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भारत सरकार

जल शक्ति मंत्रालय

जल संसाधन, नदी विकास

और गंगा संरक्षण विभाग

श्रम शक्ति भवन

रफी मार्ग, नई दिल्ली-110 001

GOVERNMENT OF INDIA

MINISTRY OF JAL SHAKTI

DEPARTMENT OF WATER RESOURCES,  
RIVER DEVELOPMENT & GANGA REJUVENATION

SHRAM SHAKTI BHAWAN

RAFI MARG, NEW DELHI-110 001

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As you are aware, the "Jal Shakti Abhiyan: Catch The Rain" (JSA:CTR) campaign was launched by the Hon'ble Prime Minister on 22<sup>nd</sup> March 2021, the World Water Day. The campaign is being taken up in all the districts (in rural as well as urban areas) of the country with the theme "Catch the Rain: where it falls, when it falls" during the period March 22, 2021 to November 30, 2021. National Water Mission (NWM), Ministry of Jal Shakti is the nodal agency for implementation of the campaign.

2. As part of the campaign, preparing a geo-tagged inventory of all water bodies and the district/block/village level water conservation plans, renovation/repair of existing water bodies/water harvesting systems and construction of new water bodies/WHS, roof-top rainwater harvesting etc are taken up. Each district has been asked to prepare scientific water conservation plan with the help of remote sensing images from NRSA and GIS mapping technology. NWM has prepared and circulated guidelines for preparation of GIS based water conservation plans and inventory of water bodies of districts and forwarded it to all the District Magistrates of all districts and the "State Nodal Officers (SNOs) for JSA:CTR" for implementation (copy of the guidelines is enclosed).

3. For preparation of water conservation plan, National Water Mission is providing incentive-based financial grant amounting up to Rs. 2 lakh to each district. Initially, Rs. 1.0 lakh will be given as financial grant and remaining Rs. 1.0 lakh will be released based on the performance and quality of work done in this planning process in each district. DMs/DCs have been requested to provide their official bank account number to transfer the amount. NWM is in the process of releasing funds as and when bank account details are received from the districts. In order to expedite preparation of water conservation plans and their implementation, it is proposed to hold virtual meeting with District Magistrates/ District Collectors/ Deputy Commissioners.

4. It is, therefore, requested that the District Magistrates/District Collectors/Deputy Commissioners may be asked to participate in the webinars to be organized by the National Water Mission. Shri G. Asok Kumar, IAS, Additional Secretary & Mission Director who is leading the JSA:CTR campaign along with the technical team will be conducting State-wise meetings shortly.

Yours sincerely,

(Pankaj Kumar)

To

Chief Secretaries / Administrators of all States /UTs.

Copy to:

1. Shri Sriram Vedire, Adviser to Minister of Jal Shakti
2. State Nodal Officers, Jal Shakti Abhiyan: Catch The Rain Campaign.
3. DG, NIC.

जल संरक्षण - जीवन संरक्षण  
Conserve Water - Save Life

o/c  
Issued  
11-6-21

**GUIDELINES FOR PREPARATION OF GIS BASED WATER CONSERVATION PLANS AND  
INVENTORY OF WATER BODIES OF DISTRICTS  
UNDER JAL SHAKTI ABHIYAN: CATCH THE RAIN CAMPAIGN**

Jal Shakti Abhiyan: Catch The Rain (JSA:CTR) campaign was launched by Hon'ble Prime Minister of India on the world water day, 22<sup>nd</sup> March 2021. The theme of this Abhiyan is "**Catch the Rain – where it falls – when it falls**". Detailed guidelines have been sent to Collectors and State Nodal Officers.

To Catch the rain where it falls, we need to renovate/repair already existing water bodies/WHS and also construct new water bodies/WHS, so as to conserve rain water into the three other forms that is surface water, soil moisture and groundwater. Districts need to prepare the district/block/village level water conservation plans, incorporating plans for renovation of existing water bodies/WHS and construction of new water bodies/WHS. This is one of the most important activities of JSA:CTR campaign.

For preparing the district level scientific water conservation plans under the JSA:CTR, two main tasks as mentioned below are to be carried out by the districts using GIS/RS tools and data.

**Activities to be undertaken by the districts for preparation of GIS based district water conservation plans, if not done already:**

**1. Identify and prepare an inventory of existing water bodies/WHS.**

All Collectors have been requested to enumerate all the water bodies in the district, wrt the revenue records, geo-tag it and make a detailed inventory of the water bodies. Once identified, plans for repair/renovation of these (where required) are to be prepared and then executed. Various steps involved in this task are given below.

- a) Identification of all existing water bodies/WHS with the help of GIS experts. A database of these structures needs to be created using the satellite images with sufficient resolution or manually through imagery from Google Earth. Wherever satellite images are not available, freely available imageries of 'Google Earth Pro' can be used.
- b) The functionality of the waterbody and its condition has to be tagged on Google along with approximate submergence of that water body and thus the capacity calculated as well. This process will save lot of time and all waterbodies/WHS will be covered.

- c) Shape file of all existing water bodies /WHS identified above is to be created by the GIS expert. KMZ Layer of these points has to be generated and should be provided to the DM/Collector of the district.
- d) The DM/Collector shall assign the field verification of the identified structures, Gram Panchayat (GP) wise, to the engineers of all water management related engineering departments of the district, that is Water Resources Department (WRD), Public Health Engineering Department (PHED), Watershed Department, Forest Department, MGNREGS Department, Panchayati Raj Department and Rural Development Department etc.
- e) DM/GIS expert will share the KML file of GP with the concerned engineer (field officer) who has been assigned with the corresponding work.
- f) Field officer will go to that GP locations and tag these points using the **mobile app** (given to the districts by NWM, MoJS, GOI) and will fill all the particulars including the present functionality status of the structure and comments on whether renovation required or not. If renovation is required, then the amount required for renovation will also be recorded in the mobile app.
- g) All the contents of the mobile app would be transferred to central servers on a real time basis and /or daily basis.
- h) All the structures marked for renovation would be renovated using the MGNREGS funds.
- i) The identification of the structures by the GIS expert using Google imageries and the corresponding ground verification by the field officers has to be done.
- j) Funds from MNREGS have to be fully utilized to perform the repair/renovation of these structures.

It is observed that many efforts have been made to make the inventory of waterbodies in districts. CWC, NWIC, NIC and state agencies have been involved. Also, as per the directions of Hon'ble NGT in its order dated 18.11.2020 in OA 325 of 2015, restoration of all water bodies are to be done. The last meeting on this subject was also done with Chief Secretaries/ department secretaries of states on 30.3.2021. **All these information need to be consolidated at the ground level by the DMs, cross checking with the revenue department land records and the factual position on the ground to avoid duplication of data and confusion caused by multiplicity of databases.**



2. **Identify locations for new water bodies/WHS locations:** Various steps involved in this task are given below, if not done already:
- a) First is the identification of all the drains in the district and make a shape file. There are three options to do this and are given below.
    - i. **Option 1:** Most of the states have watershed atlas, prepared by respective state remote sensing agencies and these are available in the shape file. The drainage thematic map of watershed Atlas in shape file be used.
    - ii. **Option 2:** Indian Space Research Organization (ISRO) may be asked to share the 2.5 m CARTOSAT Digital Elevation Model (DEM) with all the states. GIS experts may extract all the streams in a given district from this DEM.
    - iii. **Option 3:** If ISRO cannot share the DEM of some places due to strategical reasons, freely available SRTM 30 m data may be used for extraction of streams but accuracy of plan will require lot of understanding by GIS expert.
  - b) Second is the superimposition of the existing structures which are identified in the first task above on top of the shape file containing all the streams.
  - c) Third is the identification of untapped drains from the above superimposition. With the existing structure marked on all the streams, untapped streams can be identified.
  - d) Fourth is to identify the locations of feasible structures. The engineers of respective departments have to help the GIS expert in specifying appropriate WHS at these identified locations.
    - i. **Proposing Suitable structures to be proposed on untapped drains:**
      - For 1<sup>st</sup> order drains - Mini percolation tank (Cost – Rs.1-2 lakh, capacity – 1000 m<sup>3</sup>, Catchment- 5 hectare)
      - For 2<sup>nd</sup> order drains – Percolation tank (Cost – Rs.3-7 lakhs, capacity – 2000 m<sup>3</sup>, Catchment- 5 to 10 ha)
      - For 3<sup>rd</sup> order drains – Pakka check dam (Cost – Rs.10-15 lakhs, capacity – 4000 m<sup>3</sup>, Catchment- 10 to 20 ha)
      - For 4<sup>th</sup> order drains – Anicut (Cost – Rs.15-45 lakhs, capacity – 6000 m<sup>3</sup>, Catchment- greater than 20 ha)
      - For 5<sup>th</sup> order drains – Micro Irrigation Tank (Cost Rs.50 lakhs, capacity – 9000 m<sup>3</sup>, Catchment-> 40 ha)
    - ii. **For Catchment area works (in situ moisture conservation interventions):**

- Land use land cover map can be used to find out the category of land like Scrub/Degraded forest lands/pasture lands. Depending on the feasibility, these lands may be fully or partially treated (say 25%).
  - iii. **Works on cultivable lands (in situ moisture conservation interventions):**
    - 40% of arable land in a particular block can be taken up for activities like Farm Pond, ECDs and field Bunds.
  - e) Sixth is to construct the structures so designed. Execution of these structures has to be planned department-wise. Funds for construction and maintenance of these new structures have to be arranged by converging both central and state government schemes and programs related to water conservation and management.
- 3. It is also envisaged that in every district a "Jal Shakti Kendra" is to be opened to**
- (1) assist the Collectors to co-ordinate all activities related to Water in the district. This will NOT be a fund providing centre, but will function as a support center for the District Magistrates/Collectors on water related issues including the plan preparation.
  - (2) act as a KNOWLEDGE CENTRE for the public to get information related to water and water sources in the district and a technical guidance center to advice local people about the APPROPRIATE rain water harvesting structures, suitable to the climatic conditions and soil strata to be taken up to store rainwater.

**To facilitate the District Magistrates/Dist Collectors to do GIS mapping and make the inventory of all water bodies and water conservation plans and to setup the Jal Shakti Kendras, Nation Water Mission will provide Rs 2 lakhs. (Rs 1 lakh initially and Rs 1 lakh based on the performance). DMs/DCs may use the services of NIC or hire a GIS expert for a period not more than 60 days to get the mapping/ planning done, if not done already. DM/DCs were asked to provide their official bank account number to transfer the amount vide ref M-65022/13/2020-NWM/778 dated 15/3/2021 and 19/3/2021 sent as DO from AS and MD, NWM and in the official NIC email ids of the DMs/Collectors.**

**-G. Asok Kumar,  
Additional Secretary and Mission Director,  
National Water Mission,  
Ministry of Jal Shakti**