the fact that integrators are dominating the finished broiler market.

Item of Investment	Unit Size	Unit Cost (₹)	Repay ment Period	Terms & Conditions
Layer	Any Size preferably over 50000 birds	Depends upon the size – • Cost of Shed Construction - Raised Platform with asbestos sheet (₹/Sq. Ft.) – 270-300 • Cost of Equipment - (dep. upon quotation) - Cage system - ₹70/brooder & grower; • Cost of Equipment - (dep. upon quotation) - Cage system - ₹90/layer • Cost of DOC (₹) – 35 to 47 • Cost of Feed (₹/kg) for brooder – 28 to 32 • Cost of Feed (₹/kg) for grower mash – 26 to 28 • Cost of Feed (₹/kg) for layer mash – 25 to 27 • Cost of Misc expenses up to point of lay - ₹18 • Cost of Misc expenses during lay - ₹18 Total expenses (₹/Bird) – 630 to 680	8 Years including 1 year GP.	Banks may ensure that – • Linkages in respect of training, chicks, feed, medicines and marketing are adequate. • Beneficiary follows the schedules regarding deworming and vaccination against prevalent diseases. • Automation could be considered depending on the proposal subject to technical feasibility and financial viability. For all large-scale units, the techno economic appraisal has to be undertaken on each individual project basis.

Item of Investment	Unit Size	Unit Cost (₹)	Repay ment Period	Terms & Conditions
Backyard Poultry	50 birds	Indicative costs - • Cost of Shed Construction – Asbestos (₹/sq. ft.) – ₹190- 210 @ 2 sq. ft per bird - ₹21,000 • Equipment (₹/broiler) - 18 to 20 - ₹1,000 • Cost of DOC (₹) – 24 - ₹1,200 • Cost of Feed (₹/kg) – 28 @ 7 kgs for 20 weeks - ₹9,800 • Cost of medicines, vaccines, Misc. Expenses (₹/bird) – 20 - ₹1,000 Total expenses for 50 birds - ₹34,000		• Cost may differ with the variety of birds. • Birds may be suitable for the climatic conditions. • Regular supply of DOC needs to be ensured by proper tie up arrangement.

Special Terms of Financing:

- Farmers may be allowed to keep birds till 100 weeks and value of birds up to 100 weeks may be considered in stock statements.
- The new poultry farms may be one kilometre away from the existing farms/ complexes.
- Farms having more than 50,000 layers should have preferably separate facilities for brooding and growing.
- The bank shall satisfy that the company observes among others the following specifications in designing the poultry sheds.
- The bank shall ensure that the beneficiaries make firm arrangements for getting supply of high-quality chicks from a reputed hatchery.
- The bank shall ensure that there are firm arrangements for marketing of eggs/culled birds.
- The bank shall ensure that periodical check-up poultry flock by a competent veterinarian, preferably at least once a month, is carried out.
- A regular vaccination schedule, prescribed by the hatchery/competent person, should be followed immediately after the purchase of the chicks.
- Periodical debeaking and deworming of birds should be done.
- Utmost cleanliness and hygienic conditions should be maintained in the poultry sheds, farm and in the management of the poultry flock. The houses should be properly disinfected / sprayed with insecticide sprays such as Gamaxin or Malathion before housing the new flock.
- Fresh, clean and dry litter material should be placed on the floor of poultry house in case of deep litter house before the birds are introduced in the shed.
- Fresh and clean water should always be available and waterers are to be cleaned regularly.

- The bank should ensure that firm arrangements are made for getting balanced concentrate feed and its availability to the birds. In case of commercial projects (more than 10,000 birds), bank may advise the borrower to have a feed mixing plant (mixer and grinder) in the project for mixing feed for captive consumption.
- Beneficiary should keep records of feed consumption, mortality, vaccination, egg production, number of birds culled etc.
- The bank should ensure that the sheds and equipment are insured during the period of loan. In lieu of poultry insurance for birds, the banks may consider creation of risk/mortality fund.

Chapter 9

Fisheries

Andhra Pradesh has 2nd longest coastline of 974 km running along the eastern coast of India and is drained by important peninsular rivers like Godavari, Krishna and Penna. These resources have created favourable conditions for the growth of fisheries and aquaculture in the state. The state is contributing about 30% of national fish production and is major exporter of shrimps with share of 35% in total value of sea food exports of the country during 2022-23. The sector is providing direct as well as indirect employment to nearly 16.5 lakh people of the state. The GVA of the sector for 2022-23 (AE) is estimated at ₹68,344 crore as against ₹35,169 crore in 2021-22 (FRE), with a growth rate of 4.87%.

The Fisheries sector occupies an important place in the socio-economic development of the State. As per the 2022-23 advance estimates of GVA at constant prices, the fisheries sector contributed 9% to GVA and 23.80% to agricultural GVA of the state. The State is endowed with bountiful and diverse water resources under inland, marine, and brackish water sectors for development of fisheries and aquaculture. The fish production in the State has grown from 34.49 lakh MT in 2017-18 to 48.13 lakh MT in 2021-22. The inland fisheries sector contributed lion's share of 88% of the total fish production of the State during 2021-22.

Inland fisheries potential: The state has abundant inland water resources in the form tanks, ponds, canals, reservoirs and lakes. The state has 1.44 lakh ha of inland licenced reservoirs, 0.46 lakh ha area of reservoir under lease. The state also has 3204 MI tanks and 24494 GP tanks with the spread area of 4.54 lakh hac. The important rivers flowing in the state are Krishna, Tungabadra, Godavari and Pennar. The total length of rivers and canals in the state is 11514 km. The Kolleru lake and Pulicat are the important lakes with the effective spread area of 0.90 lakh hac and 400 sq.km, respectively.

Aquaculture potential: The total area under aquaculture in the state is about 2.12 lakh hac i.e., the area under freshwater aquaculture is 1.58 lakh hac and the area under brackish water culture is 0.54 lakh ha. The total no. of aquafarmer in the state is 1.75 lakh farmers. In addition to the existing potential, the state government has also identified 48775 ha for expansion.

Marine fisheries potential: The state has a large coastline of 974 km spread over 12 coastal districts and continental shelf area of 33,227 sq.km. As far as fisheries villages and fisher folks are concerned, there are 555 fishermen villages in Andhra Pradesh. The marine fishermen population is 8.50 lakh. Out

of that, sea going active fishermen are 1.60 lakh. 30,107 fishing vessels (Mechanised – 1655, Motorised – 21959, Non-motorised - 6493) are engaged in marine fishing in AP. The state has constructed 350 fish landing centres for marine fish landing across the coastal districts.

Brackish Water Fisheries: The total area available for brackish water aquaculture in the State is 1.74 lakh ha, out of which 0.83 lakh ha is developed for shrimp culture. The State is having a mangrove area of 352 sq. km. There is a potential of 64,000 ha of both fresh and brackish water area for aquaculture as per the remote sensing-based resource survey. The Pulicat Lake covering an area of 46,100 ha is a brackish water lake, offering scope for brackish water capture fisheries development. For regulation and promotion of sustainable aquaculture, declaration of Aqua zones has been taken up by the State Government as an innovative model.

The potential for credit support for Fisheries sector for the year 2024-25 has been assessed at ₹16,943.93 crore by NABARD.

S*ource: Dept. of Fisheries & Socio-Economic Survey 2022-23, Govt of AP*

S.No.	Activity	Culture Period	Unit Size	Unit Cost (₹)			
				Capital Cost	Operational Cost	Total	Total (Rounded Off)
1	Intensive Fish Culture (Indian Major Carps such as Catla & Rohu)	8 months	1 ha	4,30,000	3,92,000	8,22,000	8,22,000
2	Poly culture of Fish and Scampi	11 months	1 ha	2,90,000	2,01,000	4,91,000	4,91,000
3	Composite Fish Culture	11 months	2 ha	3,99,000	2,24,000	6,23,000	6,23,000
4	Mud Crab Fattening	20-30 days	0.1 ha	79,000	81,700	1,60,700	1,60,700
5	Shrimp culture - White Shrimp (Litopenaeus vannamei)	3-4 months	1 ha	12,30,000	17,23,750	29,53,750	29,53,800
6	Renovation of Ponds for Fish Culture	11 months	1 ha	3,34,000	3,35,000	6,69,000	6,69,000
7	Fish Culture	12 months	1 ha	8,84,358	9,09,195	17,93,553	17,93,600
8	Mudcrab Culture in HDPE boxes	4-5 months	0.4 ha	23,15,200	6,50,000	29,65,200	29,65,200

S.No.	Activity	Culture Period	Unit Size	Unit Cost (₹)			
				Capital Cost	Operational Cost	Total	Total (Rounded Off)
9	Mudcrab Culture in open ponds	4-5 months	0.4 ha	4,95,000	3,77,000	8,72,000	8,72,000
10	Scampi Culture	4-5 months	1 ha	10,90,000	5,02,500	15,92,500	15,92,500
11	GIFT Tilapia Culture	4-5 months	1 ha	11,05,000	16,41,000	27,46,000	27,46,000
12	Sea Bass culture	12 months	1 ha	9,00,000	10,85,000	19,85,000	19,85,000
13	Pangassius	10-11 months	1 ha	7,49,420	14,45,315	21,94,735	21,94,800

S.No.	Activity	Culture Period	Unit Size	Unit Cost (₹)			
				Capital Cost	Operational Cost	Total	Total (Rounded Off)
14	Recirculatory Aqua Culture System (RAS) - Large	8 months	With 8 Tanks of minimum 90 m3/Tank Capacity 40 Ton/crop	50,00,000	8,00,000	58,00,000	58,00,000
15	Recirculatory Aqua Culture System (RAS) - Medium	8 months	With 4 Tanks of Minimum 90 m3/Tank Capacity 10Ton/crop	25,00,000	5,00,000	30,00,000	30,00,000
16	Recirculatory Aqua Culture System (RAS) - Small	8 months	with 1 tank of 100m3 capacity/Biofloc (7 tanks of 4m dia and 1.5 high) culture system.	6,00,000	2,00,000	8,00,000	8,00,000

S.No.	Activity	Culture Period	Unit Size	Unit Cost (₹)			
				Capital Cost	Operational Cost	Total	Total (Rounded Off)
17	Construction of Biofloc ponds for Brackish water shrimp farming incl inputs	3-4 months	-	1085000	840000	1925000	19,25,000
18	Construction of Biofloc ponds for fresh water shrimp farming incl inputs	3-4 months	-	1100000	500000	1600000	16,00,000
19	Establishment of stationary or mobile Aqua labs for fish and shrimp diseases diagnosis	-	-	-	-	4100000	41,00,000
20	Mobile Aqua Labs for disease diagnosis	-	-	-	-	3645000	36,45,000
21	Purchase of Motor Cycle with ice-box for retail fish marketing	-	-	-	-	83000	83,000
22	Purchase of 10 Ton capacity insulated trucks for transport of fish & shrimp	-	-	-	-	2144000	21,44,000
23	Establishment of mini fish retail outlets	-	-	-	-	350000	3,50,000

S.No.	Activity	Culture Period	Unit Size	Unit Cost (₹)			
				Capital Cost	Operational Cost	Total	Total (Rounded Off)
24	Providing of FRP Boat engine and fishing nets		30 HP Engine with IBM stern			1100000	11,00,000
25	Purchase of FRP nava & fishing net to traditional marine fishermen	-	Long tail OBM	-	-	3,50,000	3,50,000
26	Purchase of 10HP OBM marine diesel engines under motorisation or replacement of old engine	-	Long tail OBM	-	-	1,00,000	1,00,000
27	Purchase of 28 HP IBM marine diesel engines under motorisation or replacement of old engine		Including Stern Equipment Engines beds and alignment	-	-	1,70,000	1,70,000
28	Purchase of fishing craft and gill nets for riverine/reservoir fishing	-	-	-	-	1,50,000	1,50,000
29	Open sea cage culture	6 - 7 months	5 cages (100-120 cubic meter)	1600000	2000000	36,00,000	36,00,000
30	Ornamental fisheries		Back yard culture	200000	150000	3,50,000	3,50,000

S.No.	Activity	Culture Period	Unit Size	Unit Cost (₹)			
				Capital Cost	Operational Cost	Total	Total (Rounded Off)
31	Seaweed culture	30 - 45 days	Mono line or tube net method	35000	15000	50,000	50,000
32	Construction of Fish Kiosk	-	-			15,00,000	15,00,000
33	Live Fish vending Centre	-	-			25,00,000	25,00,000
34	Fish Value adding Enterprise	-	-			60,00,000	60,00,000
35	Establishment of Freshwater Pearl farming unit	18 months	-	500000	250000	7,50,000	7,50,000
36	Solar tunnel fish dryer	-	1 tonne	-	-	426000	4,26,000
37	Solar cabinet fish dryer (Small)	-	50-55 Kg	-	-	150000	1,50,000
38	Motorized Boat - OBM	-	Starting from 8 HP engine	-	-	-	6,50,000
39	Motorized Boat - IBM	-	Starting from 10 -20 HP	-	-	-	32,00,000
40	Mechanized Boat - IBM	-	180-200 HP engine	-	-	-	75,00,000
41	Deep sea Fishing Vessel	-	200-240 HP engine	-	-	-	1,35,00,000

Special Terms of Financing:

- The required permissions/approvals from the State Govt./MPEDA/CAA needs to be taken for the construction of pond, lifting of water, fish/shrimp/prawn culture, etc.
- Good quality SPF seeds of L. vannamei from approved hatcheries/seed production centres should be used for farming.
- The fish feed used in shrimp farming should be free from banned antibiotics.
- Required bio-security measures as prescribed by the CAA/State Govt./MPEDA are to be followed in case of shrimp farming.
- Only good quality fish seed from the reputed hatcheries/fish seed production farms to be used.
- The technical norms with respect to maintenance of stocking density, water depth, water quality, feeding norms, etc. are to be adhered by the entrepreneurs.

NABARD's District Offices in Andhra Pradesh

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Title	A Comprehensive Guide of Unit Costs on Investment in Agriculture and Allied Activities for FY 2025-26
Written & published by	Department of Refinance, NABARD, Andhra Pradesh Regional Office
Date of Publishing	September 2025
Publication Code	
Design & Printing	Nandan Enterprises
Place of Printing	Vijayawada
Number of Copies	250
Contact	National Bank for Agriculture and Rural Development Andhra Pradesh Regional Office, Fifth Floor, Stalin Central, D. No 27-37-158, Governorpet, MG Road, Vijayawada, AP – 520002
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National Bank for Agriculture and Rural Development

Andhra Pradesh Regional Office

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