

Water Security and Climate Adaptation

3rd DLSC meeting at Ramanathapuram, 24th Aug 2020

The third District Level Steering Committee (DLSC) meeting of WASCA project in Ramanathapuram was conducted on 24th Aug 2020 at DRDA Conference hall, District Collectorate Complex, Ramanathanapuram under the chairmanship of respected District Collector Shri.Veera Raghava Rao IAS, and Additional Collector Shri. M.Pradeepkumar IAS.

The agenda of the meeting was enclosed (Annexure 1). The list of participants is attached in Annexure 2.

The District Level Steering Committee members from the district had participated in person and advisors, out station members joined the meeting through online platform. The concept of Coastal Watershed was first presented followed by the CWRM plan. Following are the key points discussed during the meeting;

Coastal watersheds

- Suggested to consider the Livelihood support of local farmers and fishers using the local resources such as palm trees, sea weeds etc. by facilitating value added products
- Local seaweed species have to be promoted, as the current projects are focusing on introduced species which has negative impact on local biodiversity
- Expanding Shelter belts to protect from high speed winds – instead of monoculture species, suggested to go for multiple species including Palmyra and coconut, potential species resist the winds in the region
- In addition to mangroves in Coastal region, possibilities of growing Palmera trees should be exploited.
- Production of Palmera based by products through self-help groups will enhance the livelihood security of rural poor in coastal watersheds.
- Sub surface drainage in wetlands combined with series of filtering system and supply channel leads to tanks would help in converting wetland water into drinking water.
- Artificial recharge structures including flexi check dams near coastal areas would reduce the sea water intrusion

- Approach of sustainable and systems approach combining livestock and agro forestry can be facilitated to promote better soil health and water quality
- Soil and water conservation measures - Saline water intrusion control measures need attention - Ventilated and flexi check dams can be promoted to reduce sea water intrusion and manage the soil salinity issues
- Based on the local suitability sustainable agriculture practices, regulated by Aquaculture Authority of India has to be promoted with proper wastewater treatment measures
- Measures like Artificial reefs introduction can be promoted
- As the district is the major producer of Dry fish – export-oriented units can be explored by adopting improved technologies, especially the one using solar energy
- Ground water mapping in RS and GIS platform – options for freshwater injection has to be explored
- Health of water bodies can be improved by developing a system to revive the freshwater flow to the lakes – harbouring lot of biodiversity, along with water quality
- The flow in the whole water systems need to be revived using advance RS maps and data sets to understand the local issues
- Seagrass rehabilitation: The coastal area between Pamban and Thondi in PB is in need of this interventional step to restore the degraded seagrass beds, which will lead to the improvement in the biodiversity and fisheries associated with seagrass.
- Enhancement in the live seagrass cover is the direct benefit of seagrass rehabilitation. This would help: to increase the population and enrich the biodiversity of the associated marine life like fishes; to improve coastal and island protection; to reduce the erosion; and to strengthen adaptive ability of the biota to fight the impacts of climate change.
- Coral rehabilitation: The coastal area between Pamban and Vembar in the GoM requires this intervention to restore the degraded coral areas and thereby to enhance associated biodiversity and fisheries.
- Coral rehabilitation leads to more extensive live coral cover, which will invariably result in a richer biodiversity of the associated species like fish. Better protection to the coast and island is another benefit. The other uses are reduction in erosion, restoration of ecological services and betterment of adaptive measures to combat the climate change impacts.

- Mangrove rehabilitation: The above-said Mangrove Blocks need this intervention to restore the degraded mangrove areas and thereby to enhance associated biodiversity and fisheries.
- Primarily, Mangrove rehabilitation yields an enhanced live mangrove cover, the natural offshoot of which is an improved associated biodiversity like fish and other organisms. The other usual purposes like improved coastal protection, reduced erosion, and restored ecological services will also be fulfilled. And it will offer the important benefit of improved adaptation measures to fight the impacts of climate change.
- Artificial Reefs (ARs): These fish habitats are necessary for both PB and GoM sides.
- In PB, deployment of ARs will not only help in the enhancement of fishery production and biodiversity, but also ensure the protection to seagrass beds from inshore trawling.
- In GoM, deployment of ARs outside the Marine National Park Area will aid in scaling down the fishing pressure in the reef areas near the islands apart from assisting in the enhancement of fishery production and biodiversity.
- Impact Assessment: Impact assessment of all the above-said activities (coral rehabilitation, seagrass rehabilitation, mangrove rehabilitation and deployment of artificial reefs) is indispensable to understand the outcome of the initiatives (fishery production, biodiversity enhancement, rehabilitation success, socio-economic benefits etc) and also to make appropriate future action plan for the coastal wetland conservation so as to ensure the sustainability of livelihood of the dependent coastal population.
- Mapping of coastal wetlands: This initiative would help in the detailed documentation of all the coastal wetlands in Ramanathapuram district. The mapping would be of fundamental service in taking future conservation and management initiatives, ecotourism activities, development activities etc.

The Additional Collector has pointed out that in the order of priority of water use, addressing the challenges of the Drinking water is the priority for the district administration, followed by water for livestock and agriculture and other purposes. At present in the district, the drinking water Requirement is 80 MLD but have only 50 MLD.

Therefore, focus is given to identify the alternative sources;

- Water flow between 2- 25 km can be effectively harnessed and used for other purposes – since it is not notified, we need to think of using this point.
- As the district has more wetland water bodies, is there is any scope- that can be used for drinking water sources by purifying and use it for consumption. Though it is affecting the ecology of the wetlands – will it be useful if we use this for drinking water.
- Wetlands – water is stored during rainfall – will it be used as a DW – we need to look at the sub surface drainage systems can be constructed – wetlands locally called *THARAVAI*
- Prepare the plan to increase the drinking water in every panchayat in Ramanathapuram district
- Need a geologist in WASCA project to plan the water harvesting models
- Prepare the plan for village level contour map for planning the water conservation

Suggested options for augmenting Drinking water for the *Non-coastal area*

- In the past Ooranis are the primary sources for drinking water – every village used to have two types of orranis - one is for DW and another for Bathing. The ooranis have sufficient area under Catchment and all waterbodies are linked through supply channels. However, in the changing context, the Ooranis can be used as a recharging body – collection wells can be established for drinking water at downstream side – water can be lifted through solar pumps – connected to villages through tap, while on the Upstream area before water reaches oorani filters can be put in using existing structures

Suggested options for augmenting Drinking water for the *Coastal areas*

- In the wetland areas - collection wells can be established through sub surface dykes and treatment and then through set of filters on the surface the water can be treated and used
- Another suggestion is skimming wells in the coastal areas as like AP can be used for DW.

The District collector Briefed the biophysical characteristics of the district – as it has frequent erratic rainfall coupled with salinity issues in the coastal region. During last year the district received good rains, however in the previous year, it was inadequate and farmers faced drought conditions– in spite of such inherent risks in farming due to the abiotic factors, farmers and fishers are hardworking and have good adaptive nature.

Composite Water Resource Management Plans (CWRMP)

- In this backdrop, he appreciated the importance of the CWRM plans which provides comprehensive inputs by analyzing the issues holistically. While aiming at conserving water, it simultaneously improving other NRM components such as land, soil, vegetation etc.
- The tool will be a good input and useful for all the departments to work together for an integrated development.
- Right now, the district has been implementing different projects focusing on – conservation of coastal ecosystems, farm ponds, renovation of water bodies, afforestation, management of water bodies etc by different line depts. In addition, some of the innovative actions were taken up at scale like
 - Mini forest at scale
 - Water body restoration – taken up under Kudimaramathu – (as the district has 3200 ooranis)
 - Every orrani- after crossing summer it gets dried up but this year even now it has water
 - 2400 farm ponds are being constructed
- In view of this to strengthen the on-going innovations and bring more models to build the resilience of the local community against the changing climate, the expertise of WASCA is useful for technical guidance.
- It is making an attempt to promote the NRM initiative more comprehensive starting from – dry land farming to irrigated lands and then to diversification of farm enterprises and livelihoods. Following points are suggested for actions:

1. Extending the scale of analysis from GP to watershed level for larger level integrated actions like chain of tanks, inlet and outlet management of water bodies etc
 2. Carrying out an Impact study with key indicators like water quantity, quality etc. so that the progress can be measured quantitatively
 3. Harness and leverage the support of Corporate partners in linking the schemes, here apart from Corporate Social Responsibility, Corporate Environment Responsibility also to be integrated, for which currently Niti Aayog is extending support by linking with PSU's CSR under Aspirational district initiative.
- The forthcoming CII meeting at the national level being organised by the GIZ will be another potential opportunity to identify some more potential partners to support the initiative in water actions.
 - The CWRM framework bring holistic actions and currently, out of the total 429 GPs, so far planning is completed in 48 GPs and remaining GP plans have to be completed before Dec 2020.
 - It is suggested to pilot four GP plans to start with under convergence mode with all potential line departments. During this intervention, water budget of the village is taken as a key point, see the identified action plans for implementation, add the missing one and come up with a updated version of plans for the identified GPs. Also, it is requested to go for the joint inspection by all line departments. The available schemes from all the department will be implemented in same village in a comprehensive manner to see a better outcome, by this silo approach will be addressed
4. Under coastal watershed – it is suggested to explore the technical feasibility for linking the conservation and use of surface water in the wetlands. The tradeoffs between ecosystem functions of the wetland the water use actions will be taken care while designing the system. It can be taken it up in Karan wetland area.

The Way forward and Road map discussed by the District collector with the district officials for immediate actions of CWRMP

- The departments DRDA, Agriculture, Agriculture Engineering, Horticulture, TWAD, PWD, Fisheries, Animal husbandry and Forest will be visiting one coastal GP and one inland GP and plan towards comprehensive development.
- In addition, RD department and WASCA will select 10 GPs from the district (3 GPs from Coastal area and 7Gps from inland area) on or before 26th Aug 2020
- WASCA will prepare the action plans for these 10 GPs and submit to AC for convergence planning
- All the Head of the Department and concerned responsible GP officials will visit the 10 GPs and collect available schemes, prepare activity plan with budget and evolve a plan to implement in convergence mode on or before 15th Sep 2020
- Additional collector informed to select 10 GPs in which the district has already initiated horticulture park and will select 3 GPs from coastal separately.
- Coastal Watershed GPs Pilot 1 will also be examined by the officers
- Conduct the baseline and impact study of WASCA project
- Plan will be two types in 10 GPs – Short term/tangible plan and long- term plan and accordingly activities are to be identified:

A. Tangible plan/short term plan:

1. Farm ponds
2. Agriculture land expansion like Horticulture park and change cropping systems with diversification and intensification
3. Renovation of Water Bodies
4. Afforestation- Mini forest and
5. Quality Water supply for drinking

B. Long term plan

1. Ground water Recharge
2. Livelihood Activities


Additional Collector (Dev.)

RDDA, Ramanthapuram District

District Level Steering Committee on WASCA – Ramanathapuram -Tamil Nadu
Date 24.08.2020 Time: 5 to 8-30 pm
Agenda of the Meeting

S No	Topic	Presentation By
1	Welcome and Introduction	Thiru. Veera Raghava Rao IAS District Collector, Ramanathapuram
2	WASCA Progress	Thiru. M. Pradeepkumar IAS Additional Collector (Development) Ramanathapuram
3	Presentation of model GP plan and Action plan for 2020-21	Dr R. Rengalakshmi, MSSRF, Technical Support Agency WASCA – TN
4	Presentation by Technical Partners	Suganthi Devadason Marine Research Institute, Tuticorin - Presentation on sea water intrusion water and Prime Meridian Chennai - ground water study
5	Convergence and Private Partnership Engagement	Mr. Sowmithri V WASCA, GIZ
6	Discussions and Inputs for WASCA project	District Level Steering Committee Members
7	Remarks and approval the GIS based GP Plans	Thiru. Veera Raghava Rao IAS District Collector, Ramanathapuram
8	Vote of Thanks	Dr. P. Radha Priya WASCA, GIZ

Annexure 2. List of members participated in the meeting

S.No	Name	Position	Department
1.	Dr.Veera Raghava Rao, IAS	District Collector	Ramanathapuram
2.	Mr. Pradeepkumar, IAS	Additional Collector (Development)	DRDA, Ramanathapuram
3.	Mrs. Sivarani	Executive Engineer	Dept of Rural development
4.	Mr. Pounrajan	Asst. Executive Engineer	Dept. of Rural development
5.	Mrs. Hemalatha	Assistant Engineer	Department of Rural development
6	Dr.S. Angela	Deputy Director	Dept of Animal Husbandry
7	Mrs. Sathiyabama	Assistant Engineer	PWD
8	Mr. Baskaramanian	Deputy Director	Dept of Agriculture
9	Mr. Marimuthu	Wildlife Warden	Department of Forest
10	Mr. Udayakumar	Forest Ranger- General	Dept. of Forests, Ramanathapuram
11	Dr. S. Manivannan	Principal Scientist	ICAR – IISWC, Udhagamandalam
12	Dr. J.K. Patterson Edward	Director	Suganthi Devadason Marine Research Institute, Tuticorin
13	Dr. G.N.Kumaran	Director	Prime Meridian surveys Pvt.Ltd, Chennai
14	Dr. A. Gopalakrishnan	Assistant Professor	Centre for Marine Biology, Annamalai University, Chidambaram
15	Mr. V.R. Sowmithri	Technical Expert	GIZ, Chennai
16	Dr.P Radhapriya	Jr. Technical Expert	GIZ, Chennai
17	Dr.Ramasubramanian	Principal Coordinator	MSSRF, Machulipattinam, AP
18	Dr. R.Rengalakshmi	Director - Ecotechnology	MSSRF Chennai
19	Mr. Nagarajan	Senior Scientist	MSSRF, Chennai
20	Dr.B.Selvamukilan	Senior Scientist	MSSRF, Ramanathapuram
21	Mr.M.Karunamoorthi	GIS Expert	MSSRF, Ramanathapuram