



## KARNATAKA MINING ENVIRONMENT RESTORATION CORPORATION

(Govt of Karnataka Undertaking)

kmerc2014@gmail.com

No. KMERC/Watershed /100/2022-23

Date: 05.03.2024

**Sub:** Administrative approval for "*Eco- Restoration of Mining affected Kenkere Halla - 4D3D8R, 4D3D8Q (18 Micro Watersheds, 23 Villages) Sub Watershed C N Halli Taluka of Tumkur District (Total Project Area: 8794.98 Ha, Total treatable Area: 7697.73 Ha)*

**Ref:**

- 1 6<sup>th</sup> Oversight Authority meeting Dated: 16.11.2022.
- 2 KMERC office letter No. KMERC/CEPMIZ/HO/WS/10/2022-23/1624 Dated: 03.12.2022
- 3 Secretary to Government Agriculture Department D.O. Letter No AGRI/CEPMIZ/Phase-1 TDPR/2023-24, Dated: 07.10.2023.
- 4 KMERC Project Appraisal Committee Meeting dated: 22.11.2023.
- 5 Communication of KMERC Project Appraisal Committee meeting proceedings No: KMERC/DPR/100/2022-23/115, Dated: 24.11.2023.
- 6 Secretary to Government Agriculture Department Letter No AGRI/16/AML/2024, Dated: 03.02.2024.
- 7 GO No: CI 215 MMM 2022 BENGALURU Dated: 13.03.2023.
- 8 Oversight Authority 13<sup>th</sup> Meeting Dated: 09.02.2024

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### **Preamble:**

The Karnataka Watershed Development Department Project for "*Eco- Restoration of Mining affected Kenkere Halla - 4D3D8R, 4D3D8Q (18 Micro Watersheds, 23 Villages) Sub Watershed C N Halli Taluka of Tumkur District (Total Project Area: 8794.98 Ha, Total treatable Area: 7697.73 Ha)*" under Comprehensive

Environmental Plan for Mining Impact Zone (CEPMIZ) as ameliorative and mitigative measures to be implemented in the district of Tumkur was approved by the Oversight Authority appointed by Hon'ble Supreme Court vide its order dated: 02.02.2023, vide ref. (1) and the Proposed Approval was communicated vide ref letter (2) to submit DPR for the Proposed project, as per the guidelines communicated along with. Brief details of the project is as detailed below.

SINo (as per OA Approved list)	District	Sector	Sub-Sector	Project	Project Cost (Rs. In Lakhs)
23	Tumkur	Agriculture and Allied Activities	Agriculture (Watershed)	<i>"Eco- Restoration of Mining affected Kenkere Halla - 4D3D8R, 4D3D8Q (18 Micro Watersheds, 23 Villages) Sub Watershed C N Halli Taluka of Tumkur District (Total Project Area: 8794.98 Ha, Total treatable Area: 7697.73 Ha)</i>	1978.87
<b>Total Project cost Rs in Lakhs</b>					<b>1978.87</b>

Secretary to Agriculture Department after technical scrutiny by competent authority vide ref (3) submitted the DPR for the Project for ***"Eco- Restoration of Mining affected Kenkere Halla - 4D3D8R, 4D3D8Q (18 Micro Watersheds, 23 Villages) Sub Watershed C N Halli Taluka of Tumkur District (Total Project Area: 8794.98 Ha, Total treatable Area: 7697.73 Ha)*** and sought Administrative approval for an amount of Rs **1420.90** Lakhs.

The DPR is reviewed by the Appraisal Committee on 22.11.2023 vide reference (4) with regard to the output and outcomes for which the project was approved by the Oversight Authority and the committee has made some observations/suggestions and the minutes of the Appraisal Committee was communicated to the department vide ref. letter No (5) above. Commissioner

Watershed Development department has made some revision to the DPR based on the suggestions made by the Appraisal Committee and Guidelines of PMKSY–WCD 2.0 and re-submitted the revised DPR through Secretary Agriculture vide ref. letter (6) above. Variations in the Project Area, Treatment area, Project Cost and outputs were approved/ratified by the Oversight Authority vide ref (8).

SI No	Name of the project	Cost approved in 7 <sup>th</sup> OA (Rs in Lakhs)	Cost Recommended by HOD i.e (Rs in Lakhs)	Cost Recommended by Appraisal Committee of KMERC (Rs in Lakhs)
1	<p><i>"Eco- Restoration of Mining affected Kenkere Halla - 4D3D8R, 4D3D8Q (18 Micro Watersheds, 23 Villages) Sub Watershed C N Halli Taluka of Tumkur District (Total Project Area: 8794.98 Ha, Total treatable Area: 7697.73 Ha)</i></p>	1978.87	1420.90	1420.90

**ADMINISTRATIVE APPROVAL ORDER No. CEPMIZ /2023-24/02/**  
**WDD/T/KMERC/00211, Dated: 05.03.2024**

As explained in the preamble, and as per approval of the Appraisal Committee vide ref. (4), compliance report by Commissioner, Watershed Development Department through Secretary, Agriculture Department vide ref. letter No (6), and as per GO vide ref. (7) above, the administrative approval of the above project, as per enclosed Annexure, is hereby accorded.

***"Eco- Restoration of Mining affected Kenkere Halla - 4D3D8R, 4D3D8Q (18 Micro Watersheds, 23 Villages) Sub Watershed C N Halli Taluka of Tumkur District (Total Project Area: 8794.98 Ha, Total treatable Area: 7697.73 Ha) For Rs 1420.90 Lakhs. (Rupees one thousand four hundred and twenty lakhs and ninety thousand only)***

**While implementing/executing the Project, the concerned Implementing Agency should strictly adhere to following conditions:**

**A. General conditions: -**

1. The approved Project should be taken up as per the prevailing norms / rules of the Implementing Department.
2. The Implementing Agency should ensure that the works approved by KMERC are not executed under any other Schemes/ Department, including DMF Funds.
3. The concerned Administrative Department/ Implementing Agency may not entrust the implementation of the approved work(s) to another Administrative Department/ Implementing Government Agency without the permission of KMERC.
4. The projects are to be taken up only on undisputed Govt. land/ community land with the prior approval of the concerned revenue authority to avoid any legal complications. The concerned Administrative Department/ Implementing Agency shall be solely responsible for ensuring compliance to all related obligations/legal requirements including but not limited to Environmental/Forest Clearances, queries under RTI, Social Audits or any stakeholder consultations, as may be required for implementation of works approved by KMERC. The activities to be taken up within the forest areas shall necessarily conform to the Approved Working Plans of the Karnataka Forest Department and the permission of Karnataka Forest department should be obtained.
5. A Board depicting Project details be erected at a conspicuous place mentioning the details of the scheme / year of execution/ project cost/ Executing Department & Agency/date of commencement & completion/Defect liability period etc., in both Kannada and English language, as provided in the KMERC Website.
6. The works shall be carried out as per the standard specification of items in the sanctioned estimate. Mandatory quality check(s) should be conducted by designated qualified staff at different levels, as per the approved norms of the concerned Administrative Department/ Implementing Government Agency. Inspection & Quality control register shall invariably be maintained for each work of the project and the quantity of works shall also be duly

checked and verified and should be made accessible to KMERC during Inspection and provide copies, whenever sought.

7. Progress report of the project shall be periodically (monthly/quarterly/annually/project-end) uploaded on the KMERC portal & Digital copies of the same should be sent to KMERC, along with photos with geo-coordinates and small-sized videos at every stage of project-implementation.
8. On completion of the approved project, a consolidated report of the work done, and assets created (if any) shall be submitted to KMERC. Details of completed project should be incorporated in Google Earth and the duly verified Kmz/Kml file be sent to KMERC for record.
9. The department shall maintain Asset register for all the assets created under the CEPMZ Project.
10. The CEPMZ asset created shall not be disposed off, encumbered or utilized for purpose other than for which funds have been provided by KMERC.
11. Prior approval from KMERC shall necessarily be taken for any change in the cost, scope or location of the project work approved hereunder.
12. Funds for the project are readily available and will be released based on progress. No additional funds, over and above the amount sanctioned hereby are provided, due to Tender premium, delay in execution or any other reason.
13. The cost of DPR preparation shall be reimbursed /provided as per the actual requirement, which could be based on the guidelines/ norms of the kind of works and arrived as per KTPP Act.
14. The executing agency shall prepare the list of the Villages/beneficiaries (wherever applicable) who are to benefit from the projects and provide to KMERC & upload in the KMERC portal.
15. Success stories of the implemented projects are to be prepared and provided to KMERC by the executing agencies after completion of the projects.

16. Separate account/cash book are to be maintained at the executing agency level for the scheme. The books of Accounts of the Implementing Government Agency may be scrutinized periodically by the Internal Auditor of KMERC, as well as annually by Accountant General.
17. Utilization Certificates should be submitted after utilization of funds released.
18. Concerned department shall ensure internal Audit of the CEPMIZ project expenditure, annually and submit the report to the KMERC, along with Action Taken Report.
19. The concerned Administrative Department/ Implementing Government Agency shall ensure the post-project sustainability in terms of the Operations and Maintenance (O&M) aspects of the project works, as agreed during submission of the proposal.
20. The Implementing Agency shall also carry out concurrent monitoring and 3<sup>rd</sup> party evaluation of the project and shall share reports to KMERC and on its portal.
21. Funds will be released based on the monthly/ milestone based physical progress. The Implementing Agency should submit the details of child account, IFSC Code, Bank names etc., for transfer of funds by KMERC.
22. The Implementing Department/Agency shall be responsible for all payments made or recommended by it to be made on account of the project.
23. The prescriptions/directions/instructions given in the financial management guidelines and the project implementation manual prepared and published in the KMERC Website should be followed, where ever applicable. All registers, formats, documents, records should be maintained as said in the guidelines.
24. The proposed project must be site specific with Geo-tagged photos, short videos and success stories of the implemented projects are to be prepared

and provided to KMERC by the executing agencies after completion of the projects.

**B: Project specific conditions:-**

25. The total fund allocation should be as per existing departmental norms Guideline. The DPR preparation cost will be within 1% of allocated provision. Correction should be made restricting DPR preparation cost to 1% while preparing DPR through Net planning with detailed survey. However, it will be restricted up to 1% or to the actuals whichever is less while making the payment.
26. The Total administrative cost should be restricted up to or within 13% of the project cost (1% DPR preparation cost, 2% ME & LD cost, 10% Administrative cost).
27. The Forest Area and the Non-Treatable areas should be excluded from treatment and certificate has to be provided in the final DPR which will be submitted after Net planning exercise.
28. It is suggested and should be ensured that Agro Forestry should not be taken up by Forest Department in watershed areas. Road side plantations and urban/institutional planting which needs technical skill can be carried out by Forest department.
29. The work expenditure bills of completed works should be examined and recommended by the Controlling officer of the implementing agency in the department to KMERC for release of funds.
30. Payments for DPR Preparation cost should be made as per actuals keeping in mind the cost of the project.
31. It is suggested to construct all Check dams with RCC structures, keeping in mind its longevity.
32. The assets created in common land can be identified and maintenance can be provided. This must be entrusted to dedicated institution/user groups to look after for long term sustenance, to safe guard and protect such assets

33. Arecanut should not be promoted in any watershed development project, being water intensive crop. But activities such as making Arecanut plates and Arecanut processing etc. can be taken up under Production system or Livelihood activities.
34. The livelihood item to be taken up under the project should not be overlapping with NRLM or other programme.
35. The LRI should be done through some expert institutions to obtain complete information about Soil and Water and Nutrient content and same to be used in planning and execution of the project.
36. While choosing beneficiaries for distribution/issuall of benefits emphasis should be given to vulnerable household, unemployed youths, women and poor people under the project.
37. Detailed DPR which will be prepared next by the Department through net planning should have Survey Number wise, location wise, beneficiary wise details. Global co-ordinates of the structures and other activities should be provided which will help in avoiding overlapping of the project components. This information should be made available in public domain.
38. Detailed estimates for each works and structures should be duly prepared, countersigned and scrutinized by the competent authorities and submitted as Technical DPRs/addendum/Annexures along with final project DPRs. On approval of this only funds will be released.
39. Forest Department at the local level can be consulted and DPRs can be exchanged to avoid the overlapping of the activities.
40. The tree saplings (Perennial trees) can be planted between the bund and mound for sustainability of Agro-forestry. To achieve better survival rate, saplings planted should be watered during summer months. While choosing the species Silviculture knowledge, economic viability, usefulness to farmers should be considered.
41. Existing Kalyani wells, step wells and traditional water harvesting structures in the watershed should be compulsorily identified and proposed for their rejuvenation.

42. Maps showing present land use viz project land, Agriculture land, Forest land, etc. are to be provided along with the detailed DPRs.
43. All the projects must have a measurable outcome, against which it should be possible to be evaluated.



5/3/24

Managing Director  
KMERC

**To:**

1. Secretary to Government, Agriculture Department, Bengaluru.
2. Commissioner Watershed Development Department, Bengaluru.
3. Deputy Commissioner, Tumkur District.
4. Joint Director of Agriculture, Tumkur District.
5. Chief Finance Officer, KMERC, Bengaluru.

**Copy for Kind Information:**

1. PS to Hon'ble Minister for Mines, Govt. of Karnataka, Bengaluru.
2. PS to Additional Chief Secretary to Government & Development Commissioner & Chairman, KMERC, Bengaluru.
3. PS to Secretary to the Govt. (MSME & Mines) of Karnataka, Bengaluru.

1	Name of Project	Kenkere halla Subwatershed			
2	Name of the Scheme	Comprehensive Environment Plan For Mining Impact Zone (CEPMIZ)			
3	Name of State	Karnataka			
4	Name of District	Tumkur			
5	Name of the Taluk	Chikkanayakanahalli			
6	Name of Sub Watershed	Kenekere halla-4D3D8R, 4D3D8Q,			
7	Name and Code o fMicro Watershed	1.	Somanahalli	4D3D8Q-2c	448.31
		2.	Guruvapura-1	4D3D8Q-2b	556.36
		3.	Guruvapura-2	4D3D8Q-2a	431.04
		4.	Melanahalli	4D3D8Q-1d	502.07
		5.	Hanumadasaiahapanapalya	4D3D8Q-1c	599.84
		6.	Yagachihalli	4D3D8Q-2d	388.46
		7.	Singapura-2	4D3D8R-1b	289.52
		8.	Kenkere-1	4D3D8R-1c	256.01
		9.	Kenkere-2	4D3D8R-1e	395.41
		10	Baradelepalya	4D3D8R-1f	360.73
		11	Hosahalli	4D3D8R-2a	623.15
		12	Thammadihalli	4D3D8R-2b	374.56
		13	Keresuragondanahalli	4D3D8R-2c	420.71
		14	Valagerahalli	4D3D8R-2d	763.94
		15	Gollarahatti	4D3D8R-3a	425.56
		16	Kurihatti	4D3D8R-3b	332.93
		17	Gowdagere	4D3D8R-3c	801.91
		18	Somajjanapalya	4D3D8R-3d	824.47
				8794.98	
8	Name of Gram Panchayats	Kenkere, Ganadahalu, Huliya, Baakanahal			
9	Name of Concern villages	11.Somanahalli, 2.Yagachihalli, 3.Kampanahalli, 4.Ganadalu 5.Kurihatti, 6.Guruvapura 7.Melanahalli, 8.Karehalli 9.Maruhole 10.Thammadihalli 11.Kenkere 12.Keresuragondanahalli, 13.Keshavapura, 14.Thimmalapura, 15.Seegebagi, 16.Valagerahalli, 17.Huliyaru Amanikere 18.Kurihatti Kaval, 19.Gowdagere,			

  
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		20.Yarehalli, 21.Huliyar 22. Barakanahal, 23.Ballekatte
10	Total Geographical Area	8794.98 Ha
11	Total Project Area	7697.73 Ha
12	Cost per hectare	Rs 22000/Ha (As per PMKSY WDC 2.0 Guideline)
13	Project period	5 Years
14	Total Approved cost	1978.87 lakhs
15	Total Project Cost	1737.47 lakhs ✕
16	Total Proposed Cost	1420.90 lakhs
17	Total No of Families	5965
18	Categories of Farmers concern	a) Big farmers -2555 b) Small Farmers-9685 c) Marginal Farmers-8356 d) Landless Farmers- 235
19	Average Rainfall	651 mm (10 Years Average)
20	Agricultural crops grown in the Project Area	Early Kharif Crops: Green Gram-2240 Ha, Black Gram-55Ha, Sesamum In Kharif : Ragi, Caster, Redgram, Cowpea, Bengalgram, Avare, Late Kharif: Horsegram, cowpea
21	Horticulture Crops grown in the Project Area	Coconut under rainfed condition : 6832.62 ha Areca nut under semi irrigation : 199.20 Ha
22	Area under different use	1) Forest -740.14 Ha 2) Concern Private/common land in ha a) Cultivable rainfed and irrigated- 6832.62 Ha b) Cultivable waste land- 865.11 Ha 1) 3) Non Treatable – 357.11 Ha

  
**Joint Director of Agriculture**  
 Tumakuru District, Tumakuru

  
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**Abstract of Technical Detailed Project Report implemented under CEPMIZ**

<b>Name of the Taluk: Chikkanayakanahalli</b>		<b>Name of the project: Watershed Development, chikkanayakanahalli, Kenkere halla Sub Watershed</b>						
<b>Total Geographical area: 8794.98 Ha</b>		<b>Total Approved cost: Rs 1978.87 Lakhs</b>					<b>Number of Villages: 23</b>	
<b>Total Project area: 7697.73 Ha</b>		<b>Total Proposed Project cost: Rs 1420.90 Lakhs</b>					<b>Number of Families: 5495</b>	
<b>Sl. No.</b>	<b>Components</b>	<b>% allocated</b>	<b>2023-24</b>	<b>2024-25</b>	<b>2025-26</b>	<b>2026-27</b>	<b>2027-28</b>	<b>Total</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
1	<b>Administrative cost</b>	10.00	35.20571	35.20571	22.75088	22.75088	21.79382	<b>137.707</b>
2	<b>Monitoring and Evaluation</b>	2.00	3.35000	13.15000	9.00000	1.00000	1.00000	<b>27.500</b>
3	<b>Entry Point Activities</b>	2.00	27.50000					<b>27.500</b>
4	<b>Detail Project Report</b>	1.00	8.65490	1.10000	1.21000	1.33100	1.46410	<b>13.760</b>
5	<b>Institution and capacity building</b>	3.00	11.64750	27.00700	1.28900	1.35650	0.00000	<b>41.300</b>
6 (1)	<b>Soil and water conservation</b>	44.95	134.87500	285.45000	187.55000	11.02790		<b>618.903</b>
6 (2)	<b>Afforestation</b>	1.00	2.49425	7.57332	3.09665	0.59578	0.00000	<b>13.760</b>
6 (3)	<b>Dry land Horticulture</b>	5.72	26.17921	24.26695	28.27821	0.00000		<b>78.724</b>
6 (4)	<b>Fodder Development</b>	1.00	1.95000	4.89500	5.38450	1.53050		<b>13.760</b>
7	<b>Production system</b>	15.00	0.00000	124.36193	77.07747	5.06060		<b>206.500</b>
8	<b>Natural Resource Management and Governance</b>	1.00		3.00000	3.00000	3.00000	4.76000	<b>13.760</b>
9	<b>Livelihood activities for assetless persons, micro enterprises and business development</b>	12.35	0.00000	100.00000	70.00000			<b>170.000</b>
10	<b>Consolidation and withdrawal phase activities</b>	1.00					13.76000	<b>13.760</b>
		<b>100.00</b>	<b>251.857</b>	<b>626.010</b>	<b>408.637</b>	<b>47.653</b>	<b>42.778</b>	<b>1376.93</b>
11	<b>LRI Cost</b>							<b>43.97</b>
	<b>Total Proposed Cost</b>							<b>1420.90</b>

Joint Director of Agriculture  
Tumkur District

Joint Director of Agriculture  
(Soil Conservation)

Director  
Watershed Development Dept

Commissioner  
Watershed Development Dept

Secretary to GoK  
Agriculture

**Annexure-1 : Project at a Glance / Executive Summary Format**

Sector		ECO-RESTORATION	Sub-Sector	Watershed management	Standalone project or in convergence	Standalone project			
Project Name		Comprehensive Environment Plan For Mining Impact Zone (CEPMIZ)-2022-23			Project Type : New/Up gradation/Strengthening/Rejuvenation		New		
Proposal submitted by		Assistant Director of Agriculture, Chikkanayakanahalli			Implementing Agency	Agriculture Department/Watershed Department			
Project Location/Coverage		Kenke eHalla SWS		Total Proposed Project Cost (INR lakhs.)	1420.90 lakhs	Project Duration (Yrs.)	5 Years		
Project Objective/Benefits		1. Improve Productive potential of rain fed/degraded land 2. Strengthen community based local institute for promotion of Livelihood & watershed sustainability			3. Improve the efficiency of watershed projects through cross learning and incentive mechanism. 4. To reduce soil erosion and ensure soil and water conservation.				
Project Outputs/Activities					Project Outcomes / Benefits				
Sl.No	Major Project Outputs/Activities	Measuring Unit Ha/No/ Rmt	Qty./ Nos	Unit Cost (in Rs.)	Total Cost (Lakh Rs.)	Sl.No	Major Envisaged Outcomes (Measurable Benefits)	Parameter for measuring the Benefit	Assumption / Risks in choice of parameter
1	Gokatte	No	10	500000	57.75	1	Recharging of the ground water table (water depth)	Meter	230m-200m( 25%)
2	Check Dam	No	10	500000	57.75	2	Regeneration of Natural Vegetation (non-cultivable land into cultivable land viz green cover area)	Ha	350ha-259ha (26%)
3	Trench cum bund	Ha	1753	16000	311.287	3	Rain Water Harvesting (assured/protective irrigation area)	Ha	850ha -1062ha (25%)
4	Farm pond	No	100	65000	68.25	4	Provide sustainable livelihood to the assetless people of the project area (Income status)	Rs/Month	6000-7500 (25.00%)
5	Nalabund	No	9	500000	51.70	5	Prevention of Soil Erosion (depth of fertile soil availbe)	Feet	1.00-0.80 feet (20%)
6	Agro Forestry	Ha	128.00	0.110	10.001				
7	Dry land Horticulture	Ha	323	0.266	78.724				

## 6.1 GENERAL ABSTRACT OF COST (AOC) :

Abstract of detailed Project Report implemented under CEPMIZ		
Name of the Taluk: Chikkanayakanahalli	Name of the project: Watershed Development, chikkanayakanahalli, Kenkere halla Sub Watershed	
Total Geographical area: 8794.98 Ha	Total Approved cost: Rs 1978.87 Lakhs	Number of Villages: 23
Total Project area: 7697.73 Ha	Total Proposed Project cost: Rs 1420.90 Lakhs	Number of Families: 5495

## 6.2 Component Wise Project Cost Allocated as per PMKSY WDC-2.0 Guidelines

Sl. No.	Components	AS per PPR		Proposed in TDPR	
		% allocated	Amount allocated	Amount Proposed	Proposed %
1	Administrative cost	10	193.490	137.707	10.00
2	Monitoring and Evaluation	2	38.698	27.500	2.00
3	Entry Point Activities	2	38.698	27.500	2.00
4	Detail Project Report	1	19.349	13.760	1.00
5	Institution and capacity building	3	58.047	41.300	3.00
6 (1)	Soil and water conservation	38	735.262	618.903	44.95
6 (2)	Afforestation	3	58.047	13.760	1.00
6 (3)	Dry land Horticulture	5	96.745	78.724	5.72
6 (4)	Fodder Development	1	19.349	13.760	1.00
7	Production system	15	290.235	206.500	15.00
8	Natural Resource Management and Governance	2	38.698	13.760	1.00
9	Livelihood activities for assetless persons, micro enterprises and business development	15	290.235	170.000	12.35
10	Consolidation and withdrawal phase activities	3	58.047	13.760	1.00
Total		100	1934.900	1376.93	100.00
LRI Cost			43.97	43.97	
Grand Total			1978.87	1420.90	

  
**Joint Director of Agriculture**  
 Tumakuru District, Tumakuru

CEPMIZ/2023-24/021/PMKT/KMERC/00211  
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## 5. Project output:-

### 5.1. Recharging of Ground water table (Water table):

Recharging of the Ground water table could be achieved by construction of different water harvesting structures, like NB, Gokatta, PT, CD, TCB, RC/BC, LRS, Farm pond depending upon the need of the situation where is construction of above water harvesting structures helps to decrease the water table cheaper by 15 percent (Means from 190 meters for 168 meter)

### 5.2. Regeneration of Natural vegetation (Non-cultivable land into cultivable land):

The term Regeneration means the establishment of a tree or tree age class from natural seedling, sprouting or suckering in accordance with the management objectives of an applicable land management plan. Where is degraded land will be brought under natural vegetation.

### 5.3. Rain Water Harvesting:

The water stored in the water Harvesting structures helps in providing assured or protective irrigation for the crops (up to 500 ha) being grown in the treatment area.

### 5.4. Multi Cropping and the Introduction of diverse agro based activities (Double cropping / Animal Husbandry / Horticulture):

The primary reason of multiple cropping is that farmer can produce more than one crop by multi cropping method by the available water being stored in the water harvesting structure or stored in its moisture. By practicing these we can see that 20% of farmers in treatment area can go for double cropping, practice Animal husbandry as an subsidiary business and some farmer around 35% can grow horticulture crops in place of Agriculture crops which fetches higher income.

### 5.5 Provide sustainable livelihood to asset less people of the project area by subsidiary occupations.

### 5.6 Prevention of soil erosion: By construction of trench cum bund and practicing other agronomical practices in the treated area we can avoid soil erosion to an extent of 20%