



# **4th District Level Steering Committee Meeting**

## **Water Security & Climate Adaptation project**

**16 Feb 2021**

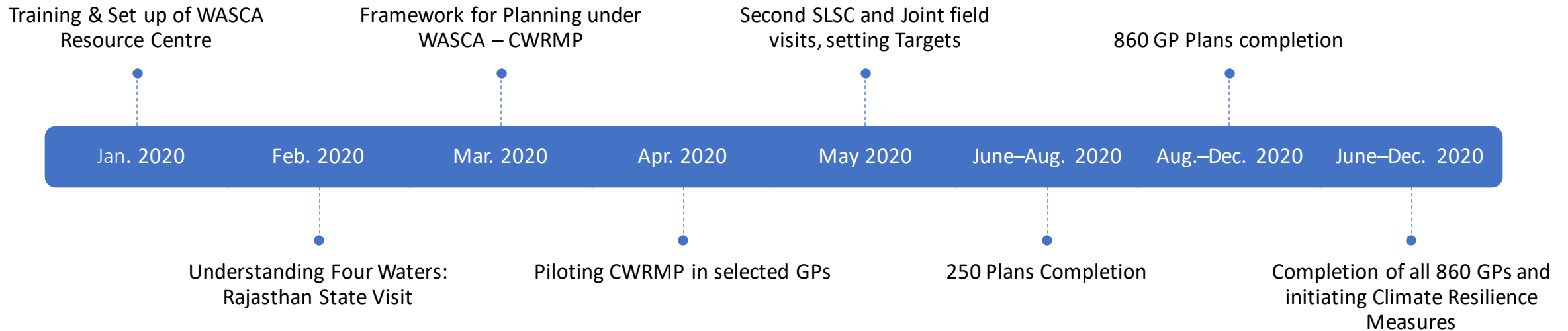
**District Rural Development Agency  
Tiruvannamalai**

# Steps in Presentation

- 1) WASCA Implementation & CWRM Planning Timeline
- 2) Composite Water Resources Management Plan (CWRMP) – Progress, Findings
- 3) Key Water Actions under MGNREGS
- 4) Web Portal
- 5) Convergence – Status and plan
- 6) Partnership Areas with Private sector
- 7) Proposed perspective and action Plans
- 8) Points for Discussion



# 1. WASCA Implementation & CWRM Planning: Timeline



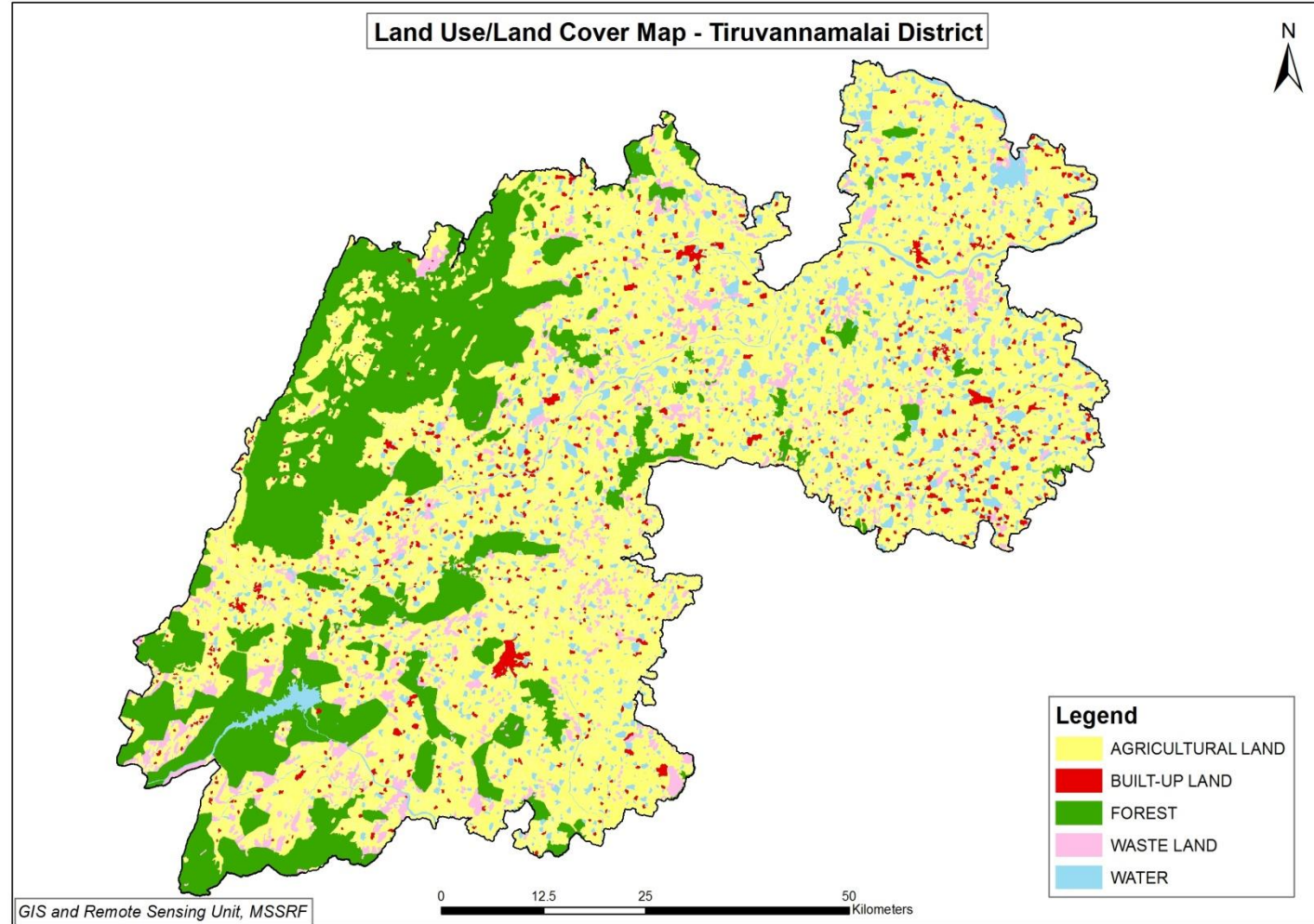




## 2.1. WASCA : CWRMP Key findings : Land Use



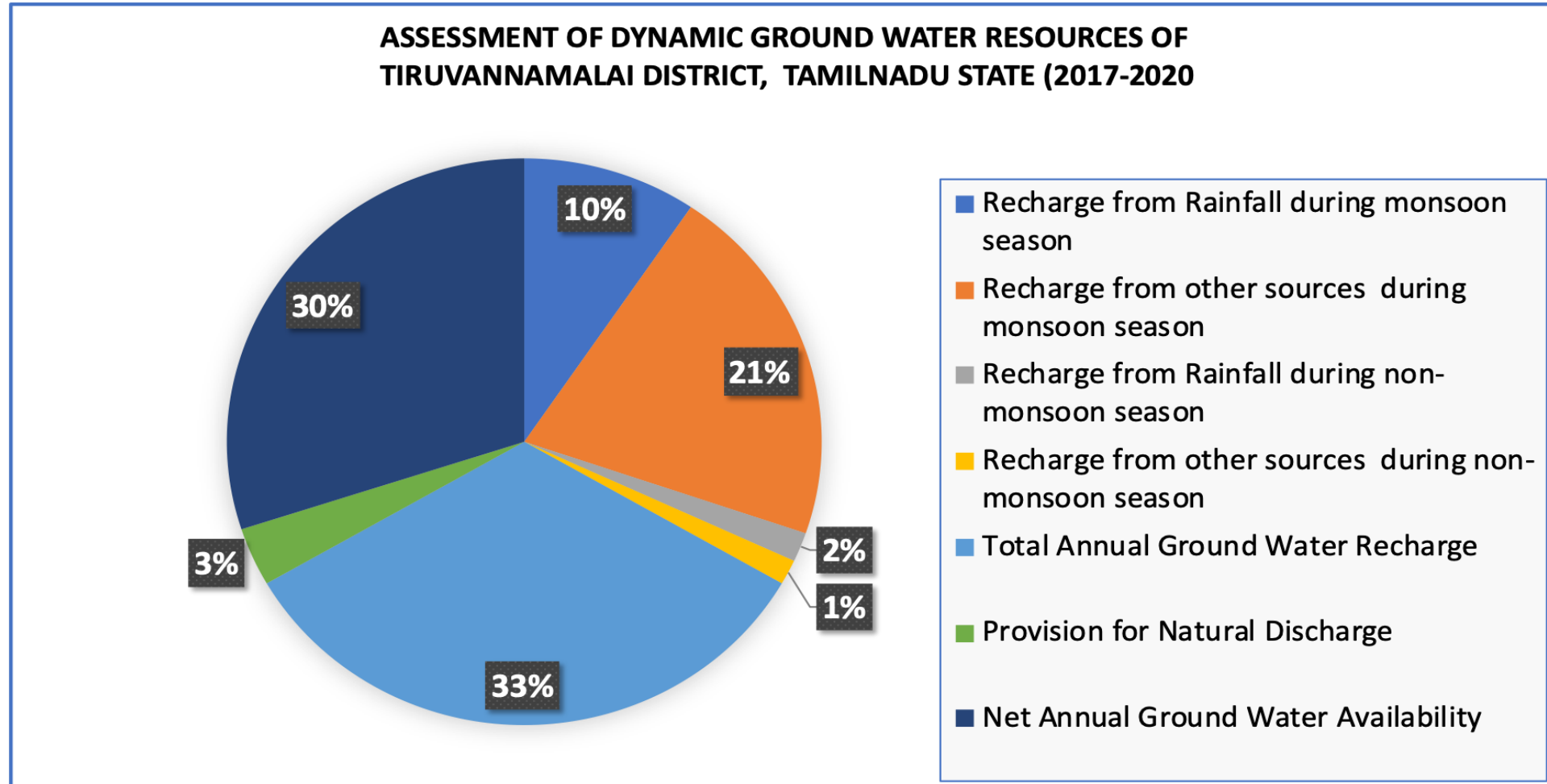
- 27.05% of the total land area is under public land.
- Under public and degraded land use, the area under permanent pasture is negligible.
- 72.9% under individual land.
- Under individual land, 30.7% of the total fallow and other than current fallow land area.
- 42.48% of the total land area is under cultivation.



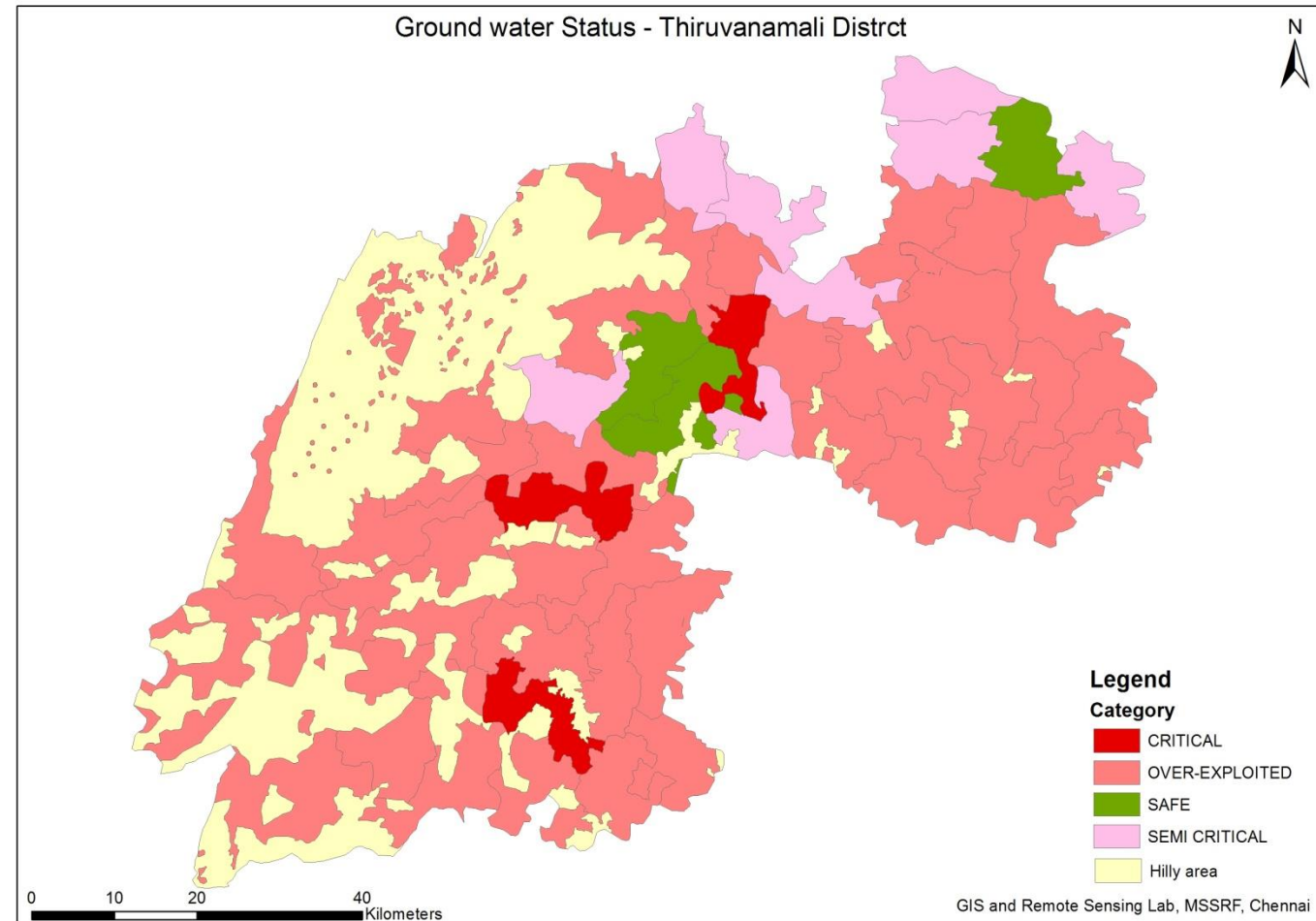
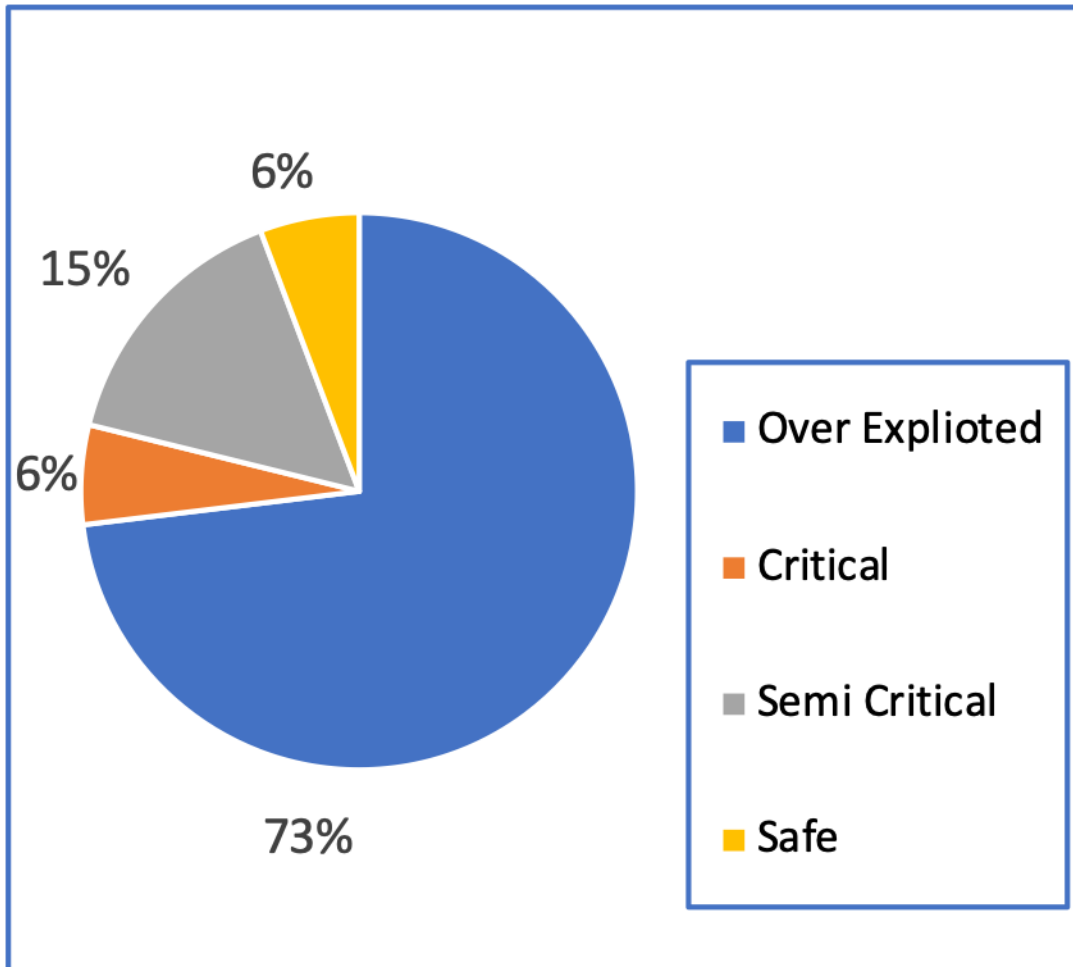
## 2.2. WASCA TN: Tiruvannamalai- Catchment Area Analysis

S.No	Runoff Analysis	Good Catchment Area	Average Catchment Area	Bad Catchment Area	Total
1	Area in Ha	111177	13125	335218	459520
2	Proposed treatment area under WASCA Area in Ha	36825	9844	83805	130473
3	Percentage of proposed treatment area under WASCA Area to the Total Area (%)	33%	75%	25%	44%
4	Runoff in Ha.m	41692	3688	62686	108065
5	Expected Run Off Conserved (Ham)	21413	2896	16408	40718
6	Percentage of Runoff Conserved to the Actual Runoff (%)	51%	79%	26%	52%

## 2.3. WASCA TN: Key Findings: CWRMP: Ground Water



## 2.4. Dynamic Ground Water Resources categorization (2017-2020)

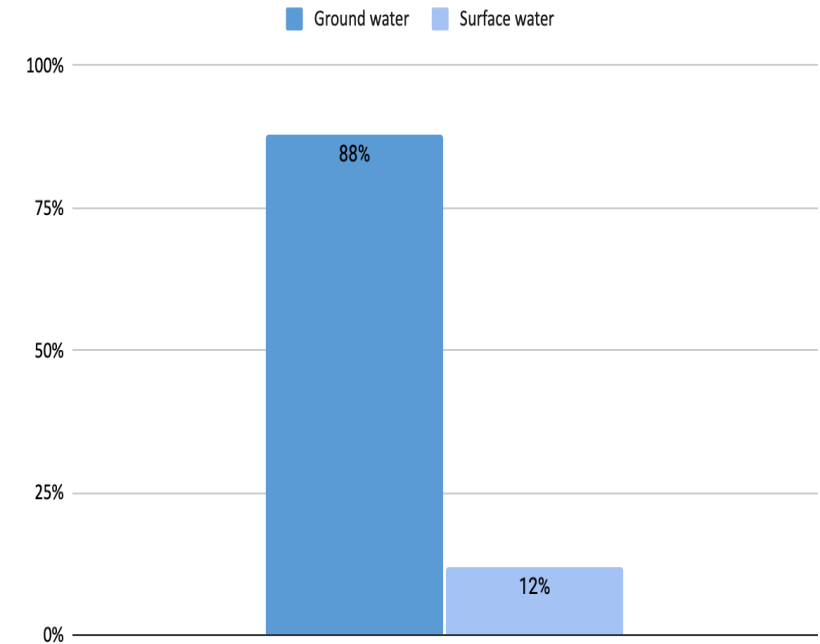
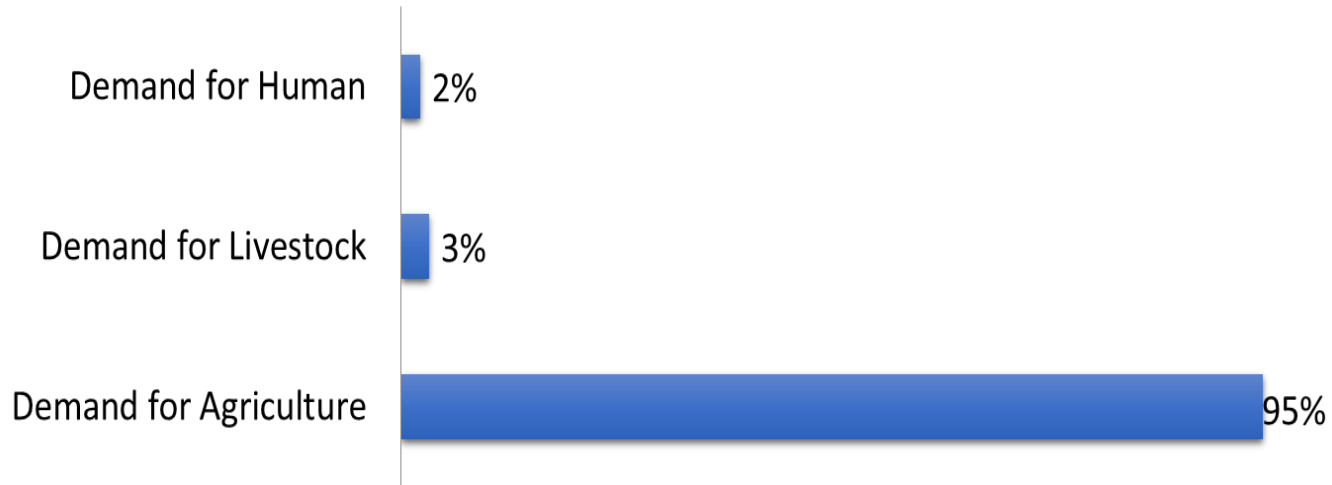




# 2.5. WASCA TN: CWRMP: Key Findings: Water Budget

S.No	Water Demand	Quantity in Ha-m	Sources	
			Surface Water	Ground Water
1	Demand for agriculture	244307	12%	88%
2	Demand for Livestock	7947		
3	Demand for Human	5392		
4	Total Water Demand	<b>257647</b>		

**Water Demand**



# நிலையான நீர்வளம்

நீர்ப்பயன்பாட்டு  
மேலாண்மை மற்றும்  
கிராமப்புற வளர்ச்சி

Water #For SDGs #ForNature



**நீர் செயல்திட்டம் 1**  
பாதிக்கப்பட்ட மற்றும்  
பொது நிலங்களைப்  
பண்படுத்துதல்



**நீர் செயல்திட்டம் 2**  
வேளாண்மை மற்றும்  
வேளாண்சார் நிலங்களை  
விரிவுபடுத்துதல்



**நீர் செயல்திட்டம் 3**  
கிராமப்புற சமுதாயம்  
மற்றும் குடும்பங்களின்  
பங்கேற்பு



**நீர் செயல்திட்டம் 4**  
ஊரக தொழில்களின்  
நீர் பயன்பாடு



**நீர் செயல்திட்டம் 5**  
காலநிலை மாற்றத்தை எதிர்கொள்ளும்  
மற்றும் ஏற்றுக்கொள்ளும் திறனை உருவாக்குதல்

காலநிலை மாற்றம், வாழ்வாதாரம் மற்றும் இயற்கை பாதுகாப்பு

Water Security and Climate Adaptation in Rural India (WASCA)  
Composite Water Resources Management (CWRM)

An Indo-German initiative

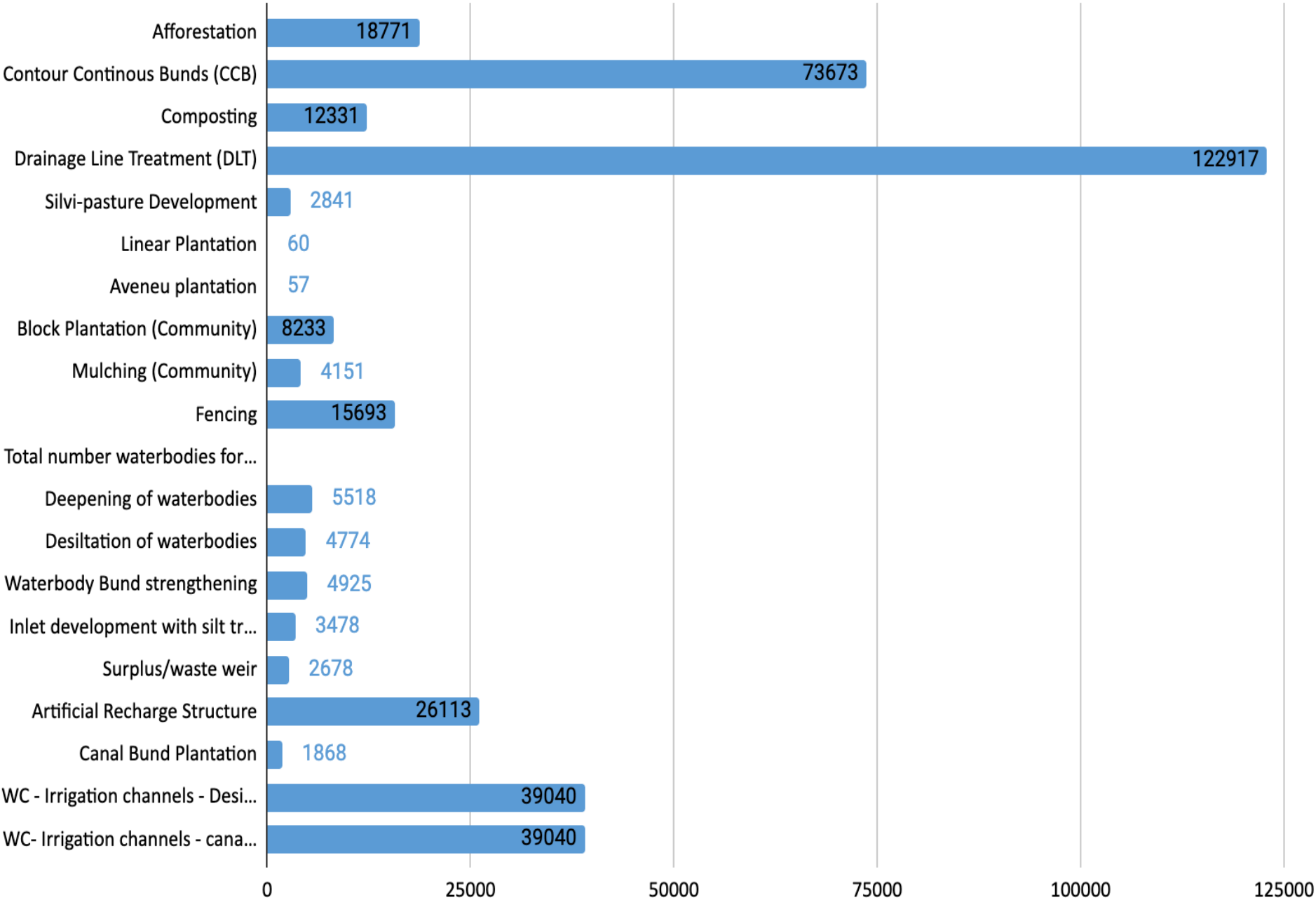
## 3.0. WASCA Tiruvannamalai: CWRMP: Key Water Works & Intervention

- 1) Development of Public & Common Lands:** Afforestation, block plantation, Waste land development, Silvi-pasture, River Rejuvenation (one in each district). drainage line treatment, cascade tanks restoration, Ground water recharge structures
- 2) Development of Agriculture & Allied Activities:** Fallow land development: Farm ponds, farm bund cum trench, bund plantation, dry land horticulture, Fallow land development
- 3) Development of Rural Water Management:** Roof rainwater structures, soak pits, avenue plantations
- 4) Development of Climate Resilience Measures :** About 10 model works with climate resilience are at different levels of implementation in the district (Greening of Hillocks, Cascade of Tanks, Integrated Farming, Agro Forestry)

### 3.1. CWRM Water Action 1. Public and common land development

Estimates for Three Years(2021-22 to 2023-24)				
S.NO	Name of the work	No of works	Estimated cost of proposed work as per RSSR-TN in Lakhs	Estimated Person Days
1	Afforestation (Ha)	18771	140783.63	54999470
2	Contour Continuous Bunds (Mts)	73673	29022.86	736732
3	Composting (Number)	12331	2026.40	184965
4	Drainage Line Treatment (Mts)	122917	301.01	614583
5	Silvi-pasture Development (Ha)	2841	45463.20	17759063
6	Linear Plantation (km)	60	108.68	42446
7	Avenue plantation (km)	57	102.96	40212
8	Block Plantation (Community)- Ha	8233	82332.30	32158996
9	Mulching (Community) - Ha	4151	4150.80	1622962
10	Fencing (Ha)	15693	23.54	360932
11	Total number waterbodies for renovation		0.00	0
12	Deepening of waterbodies (Ha)	5518	551800.00	215549634
13	Desiltation of waterbodies(Ha)	4774	238700.00	93240994
14	Waterbody Bund strengthening(Ha)	4925	6387.50	4811725
15	Inlet development with silt trap of Waterbodies(Ha)	3478	17390.00	6792534
16	Surplus/waste weir(Number)	2678	14490.00	2091518
17	Artificial Recharge Structure(Number)	26113	5715.00	10210183
18	Canal Bund Plantation (Ha)	1868	14009.10	5472889
19	WC - Irrigation channels - Desilting (mts)	39040	29.62	117121
20	WC- Irrigation channels - canal side plantation (Mtr)	39040	30.00	234242
Total		386162	1152866.59	447041200

# 3.1. Water Actions – Public and common land development



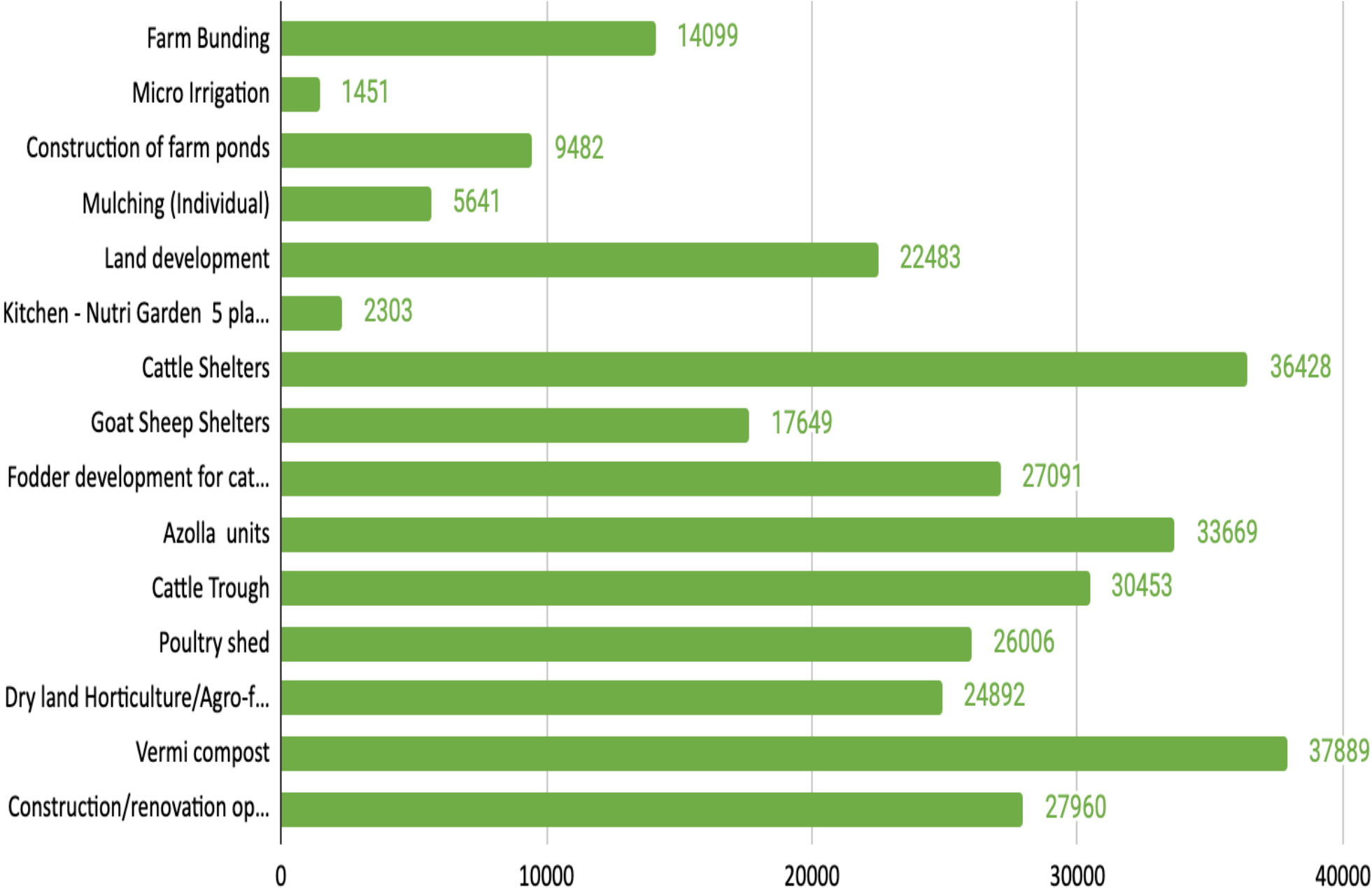


**CWRM Water Action 3.2: Agricultural and allied Sector development ( Productivity Enhancement )**

**Estimates for Three Years (2021-22 to 2023-24)**

S.NO	Name of the work	No of works	Estimated cost of proposed work as per RSSR-TN in Lakhs	Estimated Person Days
1	Farm Bunding(Ha)	14099	21149.22	8262295
2	Micro Irrigation(Ha)	1451	1451.10	0
3	Construction of farm ponds(Number)	9482	18964.00	7405442
4	Mulching (Individual)(Ha)	5641	5641.43	2205799
5	Land development(Ha)	22483	224826.70	87817309
6	Nutri Garden 5 planst per HH(Sq.km)	2303	34540.55	5397536
7	Cattle Shelters(Number)	36428	77227.36	12057668
8	Goat Sheep Shelters(Number)	17649	40062.55	6265289
9	Fodder development for cattle(Ha)	27091	40094.68	63501304
10	Azolla units(Number)	33669	5050.35	774387
11	Cattle Trough(Number)	30453	41111.55	6425583
12	Poultry shed(Number)	26006	10402.40	676156
13	Dry land Horticulture/Agro-forestry (Ha)	24892	186692.48	72934527
14	Vermi compost(Number)	37889	6820.02	1023003
15	Construction/renovation open well(Number)	27960	139800.00	25890960
<b>Total</b>		<b>910927</b>	<b>2598682.78</b>	<b>277366878</b>

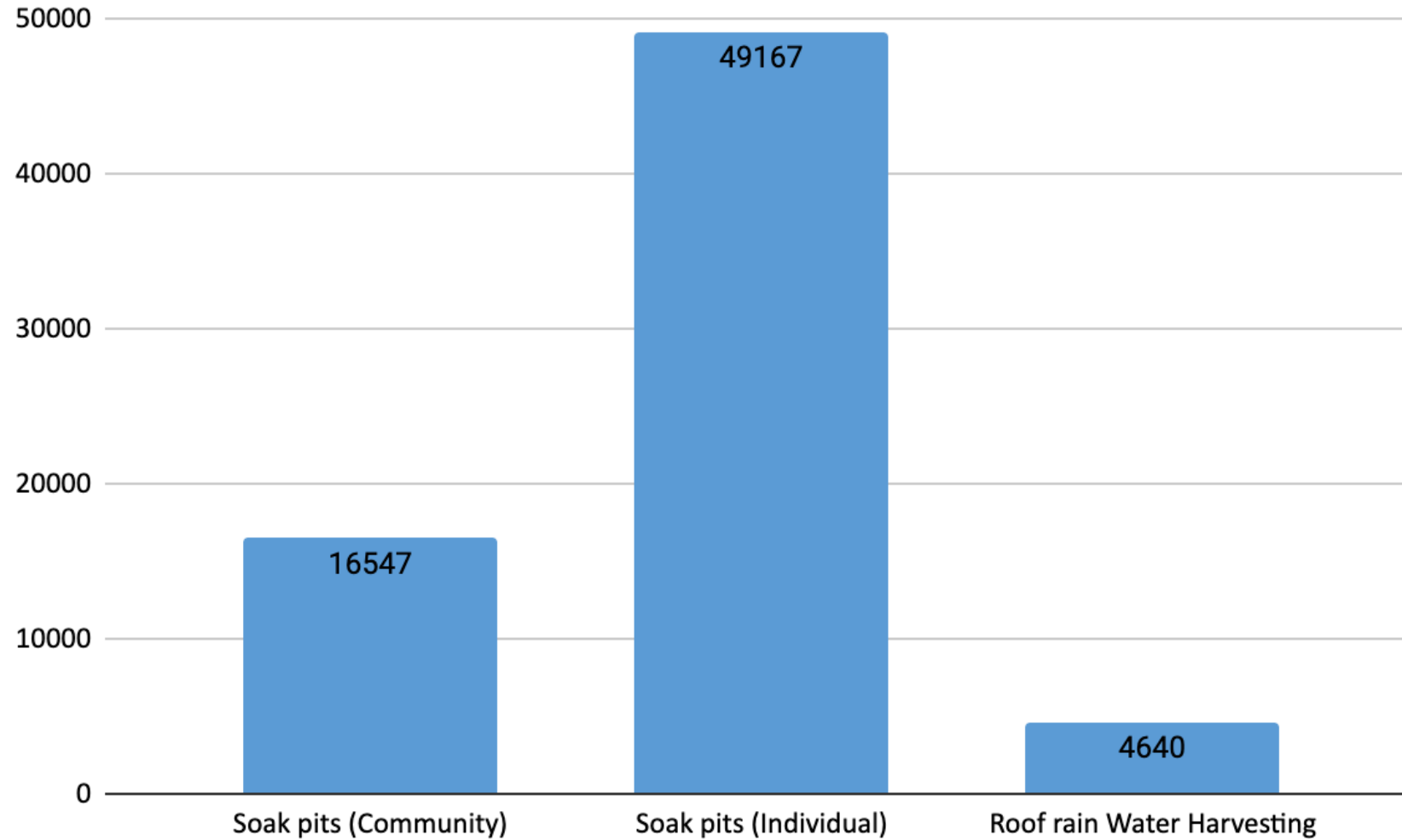
# 3.2. Water Actions Agriculture and Allied sector Development



## CWRM Water Action 3.3: Rural Water Management

S.NO	Name of the work	Estimates for Three Years (2021-22 to 2023-24)		
		No of works	Estimated cost of proposed work as per RSSR-TN in Lakhs	Estimated Person Days
1	Soak pits (Community)	16547	2151	330936
2	Soak pits (Individual)	49167	4917	786669
3	Roof rain Water Harvesting	4640	18560	2900000

### 3.3. Water Actions – Rural Infrastructure







## 3.4. Development of Climate Resilience Measures

- 1) Greening of hillocks : 14 Blocks
- 2) 31 block nurseries and 5 district nurseries for raising 27 lakhs plants
- 3) 17 villages identified for bamboo plantations
- 4) 12 GPs for Mini Forests
- 5) 2 GPs for Medicinal plants cultivation
- 6) 7Gps for Floriculture promotion
- 7) River Rejuvenation, Kamandalar Sub basin: 9 Blocks
- 8) M.I. Tanks for PPP: 8 Tanks
- 9) Cascade of tanks : 8 Systems Tank Networks
- 10) Silvi-pasture development: 31 Models GPs
- 11) Fallow land development - Saturation approach : 350 Ha with Agriculture department
- 12) For Artificial recharge structures 5 locations
- 13) 5 Gps for inland fisheries







Latitude: 12.746539  
Longitude: 79.101603  
Elevation: 256.3 m  
Accuracy: 6.0 m  
Time: 18-08-2020 10:05  
Note: kalpattu waska

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# Greening of Hillock –CRM model

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# Nursery –Block level





# NRM works



OPPO A5 2020 · ©R.Baskaran





# NRM works





Non NRM works



# Key Expected Out comes of the work by 2022

S NO	Item	Tiruvannamalai
1	Total Area of the district (Ha)	4,59,542
2	Total No of Works Proposed	13,67,443
3	Percentage area targeted under treatment (of total area)	29%
4	Total Run Off Conserved due to treatment	40717 Ha M
5	Total No of Vulnerable population estimated to be benefited	5,89,909
6	% Area brought under afforestation in public lands (non forest)	26.8%
7	% of Fallow lands brought under cultivation	30.7%
8	% of drylands brought under effective water conservation and change in cropping pattern	12%
9	% of natural drainage lines treated	14.7%



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☰ **Water Security and Climate Adaptation in Rural India (WASCA)- Tamilnadu**

Home  
CWRM - Non Spatial  
CWRM - Spatial  
CWRM Action plan  
CWRM - CRM  
CWRM- Estimate  
CWRM-Gallery  
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Government of India

Ministry of Jal Shakti  
Government of India

GOVERNMENT OF TAMILNADU  
TRUTH ALONE TRIUMPHS

Water Security and Climate Adaptation in Rural India (WASCA)- Tamilnadu

Water Security and Climate Adaptation in Rural India (WASCA)- Tamilnadu

### About WASCA – TN



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# 4.0 Web Portal: Module

[About WASCA – TN | CWRM \(resilienceindia.org\)](https://resilienceindia.org/cwrm/)



# 5. Convergence

Government Departments	Private partners
<ul style="list-style-type: none"><li>• Fallow land development: <b>Agri/horti Department</b></li><li>• Mission on Sustainable Dry land Agriculture: <b>Agriculture Dept</b></li><li>• Farm Ponds-Agri Eng. Dept</li><li>• IFS technologies : <b>ARS TNAU</b></li><li>• Invasive species reduction &amp; afforestation (Bamboo cultivation): <b>Forest Department</b></li><li>• Tank Cascades: <b>PWD and TWAD Board</b></li><li>• Artificial Recharge Structures: <b>PWD &amp; Central Ground Water Board</b></li><li>• Silvi- pasture development: <b>A&amp;H Department</b></li></ul>	<ul style="list-style-type: none"><li>• Plantations, Agro-forestry- Wadi models -<b>TVS group (CSR)</b></li><li>• River Rejuvenation- <b>Art of Living Foundation</b></li><li>• Drip irrigation-vegetable cultivation adopting agro-ecological approach- multi-layered and diverse species:</li><li>• CII Partnership : <b>Rajashree Sugars (exploring partnership)</b></li></ul>

## 5.1 WASCA – Tiruvannamalai: Convergence – Line Departments

S No	Name of the Department	Areas of Convergence
1	Department of PWD – WRO and CGWB	Traditional water harvesting structures restoration, Canal network improvements
2	Department of Agriculture	Fallow land – individual development, IFS and Water management – Micro irrigation
3	Dept. of Agriculture Eng	Farm ponds and Micro watersheds
4	Department of Horticulture	Dry land horticulture – fallow land dvt, crop diversification with reduced WR
5	Department of Forest	Plantations in public land
6	Department of Animal Husbandry	Silvi pasture development in common lands, livelihood activity centres – technical support for fodder development in individual lands
7	Department of Fisheries	Alternate livelihoods
8	NABARD	Horticulture Development

# 5.2) Integrated Farming Systems 2020-21 – Dept of Agriculture

Model - Paddy- Ground nut /Black gram - Dairy- Goat-Poultry-Nutri Garden- Horticulture- Vermi compost- Bee hive

Target – 100 farmers  
Financial outlay – 61 Lakhs

Name of the block	Paddy ( Ha)	Groundnut ( Ha)	Black gram ( Ha)
Cheyar		100	
Vembakkam		50	
Vandavasi			50
Arni		50	
West Arni	100	100	
Thamdrampet		50	
<b>TOTAL</b>	<b>100</b>	<b>350</b>	<b>50</b>







Crops promoted and area covered	50 Ha Millets and 204 Ha Pulses
Value of the scheme	Rs 34.67 Lakhs
Millets are promoted in 4 blocks and pulses in 15 blocks	



## 5.3) Fallow land Development 2020-21 – Dept of Agriculture

## 5.4) Convergence - Farm Ponds 2020-21— Dept of Agri Engineering

- **No of GPs covered – 43**
- **No of farm ponds – 61**
- **No of small farmers benefitted – 43**
- **Focus crops :**  
**Groundnut and pulses**







## **5.5) Prime Minister Krishi Sinchayee Yojana - 2020-2021- Dept of Horticulture**

- Drip and sprinkler irrigation methods are
  - ❖ promoted to increase the area under irrigation and
  - ❖ improve the water use efficiency in the irrigated horticulture crops under the PMKSY scheme
- Total number of farmers Gram panchayats covered – 859
- Total Area covered– 2555 Ha
- No of farmers benefitted – 2808
- Total outlay – Rs 648 Lakhs



## 5.6) Convergence – NADP 2020-2021 –Dept of Horticulture

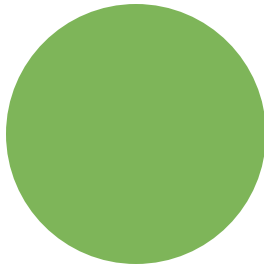
Promoted the cultivation of  
Horticulture crops –

- Area covered– 48 Ha
- No of small farmers  
benefitted – 132
- Focus crops – Gourds, small  
and bellary onion

•MGNREGS Proposal: Artificial  
Recharge / Farm Bund Plantation



## 5.7) Convergence – Integrated Horticulture Development Programme - 2020-2021 –Dept of Horticulture



Sl.No.	Scheme	Target 2020-21		Achievement		No.of Farmers
		Physical (Ha)	Financial (Rs.in lakh)	Physical (Ha)	Financial (Rs.in lakh)	
1	Area Expansion	780	122.57	750	70.80	864
2	Poly House	5000	23.38	3000	8.90	6
3	Shade net House	18500	65.68	16000	56.80	30
4	Onion Storage structure	55	1.93	40	1.4	55
5	Pack House	11	22.00	5	6.00	5
6	Pandal	5	10.00	5	8.20	18
7	Vermicompost Unit	15	3.75	10	1.5	10
8	Incentives for Vegetable Farmers	5400	135.00	2720	31.83	1240

## 6.0 Partnership Areas with Private Sector

S NO	Technology and Knowledge Management	Water Management	Climate Resilience for Future Livelihoods
1	Management Skills	Improvement of Cascade Tanks Systems	Coastal Watershed
2	Business model development	Restoration and River Rejuvenation	Water- Energy nexus and development
3	Mapping of Areas for A.I and IT application & implementation	Ground Water development and artificial recharge	Livelihoods linked with land Development:
4	Community Participation in Technology development	Water Use Efficiency and cropping pattern change	Promotion of integrated farming, agro-forestry, Dryland horticulture – high value low water requiring crops
5	Traditional knowledge mapping in technology development	Soil improvement and composting	Afforestation
6	Strengthening WASCA District Resource Centre (GIS Centre)	Roof rain water harvesting, storage and use	Adoption of Villages
7	Institutional structures for the management of traditional water bodies – social and Financial capital building	Improving the water conveyance efficiency by improving the canal network systems	Skill development

## 7.0 WASCA – TN: TVM: Perspective Plan : Long Term

S No	Water Actions	No. of Works	Estimated cost of proposed work as per RSSR-TN (INR Lakhs )	Estimated Person Days
1	Public and common land	3,86,162	11,52,867	44,70,41,200
2	Agriculture and Allied Sector	9,10,927	25,98,683	27,73,66,878
3	Rural Infrastructure Management	70,354	25,628	40,17,604
<b>Total</b>		<b>13,67,443</b>	<b>37,77,177</b>	<b>728425682</b>

## 7.1.Proposal for FY 2021-22

		Perspective Plan	FY 2021-22	
Sl.No.	Development of WASCA CWRM Focus	No of Works	No of Works	Person Days
1	Public & Common Lands	3,86,162	30893	3,57,63,296
2	Agriculture allied activities	9,10,927	45546	1,38,68,344
3	Rural Water Management	70,354	71282	40,17,604
	Total	<b>13,67,443</b>	<b>1,47,721</b>	<b>5,36,49,244</b>
<b>Proposal for FY 2021-22: 5.36 CR Person days &amp; 1.48 Lakh number of works</b>				



## 7.1. Proposed Action Plan

- 1) WASCA – CWRMP GPs data to be entered in GIS based planning MIS of NREGA Soft (D-29)
- 2) Convergence Planning with line departments with MGNREGS Works (CWRMP)
- 3) Approval of all GP Plans by the village panchayat
- 4) Close Monitoring of GP level implementation of CWRM plans under WASCA
- 5) Documenting, case studies, Success stories
- 6) Technical Training, hand holding to engineers on artificial recharge structures,
- 7) Ground water monitoring and aquifer
- 8) Implementing all CRM pilots in the district (at least 15 models)
  - 1) River rejuvenation (Kamandala Naganadi sub-basin) with PWD Dept Convergence
  - 2) Agro-forestry: Fallow Lands, Up lands & Dry lands
  - 3) Nursery raising: Block Level
  - 4) Silvi-pasture; Every GP 2-5 Ha
  - 5) Greening of hillocks: 11 Blocks



## 8. Points for discussion and approval

1. Estimates and Person Days (Three Years) and specific to 2021-22 FY
2. Convergence Plan with line departments
3. Potential participation of private sector
4. Converting 429 GPs into NREGA Soft – As per MORD guidelines - Timelines, Roles & Responsibilities
5. CRM pilot approval - Themes and selection of GPs, Roles and responsibilities
6. Any other point for discussion by members

# Thank You

